

THE RISE AND FALL OF TRUST BASED INTERMEDIATED SECURITIES: AN ECONOMIC JURISPRUDENTIAL APPROACH TO TRUST BASED INTERMEDIATED SECURITIES

Thesis in partial fulfilment of the award of Doctor of
Philosophy

Benedict Turner

Institute of Advanced Legal Studies, School of Advanced
Study, University of London

September 2021

I hereby confirm that all work presented in this thesis is my own.

Signed: Benedict Turner

29 September 2021

Word Count: 95,858
(Inc. Bibliography – 100,058)

Abstract

There has been a discussion for some years regarding the place of intermediated securities, how they should be legally underpinned and their technological basis. A particularly important source that formed a large portion of the inspiration of this thesis was *Intermediated Securities: Legal Problems and Practical Issues* edited by Louise Gullifer and Jennifer Payne at the University of Oxford.¹ This key book provided a selection of papers outlining some theoretically and practically nuanced debates.

While this book was exceptionally thought provoking, there was a particular issue that was apparent to the author. In short, this was a focus on the black letter law. There were questions that remained, particularly regarding why there was an insistence on utilising trust for underpinning intermediated securities in the UK when there has been significant strides in technology that could facilitate a more efficient mode of intermediation.

This thesis therefore, seeks to answer this question. It hypothesises that, in combination with the recent advancements in technology, trust is an outmoded legal regime for intermediated securities. In particular, the thesis shows that technology has obfuscated the

¹ Louise Gullifer and Jennifer Payne, *Intermediated Securities: Legal Problems and Practical Issues* (Hart Publishing 2010).

proprietary reasons underlying the use of trust, with investors able to hold full ownership of their shares and intermediaries acting as simple facilitators akin to agents.

In order to highlight this change, the thesis undertakes an economic analysis of the law, especially using transaction cost analysis. Through this analysis, the efficiencies of the trust system *vis-à-vis* a new modality will be shown to be significantly diminished or eliminated.

Therefore, this thesis presents a novel contribution to this field. Through undertaking an economic analysis of the current law and differing legal modalities, the thesis provides an innovative analysis and solution to the problems that permeate the intermediated securities system.

Table of Contents

Abstract	2
Dedications	4
Introduction	9
Hypothesis.....	11
1. What are the historic benefits of trust as a vehicle for intermediation in securities markets?	11
2. Does securities intermediation create economic efficiency?	12
3. Does trust based intermediation create economic efficiency?	12
4. What alternatives are there in law to underpin securities intermediation and would they be more efficient?	13
Methodology.....	14
1. The Economic Analysis of Law	14
2. Historical analysis of Law	25
3. Definitions	26
Securities: What's in a name?	26
What Makes an Efficient Market?	35
Summary	38
Chapter 1 – Historical and Economic Development of Securities as a Legal Phenomenon..	39
1.1 Chapter Overview.....	39
1.2 Early Corporate Forms in England and Wales.....	41
1.2.1 Sole Trader.....	41
1.2.2 Partnerships.....	43
1.2.3 Considerations of Business Forms So Far	47
1.2.4 Limited Partnerships.....	48
1.2.5 Joint Stock Companies	51
1.3 Joint Stock Companies: The East India Company.....	54
1.4 Joint Stock Companies: Vereenigde Oostindische Compagne (The Dutch East India Company)	56
1.5 The South Sea Company and the Bubble Act	56
1.6 – Analysis of Corporate forms	59
1.7 Paradigm Shift: The Paper Problem	60

1.8 Conclusion	67
Chapter 2: The Conversion of Debt to Equity – An Economic Overview of the Reasons Behind the Emergence of Securities.....	70
2.1 Introduction	70
2.2 Transmogrification: The Conversion of Personal Claims into a Proprietary Right	70
2.2.1 Securities as a Personal Claim	71
2.2.2 Historical Analysis of Securities as a Personal Claim	74
2.2.3 Historical Analysis of Securities as a Proprietary Claim	76
2.3 – An Economic Analysis of Specific Facets of Property-based Securities.....	81
2.3.1 Enhanced Tradability	81
2.3.2 – Legal Costs	84
2.3.3 – Bargaining Costs	87
2.3.4 - Enforceability.....	90
2.4 Liability of Each Party in a Debt Vis-à-Vis Property.....	92
2.5 Benefits for 3 rd Parties As Transferees	94
2.6 Peripheral Benefits (the Growth of the Secondary market)	99
2.7 Property as a Panacea	101
2.8 Conclusion	103
Chapter 3: An Economic Analysis of the Historical Use of Trust-Based Securities Intermediation	106
3.1 Introduction	106
3.2 A Comparative Analysis of Agency and Intermediation Generally	108
3.3 The Historical Starting Point	115
3.3.1 Agency	115
3.3.2 A Consideration of Property Law.....	116
3.3.3 Bailment.....	119
3.3.4 Trust.....	122
3.4 Conclusion	139
Chapter 4: An Economic Analysis of Intermediation in the Modern System.....	141
4.1 Introduction	141
4.2 The Benefits of Intermediation in the Modern Context	142
4.2.1 Investor Nature and Growth of Share Trade Volume.....	142
4.2.2 Reduction of Complexity.....	146

4.2.3	Cross Border Custody and Transactions	149
4.2.4	Obviation of Systemic Risk	152
4.2.5	The No Look Through Principle and Intermediary Risk	157
4.2.6	General Comments on the Benefits of Intermediation	158
4.3	Detriments of Using Intermediation as a Concept	159
4.3.1	Uncertainty of Jurisdictional Applicability	159
4.3.2	Upper Tier Attachment.....	165
4.3.3	Too Many Intermediaries.	168
4.4	Conclusion	174
Chapter 5: An Economic Analysis of Trust Based Intermediation in the Modern System ..		176
5.1	Introduction	176
5.2	The Operation of Trusts in Modern Intermediary Modalities	176
5.3	The Detriments of Equity and Trusts for Intermediated Securities.....	179
5.3.1	A Question of Efficiency: Exercising Shareholders’ Rights	180
5.3.2	Legal Uncertainty: Defining a Shareholder	196
5.3.3	The Problem of Uncertain Legal Regime.....	202
5.3.4	Does the Investor Even Own a Share?	208
5.3.5	Passing Rights to Investors	209
5.3.6	The Enforcement of Investors’ Rights in Contentious Matters.....	212
5.3.7	Validity of the Trust	214
5.4	General Analysis.....	224
5.5	Chapter Conclusion	225
Chapter 6: The Impact of Technology on Securities		226
6.1	– Introduction	226
6.2	– Dematerialisation	227
6.3	– TAURUS.....	231
6.4	– CREST	235
6.5	Technology and Intermediation	239
6.6	Technology and the Essence of Securities.....	242
6.7	Technology and Sustainability.....	244
6.8	Conclusion	246
Chapter 7: New Technologies and their Legal Implications.....		248

7.1: Introduction	248
7.2 Proximity	249
7.3 Distributed Ledger Technology	256
7.5 Artificial Intelligence and Machine Learning	276
7.6 Technology as a Sole Remedy	282
7.7 Conclusion	283
<i>Chapter 8 – Implementation of New Legal Regimes to Support Novel Technology in Foreign Jurisdictions</i>	284
8.1 Introduction	284
8.2 Jurisdiction – Australia	285
8.2.1 CHES and Direct Ownership of Shares.....	286
8.2.2 CHES and Trust.....	292
8.2.3 The Future of CHES	294
8.2.4 Complementary Legal Provision for Australian Securities	295
8.2.5 Lessons from Australia	298
8.3 Jurisdiction – United States	299
8.3.1 How are Securities Classified in the US?	300
8.3.2 The Direct Registration System (DRS) in the United States	307
8.3.3 Lessons from the US	309
8.4 Jurisdiction – Germany	310
8.4.1 Germany – the Domestic Holding System.....	310
8.4.2 Germany – The International Intermediated Securities Regime	318
8.4.3 Lessons from Germany.....	320
8.5 Jurisdiction – Sweden	321
8.5.1 Benefits of the Individual Ownership Paradigm.....	322
8.5.2 Deficiencies of the Individual Ownership Paradigm	326
8.5.3 Lessons from Sweden	329
8.6 General Observations and Analysis	330
8.7 Conclusion	331
<i>Chapter 9: Towards a New Modality for the Holding and Trading of Securities in an Intermediated Environment</i>	333
9.1 Introduction	333
9.2 Key Facets Conducive to an Efficient Intermediated Securities System	333

9.2.1 Technological Innovations in the Securities Markets.....	336
9.2.2 Legal Conceptualisation of Intermediated Securities	344
9.3 Questions still to consider.....	358
9.3.1 Intermediary Monopoly Over the System.....	358
9.3.2 Direct Ownership and Cross Border Holdings	359
9.3.3 Investor Election to Hold Via Nominees.....	360
9.4 Conclusion	362
Chapter 10: Conclusion	365
10.1 Position of this research	365
10.2 Research Questions	367
10.2.1 – Why has trust based intermediation been used historically?.....	367
10.2.2 – Does Securities Intermediation Create Economic Efficiencies?.....	370
10.2.3 – Does Trust Based Intermediation Create Economic Efficiencies?.....	372
10.2.4 What are the Alternatives to the Trust Based Paradigm?	374
10.3 Concluding Remarks	377
Bibliography.....	380
Articles and Journals	380
Reports.....	384
Books	387
Internet Resources.....	395
News Reports	407
Theses and Dissertations.....	408
Cases	408
Legislation	409

Introduction

Homo Economicus – “Economic man, or the rational agent depicted in economic models. Such an agent has consistent and stable preferences; he is entirely forward-looking, and pursues only his own self-interest. When given options he chooses the alternative with the highest expected utility for himself.”²

“The years between 1685 and 1695 witnessed a revolution in public and private finance in England. Around a hundred new joint-stock companies were established, offering investors the opportunity to commit their capital to projects ranging from manufacture of paper and textiles to the hunt for sunken treasure ships. Public enthusiasm for those investment opportunities stimulated the growth of a surprisingly sophisticated market in equities and derivative instruments. England’s new investors learned quickly how to use the market to enhance investment income and manage risk and, inevitably, a new class of speculators and stock-jobbers were able to create risk and take advantage of the market’s flaws and inadequacies.”³

Undoubtedly, the capital and financial markets have become one of the key economic drivers in modern capitalist society. Yet, despite their critical importance there are questions surrounding their efficiency. In particular, there are questions as to the efficiency of the legal frameworks of such markets that are operated using intermediaries. One need

² Oxford English Dictionary

³ Ann Murphy, *The Origins of English Financial Markets* (1st edn, Cambridge University Press 2009). p. 1

only look at the plethora of literature addressing securities law and regulation. See for example *Intermediation and Beyond* by Gullifer and Payne, *Property in Securities* by Micheler and the latest Law Commission project looking directly at securities intermediation.⁴⁵⁶

This thesis will build upon these analyses of intermediated securities. In particular it shall examine both the rise of securities and securities intermediation, as well as the possible downfall of securities intermediation. However, this thesis differs in two crucial aspects. The first point is that it addresses the issues of securities from a more fundamental level than simply the current securities law. Where this thesis holds particular novelty is in its economic analysis of the underlying foundation of securities law, the law of equity and trusts. The second point is the lens through which intermediated securities shall be analysed. This is namely the economic analysis of law.

To the author's knowledge, there is currently no substantive research on the efficiency of the trust – based intermediary system in place in the UK and other Common Law jurisdictions. Much has been written on the precise nature of securities (i.e. property, debt or hybrid)⁷ and their relative efficiencies. However, this is different to evaluating the efficiency of the underlying trust system in relation to intermediaries.

This thesis will fill that gap.

⁴ Louise Gullifer and Jennifer Payne, *Intermediation and Beyond* (Hart Publishing 2019).

⁵ Eva Micheler, *Property in Securities: A Comparative Study* (Cambridge University Press 2007).

⁶ Law Commission of England and Wales, 'Intermediated Securities: Who Owns Your Shares?' (2020).

⁷ For a detailed analysis see Micheler, *Property in Securities* (n 5).

Hypothesis

The hypothesis of this thesis is that the trust – based intermediation system used for the facilitation of securities markets in the UK is no longer economically efficient in light of technological advancement. It is hypothesised that the trust – based system can be substantially replaced with a legal model that provides greater investor enfranchisement through the imposition of new technologies and reduction of the need for involvement of a third party, intermediaries, in holding and trading securities. This hypothesis can be subdivided into the following four research questions:

1. What are the historic benefits of trust as a vehicle for intermediation in securities markets?

The use of trusts law has its roots in history and the needs of business. Chapter 1 presents an historical overview of the emergence of securities, securities intermediation and the use of trust to underpin this. As it shall show, this history is tied closely to the rise of the company form and the joint – stock company. Further, it shall be shown that trust was used due to its inherent efficiencies, but also out of necessity. This is due to securities in the UK being classed as intangible and incorporeal, thus unable to be covered by the law of bailment.

In using trust, it is shown that significant efficiencies were ascertainable to the investor. This includes, *inter alia*, the ability to transfer shares quickly using an intermediary, in order to take advantage of the ebb and flow of the capital market. In the absence of technology to

promote quick communication and direct holding of securities, trusts offered the most efficient legal regime available.

2. Does securities intermediation create economic efficiency?

The second question looks at why intermediation as a business concept arose in the first place. This is an important point to analyse. This is distinct from an analysis of trust-based intermediation which seeks to analyse the fundamental legal principles that govern intermediation.

It shall be shown that intermediation arose as a necessary mode of making the holding and trading of securities more efficient. In analysing if and how intermediation as a concept creates efficiencies, the underlying analysis of how the trust based intermediation reduces or counters these efficiencies becomes more apparent.

3. Does trust based intermediation create economic efficiency?

The third question to be addressed is whether *trust-based* intermediation creates economic efficiency. Carrying on from the second research question, this question seeks to understand the efficiencies precipitated by the legal regime that underpins intermediation.

It is important to distinguish between intermediation as a concept and trust-based intermediation in order to decipher where the efficiencies and inefficiencies lie.

Importantly, this question can be subdivided into two sections. The first is whether trust-based intermediation created efficiencies *historically*. The second is whether trust-based

intermediation creates efficiencies *now*. In analysing these sub questions, the thesis can answer the question of why trust was utilised initially, as opposed to creating a bespoke legal regime *ab initio*.

4. What alternatives are there in law to underpin securities intermediation and would they be more efficient?

The fourth and final question is whether any alternatives exist which can remedy these inefficiencies. Clearly, if there are no viable alternatives, then the research and points proffered in this thesis become moot. The thesis will, in the first instance, look at possible legal alternatives to trust for the basis of the securities framework.

Secondly, there will be an examination of possible technological solutions which are currently available. It shall show both their efficiencies and detriments, as well as the legal implications of their imposition.

In order to illustrate these possibilities, the thesis shall look at other jurisdictions for inspiration including Germany, France, the US and Australia. Particularly, these jurisdictions shall show how technology is implemented and the different holding modalities available.

Methodology

How then, will this thesis seek to answer the preceding questions? Primarily, this thesis is a piece of doctrinal research. The research looks at the aims of securities as a legal and business institution, while assessing whether these aims are currently attained. In order to assess these aims, there are two specific forms of analyses that will be undertaken. The first is the economic analysis of the law and the second is an historical analysis of the development of securities. These shall now be discussed in turn.

1. The Economic Analysis of Law

The Choice of Using Law and Economics

Firstly, considering the use of law and economics, the question is why such an analysis has been chosen here. In the Paper “Law and Economics: How and Why”, David Friedman gives an explanation of why economics is used as a mode of legal analysis.⁸ He states:

“The outcome of real economics, under real legal systems is determined... by the actions of the people involved – and the form in which human values are observed in action, the form in which they effect outcomes, is precisely in terms of what people are willing to give up, willing to pay, in order to achieve those values”.⁹

⁸ David Friedman, ‘Law and Economics: What and Why.’ (1989) 9 Economic Affairs 25.

⁹ *ibid.*

Utilising law and economics allows for the analysis of – to utilise the words of Friedman – what market actors are willing to give up (that being financial or utility, such as a loss of voting right) in order to trade on the markets. The essence, then, of law and economics is that legal decisions and regulations are viewed through the lens of preference.¹⁰ If actors are willing to pay more for their environmental, social or governance (ESG) preferences to be fulfilled, then the transaction would be efficient despite the possibly increased financial transaction costs. This is because the purchaser values their ESG preferences over the amount of money they paid for it, and the seller receives the cash which they value more than the share. The transaction would be, at least, Pareto Superior.

This makes law and economics a useful tool for this thesis. The thesis is designed to analyse the reasoning behind the use of trust law to underpin intermediated securities. In particular, it undertakes an analysis of what investors must lose (be that wealth or utility) in order to engage in the markets, especially relating to the cost of using trusts (again whether that is wealth or utility cost). Utilising economic analysis helps to analyse whether or not the use of trust is maximising the wealth or utility of the market actor as a measure of efficiency. In other words, does the use of trust help to facilitate an increase in the overall benefit to investors, and if so, whether there are other forms which could increase wealth or increase utility at a reduced cost.

This leads into the second reason for the use of law and economics. The concept of the transaction cost is central to this thesis and economic analyses of law generally. This

¹⁰ Brian Bix, *Jurisprudence: Theory and Context* (7th Revised edition, Sweet & Maxwell 2015). Pp. 209 – 210: Bix considers the idea of people being rational maximisers of their own pleasure and wanting to have their preferences met more than they are not met.

concept is discussed in detail below and so this section will not seek to discuss what these are in depth. In brief, while we may consider what transactions will lead to the greatest utility or wealth for the participant, there are costs associated with trading on the markets which impact the level of utility or wealth gained. These are transaction costs. In this sense, law and economics is utilised in this thesis to analyse whether the use of trust law to underpin intermediated securities is an unnecessary cost that impacts upon the wealth and utility of the market actor. If it does, can it be ameliorated by other factors (such as facilitating investors ESG preferences to a greater extent), or are there other modalities which increase utility and wealth with fewer transaction costs?

The final, and perhaps most important point is that by considering measures of preference and efficiency, law and economics provides a basis for a normative analysis of the law. In other words, it gives weight to argue what the law *should* be.¹¹ By considering laws and regulations that promote investor preferences at the lowest possible cost, the market enhances its efficiency. Therefore, for the purposes of this thesis, the normative analysis would be whether the law *should* use trusts law to underpin intermediated securities, or should it utilise a different legal system to promote efficiency and investor preferences?

Defining the Economic Analysis

How can we define the economic analysis of law? Mercuero and Medema give an encompassing definition which states:

¹¹ Alan Devlin, *Fundamental Principles of Law and Economics* (1st edition, Routledge 2014). Pp. 2 - 3

“Law and Economics can be defined as the application of economic theory (primarily microeconomics and the basic concepts of welfare economics) to examine the formation, structure, processes and economic impact of law and legal institutions.”¹²

There are, of course, numerous potential theories that could be utilised under this broad definition. For example, theories such as regression analysis, game theory and Coasian economics are often present in texts discussing this area.¹³ To apply all these theories is far beyond the scope of this thesis.

This thesis concerns itself with transaction costs analysis. In keeping transaction costs low, an investor is able to maximise their wealth (and in some cases – utility), while the market increases its liquidity and efficiency. In this respect, it is adhering to Coase’s conception of the need for law to create a paradigm that mirrors a zero transaction cost environment as closely as possible.¹⁴ Specifically, the thesis will analyse whether the imposition of intermediaries, and trust-based intermediaries, will aid the facilitation of such a paradigm.

Establishing a Benchmark

However, before a meaningful economic analysis can be undertaken, a welfare indicator or bench mark with which to gauge efficiency must be found. There are two principle ways to measure efficiency.

¹² Nicholas Mercuro and Steven G Medema, *Economics and the Law: From Posner to Postmodernism and Beyond - Second Edition* (NED-New edition, Princeton University Press 2006)

<<https://www.jstor.org/stable/j.ctv131bw26>> accessed 24 August 2021.p. 1

¹³ One need only look at the contents page of Eric A Posner, *Chicago Lectures in Law and Economics* (Foundation Press 2000).

¹⁴ RH Coase, ‘The Problem of Social Cost’ (1960) 3 THE JOURNAL OF LAW AND ECONOMICS 44.

The first is the concept of wealth maximisation. This bases economic efficiency on how parties to a transaction are financially compensated or penalised. Included in this benchmark is the concept of joint wealth maximisation. This is where the relative financial standing of both parties to a transaction, or subject to a law as may be the case, are considered. Dnes says that this is a relatively simple criteria to use and is often used in law and economics.¹⁵

The second concept is that of utility maximisation. This is a somewhat more nuanced concept than wealth maximisation. Utility is a term coined by Jeremy Betham which he alternatively describes as the “greatest happiness principle.”¹⁶ For this thesis, and economics in general, utility can be defined as the psychological benefits or detriments and value judgement of participants in a market transaction.¹⁷ Thus, using utility as a benchmark, the focus becomes less on the physical, monetary outcome of a transaction and more on the individual valuation of the thing gained in the transaction. In short, this is more of an individual value judgement.

While this benchmark does allow other measures of benefits gained in a transaction (for example the ability to vote when purchasing a share – something that is difficult to quantify and monetise), it also presents difficulties. The subjective nature of value judgements is very difficult to measure and, without retrieving data from every user of the securities market (a nigh on impossible task), will only result in an approximation of an analysis.

¹⁵ Antony W Dnes, *Principles of Law and Economics* (Edward Elgar Publishing 2018). p. 9

¹⁶ William Sweet, ‘Jeremy Bethnam’ <<https://jep.utm.edu/bentham/>>. Last accessed 14 September 2021

¹⁷ Dnes (n 15).p. 9

The corollary is therefore, which benchmark shall this thesis use? The vast majority of the analyses undertaken will be measured on pure wealth maximisation. However, there will be certain sections where the utility benchmark is used also. This shall be in areas where there is not necessarily a wealth maximisation side to the analysis, or there is a clear utility benefit for the investor.

For example, this will include the analysis of accessibility of voting rights to ultimate beneficial owners. These do not necessarily promote wealth maximisation for investors, but they do promote the use of the rights within the securities. It is therefore more appropriate to classify this as utility maximisation.

Another clear example is that of investor ESG preferences. Such preferences are, by their nature, not solely focused on financial returns (though that is usually a factor) but on sustainable investment as a key goal.¹⁸ In this case, investors are considered to prefer the benefit of investing in sustainable companies (such as the benefit of not investing in high carbon emitters, or promoting green energy etc.) over the amount for which they purchase the share.¹⁹ This is a non-wealth maximisation goal, yet one that the analysis of this thesis recognises as a form of utility maximisation.

The benefits of this are twofold. Firstly, there is the ability to measure the efficiency of the market in non-financial terms. This moves away from a relatively reductive measurement

¹⁸ Aviva, 'Environmental, Social and Governance: What Is ESG Investing?' <<https://www.aviva.co.uk/investments/ethical-investing/what-is-esg-investing/>> accessed 28 April 2022.

¹⁹ *ibid.*

such as wealth maximisation and allows for the incorporation of non-financial benefits to assess efficiency. This provides a more holistic and realistic assessment of promotion of investor preferences, and thus efficiency.

Secondly, considering transaction costs, the use of ESG preferences and utility generally can help to offset transaction costs associated with trading on the market. As the goal is not always giving effect to investor preferences in terms of wealth maximisation but to values such as ESG preferences, then it is possible to consider a market efficient despite not necessarily improving wealth via lowering transaction costs. If the market enables easier facilitation of investor preferences – potentially despite transaction costs remaining the same, or indeed increasing – then it could be considered as efficient. This will be considered particularly in light of the novel technological modalities addressed towards the end of the thesis.

Transaction Costs in a Pure Economics Paradigm

The main economic theory of use in this thesis is that of transaction cost analysis. This theory was first postulated by Ronald Coase in his work “The Nature of the Firm” where, inter alia, he discusses *“the costs of negotiating and concluding a separate contract for each exchange transaction which takes place on a market must also be taken into account.”*²⁰ He mentioned these costs again in his work “The Problem of Social Cost” where he discusses *“the cost of market transactions.”*²¹

²⁰ RH Coase, ‘The Nature of the Firm’ (1937) 4 *Economica* 386. accessed 7 July 2019

²¹ Coase (n 10). p. 37

These quotes neatly summarise the theory underlying transaction costs. Taking the example of a share, it is not simply the price of the share (the base value plus premium) for which one must calculate. For the Ultimate Beneficial Owner of the security or security entitlement (UBO), it is the accumulation of all the peripheral transactions and services, including the employment of lawyers, accountants and, of course, intermediaries.

This theory even applies to other intermediaries in the holding chain. For example, an intermediary in the UK may be employed by a UBO to execute a share transaction involving securities held in, say, Germany. In this case, it is not simply the cost of the share (plus whatever price they charge to the UBO) but the need to, for example, employ lawyers versed in the law of Germany, the abidance by any onerous rules Germany may have for such transactions and, possibly, even contract with another intermediary in Germany.

These are all costs that are a product of commencing and completing a transaction. They are, for want of a better term, hidden costs added to the share price. The hidden cost is money which could be better used for a different purpose.

It is important to note at this point that transaction costs need not be monetary in nature. Georgakopoulos suggests some examples that illustrate how a transaction cost may not be monetary.²² One important way a transaction cost can materialise in a non-monetary form

²² Nicholas L Georgakopoulos, *Principles and Methods of Law and Economics: Enhancing Normative Analysis* (Cambridge University Press 2005) <<https://www.cambridge.org/core/books/principles-and-methods-of-law-and-economics/F59BC81986DEE4BADD7512BD82E10F85>> accessed 24 August 2021. pp. 101 - 102

is time. This is shown by Georgakopoulos in one of his examples.²³ This is particularly important in the context of securities transactions as shall be shown in subsequent chapters.²⁴

In his paper, Coase was concerned with the distribution of an entitlement to the person for whom it was most valued. Coase postulated that in a zero-transaction cost world, private bargaining between parties will always lead to an efficient allocation of entitlements.²⁵ As there are effectively no barriers to bargaining and trade, a free market solution will produce an efficient outcome.

However, this world is not such a simplified world. Transaction costs are part of this world and thus these peripheral costs can interfere with the efficient distribution of entitlements. It was, Coase surmised, the purpose of the law to help bring about an outcome that would mimic so far as is possible the outcome of a zero – transaction cost free market.²⁶

In an imaginary world of zero transaction costs, the parties would naturally bargain to reach a satisfactory settlement. The right would thus fall to whoever valued it the most. In terms of the financial markets, this is equal to bargaining for a share and the share naturally going to whomever valued that share, or more specifically the rights vested by the share, the most. In this example the law need not intervene as the distribution of rights is market efficient.

²³ *ibid.* p. 102

²⁴ See chapters 4 and 5 of this thesis for a detailed explanation of temporal transaction costs and their relation to securities transactions.

²⁵ Richard A Posner, *Economic Analysis of Law* (9th ed. edition, Wolters Kluwer Law & Business 2014). p. 8

²⁶ Coase (n 10).

However, as we have said, in the real world there are transaction costs. These transaction costs – the hidden costs – may mean that the right may not end up with whomever values it the most as the costs may make it too expensive to purchase.²⁷ Adapting the explanation of Bix to the problem of the railway sparks. Say the right of the train passing over the tracks is worth £80 to the railway company who currently holds the right, while the right of having the crops grow unfettered is worth £100 to the farmer. In this case, the right to the enjoyment of the land is worth more to the farmer.²⁸ This is because the farmer has their wealth maximised by the land, more than the company does. We can see here the Posnerite wealth maximisation principle in practice.

However, to complicate this, to affect the transfer of the right from the railway company to the farmer is £40. Thus, the total price payable by the farmer is £130. This is because the farmer would likely be able to purchase the rights from the company for around £90. This is the mode of the two values, £80 and £100. However, we then have to add on the cost of the transaction to the asking price, which is £40. This raises the cost to the farmer above what they value the right as.

We can further see how the outcome would be inefficient even where the transaction costs were split equally between the parties. Say both parties contributed £20, this would reduce the gain for the company to £70 (below the minimum price they are willing to offer) and increase the cost to the farmer to £110 (above the maximum worth of the right to the

²⁷ Bix (n 10).p. 217

²⁸ *ibid.*

farmer). This makes it not worth purchasing even though the right is worth more to the farmer. We therefore have an inefficient outcome.²⁹ Using the lens of wealth maximisation, the farmer no longer gains wealth, they lose wealth, hence the inefficiency.

This example gives a neat illustration of the problem with transaction costs. In the most simple terms, transaction costs increase the overall costs of purchasing something. In the above example it is a right of use of the land, but it is equally applicable to securities and the securities markets. How then, can this theory apply? The most obvious impact is the cost of securities and, as shall be discussed later in this chapter, how trust law and the current intermediated structure increases the transaction costs associated with entering and trading on the securities market. These costs attach themselves to the base price of the share and the premium, raising the overall cost of purchase. Importantly, it helps to show how this intermediated paradigm discourages trade and transfer as it becomes too expensive through the increase in transaction costs. In short, securities' liquidity is reduced. This is the antithesis to the purpose of securities, as shall be discussed later in this thesis.

Through this lens of transaction cost analysis, the thesis shall explore whether the current intermediated securities legal modality is efficient. It shall also explore whether the legal framework facilitates the correct and efficient distribution of the rights and entitlements vested by the security, particularly considering the problems associated with bifurcated ownership of trust, as Coase was originally concerned with.³⁰

²⁹ Georgakopoulos (n 22).

³⁰ Coase (n 20).

2. Historical analysis of Law

The second analysis is that of an historical analysis. Establishing the purpose behind the creation of securities and how they have helped the growth of capitalism is of the utmost importance. The law of course follows business and should be there to help facilitate the needs of businesses. One need only look at the speech of Lord Browne-Wilkinson in the trust case of *Westdeutsche Landesbank* where he notes:

*“My Lords, wise judges have often warned against the wholesale importation into commercial law of equitable principles inconsistent with the certainty and speed which are essential requirements for the orderly conduct of business affairs.”*³¹

This is *prima facie* evidence of the lead of commercial interests in the legal – commercial relationship. The law must facilitate the needs of business, not the other way around. Thus, in exploring the development of securities, particularly in relation to the financing of businesses, we can best discern how they are used by businesses and how best the law can promote this.

The second purpose of the historical analysis is to outline the rise of the joint – stock company and its importance in modern capitalist society. This will show how important having a smooth and certain securities system is to the promotion of business and economic interests in such societies.

³¹ *Westdeutsche Landesbanke Girozentrale v Islington LBC* [1996] UKHL 12 – Speech of Lord Browne Wilkinson

3. Definitions

Securities: What's in a name?

A first definition that needs to be given is what we mean by the term “securities” and how securities operate in a day to day capacity. A security is, at its core, a financial instrument. It is a monetised instrument that is capable of being traded on the money markets. This term can be split into several further types of asset.

i) Equity Securities

The first, and probably the most well-known, is that of the equity security. This type of security gives the purchaser an ownership stake in the company from which it was purchased. Often described as a ‘pack of rights,’ these securities may come in various classes, each of which vests different rights.³²

One of the key rights divested in – though not exclusively – ordinary shares (i.e standard shares and not shares of defined classes) is the right to vote at general meetings. This right goes to the heart of what an equity share provides – control of the company.³³

³² Alan Dignam and John Lowry, *Company Law* (Oxford University Press) pp. 167 - 169

³³ *ibid.*

ii) *Debt Securities*

Debt securities can be distinguished by the rights that they vest. Rather than a right of ownership, the profitability of which depends on the profitability of the company, a stake in what is essentially a loan to a company (or another legal person) is provided.³⁴ The instrument indicates the promise of the entity to pay the owner of the security the face value plus interest at a set rate. An example of this is government bonds.

In these instruments risk is monetised. Thus, debt with a higher risk of default is generally compensated with a higher rate of interest. Importantly, the relationship between the entity from whom the security is purchased and the UBO is one characterised by a debtor/creditor relationship. This personal liability relationship can be distinguished from the equitable relationship in an equity security. There is an obligation to repay the holder of a debt security as opposed to the owner of an equity security who owns a proprietary interest over the assets of the company or entity.

iii) *Derivatives*

The final type of security is the derivative. This is a security that is pegged and dependent on an underlying asset such as oil, gas or currency. The seller does not have to own this underlying asset and, if needed, can give the purchaser of the derivative enough cash to buy the asset in exchange for the derivative.³⁵

³⁴ Jennifer Payne and Louise Gullifer, *Corporate Finance Law: Principles and Policy* (Hart Publishing 2020). Pp. 33 - 37

³⁵ Graham Bannock and RE Baxter, *Penguin Dictionary of Economics* (Penguin 2011). pp. 95 - 96

iv) What is being dealt with in this thesis?

For the purposes of this thesis, the main security that shall be discussed is that of the equity security. This is because this is where the main issues surrounding intermediated securities are held. However, this is not to say that the research and findings are totally inapplicable to debt securities and derivatives.

Take for example an intermediary who holds debt securities for a UBO. While the analysis of the exercising of ownership rights that are inherent in an equity security may not be relevant, the transaction costs of multiple layers of intermediaries certainly are. This is equally applicable to debt securities and derivatives held in an intermediated form.

What is a Securities Intermediary?

A second definition to outline is the concept of an 'intermediary.' The term 'intermediary' in the context of securities has a wide meaning. An initial definition can be found in the United States Uniform Commercial Code (UCC) Article 8. It states:

“(14) "Securities intermediary" means:

(i) a clearing corporation; or

(ii) a person, including a bank or broker, that in the ordinary course of its business maintains securities accounts for others and is acting in that capacity.”³⁶

This is a comprehensive, yet succinct, definition of what constitutes being an intermediary and clearly explains the targets of this thesis. This definition is applicable in many countries outside of the US. For example, the Hague Securities Convention defines an intermediary as:

““intermediary” means a person that in the course of a business or other regular activity maintains securities accounts for others or both for others and for its own account and is acting in that capacity[.]”³⁷

This definition is similar in substance to the definition under UCC Art. 8. The similarities are particularly acute when comparing the Hague definition and s (ii) of UCC Art 8.

Of note however, is the further guidance contained within the Hague definition. This guidance states:

“(3) A person shall not be considered an intermediary for the purposes of this Convention merely because –

a) it acts as registrar or transfer agent for an issuer of securities; or

³⁶ United States Uniform Commercial Code (UCC), Article 8

³⁷ Hague Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary

b) it records in its own books details of securities credited to securities accounts maintained by an intermediary in the names of other persons for whom it acts as manager or agent or otherwise in a purely administrative capacity.

(4) Subject to paragraph (5), a person shall be regarded as an intermediary for the purposes of this Convention in relation to securities which are credited to securities accounts which it maintains in the capacity of a central securities depository or which are otherwise transferable by book entry across securities accounts which it maintains.

(5) In relation to securities which are credited to securities accounts maintained by a person in the capacity of operator of a system for the holding and transfer of such securities on records of the issuer or other records which constitute the primary record of entitlement to them as against the issuer, the Contracting State under whose law those securities are constituted may, at any time, make a declaration that the person which operates that system shall not be an intermediary for the purposes of this Convention.”³⁸

This is extremely important guidance in defining the scope of what constitutes an intermediary. Regarding s3, a person or organisation does not become an intermediary if they are acting as an agent for a principal who holds securities through a separate organisation, even if they record the securities in question in their own books. We shall see the importance of this point in forthcoming chapters. It shall be shown how using

³⁸ Ibid.

technology can substantially reduce the role of intermediaries, making agency a more attractive legal framework.

Further, in the Hague definition there is a clear statement that a central securities depository (CSD) is considered an intermediary. This is by virtue of it being the 'holder' of the securities accounts. Considering that most securities in the current paradigm are held at some stage through a CSD, it is important to understand that there is little way that a UBO can hold securities without the imposition of an intermediary in some fashion.

The final point to note is the provision contained in s5. It states that an entity which operates the system used to record securities holdings and transactions may not be considered as an intermediary for the purposes of the Convention should the Contracting State deem it so.

To further ensure that the definition of an intermediary is clear, one must understand the concept of a 'securities account.' The Hague Convention provides a very brief definition of such an account. They note that a securities account is one where securities can be credited or debited.³⁹

For further elaboration, one can look again at the UCC Art. 8. It states:

³⁹ Ibid.

“a) "Securities account" means an account to which a financial asset is or may be credited in accordance with an agreement under which the person maintaining the account undertakes to treat the person for whom the account is maintained as entitled to exercise the rights that comprise the financial asset.

(b) Except as otherwise provided in subsections (d) and (e), a person acquires a security entitlement if a securities intermediary:

(1) indicates by book entry that a financial asset has been credited to the person's securities account;

(2) receives a financial asset from the person or acquires a financial asset for the person and, in either case, accepts it for credit to the person's securities account; or

(3) becomes obligated under other law, regulation, or rule to credit a financial asset to the person's securities account.

(c) If a condition of subsection (b) has been met, a person has a security entitlement even though the securities intermediary does not itself hold the financial asset.

(d) If a securities intermediary holds a financial asset for another person, and the financial asset is registered in the name of, payable to the order of, or specially indorsed to the other person, and has not been indorsed to the securities intermediary or in blank, the other

person is treated as holding the financial asset directly rather than as having a security entitlement with respect to the financial asset.

(e) Issuance of a security is not establishment of a security entitlement.”⁴⁰

Importantly, this definition shows that a securities account does not mean that the intermediary physically holds the securities – whether in terms of a corporeal certificate or an electronic form of security. A securities account can merely record the *entitlement* (i.e a right *in personam*) to a security or an underlying security interest.

To contextualise this definition with regard to the law of England and Wales, one can look to the Law Commission’s call for evidence regarding intermediated securities. They give a definition of intermediary as:

“An individual or, more commonly, an organisation which holds an interest in investment securities on trust for another, who may be another intermediary or the ultimate investor.”⁴¹

Therefore, both this definition of securities account, and the previous definition, encompasses a physical share, an electronic share and an underlying interest in shares. Importantly, the Law Commission’s definition stipulates that an intermediary is one that utilises trust as the legal basis. While this is indeed true for intermediated securities in

⁴⁰ UCC (n 30) § 8 - 501

⁴¹ Law Commission *Intermediated Securities Call for Evidence* (August 2019) p. v

England and Wales, other jurisdictions do not use this regime as shall be discussed later in this thesis.⁴²

Thus, with an understanding of what constitutes a securities account, one can understand how a person or organisation can be classed as an intermediary. Of particular note, one can see how a sub-trust custodian (which shall be further elaborated upon later in this thesis) can be classed as an intermediary.

To summarise this section, a securities intermediary can encompass a number of different persons and organisations including a CSD, a clearing corporation (analogous in function to a central counterparty clearing house (CCP)), and a broker or bank. The most fundamental aspect which defines a securities intermediary is the holding of a securities account for another person, legal or otherwise. As has been said, this securities account could be for the 'real', original security or a securities entitlement.

Thus, for the purpose of this thesis, an intermediary can be any one of the examples given above, as long as they abide by the fundamental aspect of a securities intermediary. An intermediary does not necessarily have to hold the original security but can hold and operate a securities account instead.

⁴² See Chapter 5, s 4 of this thesis.

What Makes an Efficient Market?

Perhaps a final definition that should be considered is that of the “efficient market”. This is a term that will be utilised throughout this thesis and thus should be delineated. In one sense, the prime hallmark of an efficient market is based upon the works of Eugene Fama.⁴³

Fama hypothesised that the efficient market is one where securities are traded at their fair market value which is based upon market actors having all relevant information.⁴⁴ Fama is quite right when he says that the efficiency is predicated upon availability of information. However, consideration must also be made as to when participants receive such information, can they easily access or exit the market via ease of sale and purchase of their securities? In a word, is the market liquid enough?

For example, should an investor be given information that their securities are about to drop in value, they may wish to sell as soon as they possibly can. If the seller now sells, according to Fama, this would be at fair market value.

However, consider that on top of any loss from price drops, is the price of selling the shares – such as, for example, paying an agent in some form to sell them (e.g a stock broker as is the case in many jurisdictions) – accounted for in the transaction? Often the answer is “no” yet is a fundamental question to consider for a liquid, efficient market. This is a further loss to the securities seller, reducing their wealth maximisation even further. Thus, while the

⁴³ Eugene F Fama, ‘Efficient Capital Markets: II’ (1991) 46 The Journal of Finance 1575.

⁴⁴ Eugene Fama, ‘Efficient Capital Markets: A Review of Theory and Empirical Work’ (1970) 25 Journal of Finance. p. 383

securities may have been sold at fair market value thanks to the availability of information, the investor suffers a further loss due to the need for selling via an agent (a barrier to market liquidity.)

Accordingly, this thesis concerns itself with the second part of this analysis. While availability of information is key (and indeed will be touched upon in later chapters), just as important is the ability of the investor to buy or sell their securities – in other words, act upon the information. Thus, for this thesis, an efficient market will be one that is liquid, so that the investors can buy or sell as quickly and cheaply as possible.

Linking to the forms of economic analysis above, such efficiency can be measured. One of the key barometers will be the Posnerite conception of wealth maximisation, i.e what maximises investor wealth the most.⁴⁵⁴⁶ Often, it shall be seen, it will involve the reduction of transaction costs through the imposition of a clear legal regime. This shall become apparent in the coming chapters.

To note however, mention should also be made of including the broader range of investor preferences, particularly those concerning ESG preferences. Utilising the conception of market efficiency through keeping transaction costs low, a further consideration is that of an efficient market through enacting investor preferences. Linking into utility considerations, if the investor is valuing their ESG preferences over both the amount they

⁴⁵ Posner (n 25). pp. 31 – 33

⁴⁶ Anthony Kronman, 'Wealth Maximisation as a Normative Principle' (1980) 9 The Journal of Legal Studies. p. 227

pay as a base price *and* the transaction costs, then this could also show that the market is efficient.

It is clear that giving effect to ESG preferences are a significant consideration and have gained traction in recent years. In England and Wales, the Companies Act 2006 highlights this movement in s172 whereby directors must run the company in the best interest of its members as a whole, while also giving effect to considerations such as environmental impact, social impact and business conduct.⁴⁷ Additionally, the European Union (EU) published directive 2014/95/EU which highlighted the need for companies to disclose social and environmental information in line with the increased investor demand in this area.⁴⁸

These increased disclosure obligations and move away from pure investor wealth maximisation could, on the basis of a pure wealth maximisation analysis, be seen to create an inefficient market. After all, the enhanced requirements could feasibly be considered as an increased transaction cost. However, in utilising a utility maximisation analysis, the increased emphasis on maximising investor ESG preferences can be seen as creating an efficient market via heightened utility.

While perhaps increasing transaction costs, the investors can be considered to prefer that these wider considerations are met over the cost of their implementation. This again highlights the benefits of a utility maximisation analysis alongside that of wealth maximisation to analyse what constitutes an efficient market.

⁴⁷ S172, Companies Act 2006.

⁴⁸ 'Directive 2014/95/EU' <<https://www.legislation.gov.uk/en/eudr/2014/95/introduction>> accessed 28 April 2022.

Summary

This chapter has outlined the hypothesis of the thesis and the research questions that must be answered in order to analyse the overall hypothesis. These questions shall be undertaken by using two modes of analysis. The first is a historical analysis, the second is an economic analysis.

These analyses fulfil discrete objectives. The historical analysis provides an analysis of the reasons why securities and intermediation have arisen. It shows their importance in modern capitalist societies. The economic analysis looks to the efficiency of both the concept of intermediation and the law of trust that underpins it.

Finally, this chapter has also outlined some critical definitions. It has provided a definition of what economic analysis means and the modes that shall be used. The chapter has also defined what an intermediary is, as well as what a security is, and how they shall be used for the purposes of this thesis.

Chapter 1 – Historical and Economic Development of Securities as a Legal Phenomenon

1.1 Chapter Overview

The first step in investigating the hypothesis of this thesis is to return to the genesis of securities. In delineating the causes behind the creation of securities as an economic and legal phenomenon, the thesis will create a bedrock from which to analyse the purpose of securities, their importance and the effectiveness of the legal system's attempt to create an efficient securities and security market framework.

Securities can trace their roots back to the unincorporated joint stock companies.⁴⁹ These were the prototypical form of limited liability companies we see today. Originating in 13th Century France and Sweden, profits of firms were divided commensurately with the number

⁴⁹ Alexander Fallis, 'Evolution of British Business Forms'. p.8

of shares an individual investor held.⁵⁰ It was not until the 17th Century in England that the first use of the term Joint Stock Company became relatively common parlance.⁵¹

This chapter seeks to trace the historical roots of securities. It shall show, through a systematic evaluation of the different business modalities, how securities have developed in order to meet the demands of business. In particular, it shall show how securities were designed to facilitate business growth in tandem with novel business structures, through the provision of risk mitigated, easily divestible packs of rights.

In doing this, the formative steps for the formulation of the thesis can take place. By highlighting the original purpose of securities, one can set about judging whether the current legal framework is suitable for their efficient trade.

The landscape of the chapter is thus: an overview of the early forms of companies in the UK; the Dutch East India Company and the initial floating on the stock market; the British East India Company and developments in the offering of shares and securities; the Bubble Act and the South Sea Corporation, and finally; an analysis of the evolution of companies and securities in relation to commercial necessity.

⁵⁰ Ibid p. 8

⁵¹ John Patterson Davis, *Corporations: A Study of the Origin and Development of Great Business Combinations and of Their Relation to the Authority of the State* (G P Putnam's sons 1905).p. 115

1.2 Early Corporate Forms in England and Wales

1.2.1 Sole Trader

Corporate and business forms in the England and Wales (the UK for short) has a long history stretching back as far as the Medieval period or earlier.⁵² The earliest and most basic form of enterprise in the UK was, and still is, the sole trader. Sole traders are individuals trading in their own name.⁵³ These traders are self-employed, have total *personal* liability and, importantly, raises funds for the business either through personal capital or loans.⁵⁴

While relatively easy to set up with little formality involved, the status of sole trader holds a number of disadvantages. For the purpose of this thesis, there are two of particular note.

Firstly, a sole trader operates in their own name. This is opposed to a company who trades as a legal person (a critical evolution discussed later in this chapter). As a consequence, sole traders are unable to undertake equity finance i.e shares. All of the funding has to be found from other sources such as personal finance, loans and, when (and indeed *if*) the business makes a profit, from that income. This severely limits the range of potential sources of finance.

⁵² Turner, John D “The Development of English Company Law Before 1900” in *Research Handbook on the History of Corporate and Company Law* ed. Harwell Wells (Edward Elgar, 2018) p. 122

⁵³ Alexis Mavrikakis, *Business Law and Practice 2018/2019* (College of Law Publication 2018).p. 4

⁵⁴ *Ibid.* pp. 4 and 21

Secondly, setting up as a sole trader is particularly risky. Aside from the risk inherent with offering up personal finance to fund a venture, sole traders hold total personal liability for any debts. This means that, should the venture fail and become indebted, it is not just the assets of the business that are put in jeopardy, but the *entire* asset base of the sole trader.⁵⁵

Clearly therefore, there are considerable risks and detriments to setting up as a sole trader. However, in the early stages of business in the UK where business was conducted in a relatively small locale and where businesses were of a small size, the sole trader was (and to an extent, still is) advantageous. These businesses did not have the need for large capital input (such as those companies who voyaged to the New World), did not require the significant formalities required for setting up an incorporated business, and did not require the same level of ongoing maintenance and formalities of other company forms. Thus, the risk of the sole trader not turning a profit and therefore losing their assets who have lost money are significantly reduced as the costs for set up and maintenance are lower *vis-à-vis* more complex business forms. The sole trader is therefore less in need of taking out a risky loan or using personal assets to set up and maintain the business.

However, as shall be discussed later in this chapter, this particular form of enterprise is ill suited to the type of larger ventures that came to the fore in the ensuing centuries. As the money required from investors increased, so too did their need to secure their investment. Thus, it is likely that the sole trader would not possess enough assets to secure investment, or indeed entice investment in the first place.

⁵⁵ Mavrikakis (n 53).p. 4

1.2.2 Partnerships

The next main development is that of the partnership. The concept of a partnership can be found as far back as antiquity, with its existence as a legally enforceable contract between individuals recognised by both Roman law and the medieval laws merchant.⁵⁶ There are generally considered to be two particular incarnations of a partnership: the limited and the unlimited partnership. For this subsection, the thesis shall focus upon the first type, the unlimited partnership. The limited partnership is a later development of the corporate form and sufficiently distinct so as to be discussed in its own section.⁵⁷ Thus, for this section the limited partnership shall be known simply as a ‘partnership’

Therefore, how can we define a partnership? A partnership is, in many respects similar to a sole trader. Indeed, s1 of the Partnership act 1890 states:

“Partnership is the relation which subsists between persons carrying on a business in common with a view of profit”⁵⁸

In this sense, a partnership is an agreement between individual sole traders to work in tandem. They share the profits and the liabilities for the business, and are taxed as individual traders.⁵⁹ As a result of the lack of separate legal personality, the partners are responsible for

⁵⁶ Ron Harris, *Industrializing English Law: Entrepreneurship and Business Organization, 1720–1844* (Cambridge University Press 2000).p. 19

⁵⁷ *ibid.*, p. 20

⁵⁸ S1 Partnership Act 1890

⁵⁹ Mavrikakis (n 53).p. 5

the financing of the venture (either through personal means or debt) and hold unlimited liability (i.e their personal assets are at risk).⁶⁰ As a further note, such liability can be joint or several, meaning that any creditor may pursue the debt from one partner or from all the partners.⁶¹

Considering the needs of business in light of these issues, partnerships initially still seem to be a poor choice for the types of businesses securities were created in order to aid. They still have unlimited liability, placing their assets at risk on insolvency. Additionally, while a partnership does potentially allow for a greater pool of finance for the company without taking on debt, it requires all partners to be equally liable. Thus it is not particularly effective at generating finance from passive investors who wish to invest at minimal risk, as is the case for larger ventures.

However, there are some protections afforded to partnerships to mitigate such risk. Firstly, partners owe each other a duty to act in the 'utmost good faith.' Contained in ss 28 – 30 PA 1890, this means partners must *inter alia* divulge all relevant business information, share profits connected with the partnership, and share profits from running a competing business.⁶²⁶³

Further to this is the concept known as 'weak entity shielding.'⁶⁴ This concept is important for limiting the risk of individuals in the partnership. In essence, weak entity shielding seeks to

⁶⁰ *ibid.*p. 5

⁶¹ *ibid.*p. 5

⁶² SS. 28 – 30 PA 1890

⁶³ Mavrikakis (n 53).p. 273

⁶⁴ Fallis (n 49).p. 8

protect the assets of the business from the creditors of the individual partners.⁶⁵ From the mid 16th century, weak entity shielding began to be used especially in relation to bankruptcy. Alongside the *Pari Passu* concept that was included in the Statute of Bankrupts in 1582, two particular pieces of case law in the late 17th and early 18th century elucidate the concept of entity shielding.⁶⁶

The first of these is *Craven v Knight*. Heard in 1683, the case was one centred around bankruptcy. In the case it was decided that the assets of a bankrupt partnership should be used firstly to pay off creditors of said partnership. Only after partnership creditors had been paid in full could partnership assets be used to pay individual partner's creditors. Thus, a system of debt seniority was introduced, with partnership creditors being made senior to individual creditors in the case of distribution of partnership assets.⁶⁷ As Fallis notes, that the partnership assets were shielded from individual creditors meant that partnerships could be extended credit on more favourable terms.⁶⁸

The second case is that of *Ex Parte Crowder*. This case served as a reinforcement of the hierarchical structure of rights and liabilities introduced in *Craven*. It was decided that personal creditors had first priority over partners' personal assets and, in the reverse of that set out in *Craven*, partnership creditors may only claim personal assets after personal creditors had been paid in full.⁶⁹

⁶⁵ *ibid.* p. 8

⁶⁶ *Pari Passu*: Latin for "equal step." The principle where competing claimants are awarded a proportion of the debtor's assets commensurate to the size of the creditor's claim. *Oxford Dictionary of Law* (Oxford University Press, 2013) p. 393

⁶⁷ Fallis (n 49). p. 8

⁶⁸ *ibid.* p. 8

⁶⁹ *ibid.* p. 8

The current law is very much based upon these principles. The law uses a relatively intricate mix of processes to adjudge and apportion liability to the firm and its partners.⁷⁰ However, the principle remains that if the partnership is liable then creditors trace their claim into the assets of the partnership first and then the individual partners.⁷¹

What is particularly important here is that potential investors would have some level of priority. For example, where a partner becomes bankrupt because of a loan unrelated to the partnership, the creditors of that loan could not access the partnership assets. This effectively protects the partnership creditors from having any recourse undermined.

While this does give some protection, there is still significant risk of loss for investors in a partnership. Particularly for large, risky ventures, there is no guarantee the venture would be successful. In this case, priority matters little as there would simply be far too few assets to recoup loss to any meaningful extent.

A partnership comes to an end upon voluntary agreement between the partners or when one of the partners dies. Should a partner die or otherwise leave, the other partners can buy-out the leaving partner in order to continue the venture's existence.⁷² Again, this poses a risk for investors. If a partnership dissolves prior to making a profit and a buyout by the other partners doesn't take place, then the investors may experience significant loss. This, once more, makes

⁷⁰ Alexis Mavrikakis, *Business Law and Practice 2015/2016* (2015).pp. 277 - 285

⁷¹ Ibid p. 284

⁷² Mavrikakis (n 53).p. 5

this business form particularly unsuited to the large, risky ventures that become more prevalent in later centuries.

Therefore, the partnership shares many similarities with a sole trader. It has no separate legal personality and thus cannot issue equity. It also carries with it unlimited liability, making it a risky venture. Indeed, that any partner can be pursued for any of the other partner's business debts means this venture carries even greater risk than that of a sole trader. As a result, the business form is limited in its ability to help enterprises grow, especially re multinational enterprises and risky ventures such as those to the New World.

There was still a need therefore to develop a robust business form that could facilitate such risky ventures. Clearly, the central requirements for such ventures are the limitation of liability for debts and an ability to cheaply raise finance.

1.2.3 Considerations of Business Forms So Far

At this point, it is prudent to take stock of what the analysis of these forms inform us about this thesis. As it stands, these forms are limited in their capacity to allow for their expansion. In particular, there is still a great limitation on how people may invest in these companies without incurring too great a risk. Indeed, the core issue with these forms is that they miss a key ingredient of securities, limited liability.

Limited liability, as shall be discussed later in this chapter and thesis, is a core mode of reducing risk for investors. In essence, limited liability allows an investor to be liable for the

amount they contribute.⁷³ Securities further mitigate risk by breaking the total amount a business is looking to raise into small bite-size chunks. Thus an investor, rather than providing the whole amount, can purchase only as much as they feel comfortable losing. The full weight of this distinction will be seen over the coming sections and chapters.

Therefore, as it stands, partnerships and sole traders are unable to provide investors limited liability. This means that any investment will be in the form of a personal loan (which can be onerous and expensive as discussed above) or becoming a partner, which opens up the investor to personal liability. Neither of these modalities encourage investment and thus, do not encourage economic expansion. It is important then to look at the evolution of business forms from this point, in order to understand the role securities have in precipitating such economic expansion.

1.2.4 Limited Partnerships

The second of the partnership incarnations is that of the limited partnership (LP). A late development in the law of England and Wales, the LP was only introduced by the Limited Partnership Act 1907 (LPA).⁷⁴

As Harris notes, the LP was wholeheartedly adopted by Continental Europe a century before England.⁷⁵ Napoleon's Code de Commerce of 1807 sees an incarnation of the LP a full 100

⁷³ Brenda Hannigan, *Company Law* (Oxford University Press 2018). Pp. 4 – 6, 13

⁷⁴ *ibid.* p. 7

⁷⁵ Harris (n 56).p. 30

years before its adoption in England.⁷⁶ The code stipulates the *Sociétés en Commandite* which shares the same characteristics as the LP outlined in the next paragraph.⁷⁷ A chief reason for such a partnership was the ability to mobilise aristocratic capital in order to fund ventures.⁷⁸

As to the key characteristics of an English LP: chief among these is the existence of two classes of partners: general and limited. A general partner shares the same qualities as a partner in a 'standard' partnership, namely unlimited liability for the partnership debts. Limited partners, on the other hand, are limited solely to their investment.⁷⁹

There are, however, three rules which limited partners must abide by: not controlling or managing the LP; not making binding decisions on behalf of the LP, and; not removing the investment for the duration of the LP's life span.⁸⁰ Thus, limited partners, while having significant levels of protection from the LP's creditors, lose rights of LP control and capital alienation. This is a hinderance to those partners who wish to avail themselves of limited liability while also gaining control of the company. It is also a key point to distinguish this company form from the limited liability company and the status of their shareholders.

However, this business form begins to illustrate the need for securities. There is a clear need found by business to attract greater amounts of capital from more diffuse sources. Limited liability partnerships allowed this to happen through limiting the partners' liability to the

⁷⁶ Larry Neal and Rondo Cameron, *A Concise Economic History of the World: From Paleolithic Times to the Present* (Oxford University Press 2016).p. 213

⁷⁷ Ibid p. 213

⁷⁸ Harris (n 56).p. 30

⁷⁹ Mavrikakis (n 53).p. 6

⁸⁰ ibid.p. 6

amounts they put in, much as a security does. In this respect, it is highly likely that this would have incentivised investment through the lack of liability for the partnership's debts.

However, an important part of securities' make up is the ability to trade this share in order to reduce risk even further. In this paradigm, a partner cannot just transfer the liability in the same way a holder of a security can. Additionally, the limited partnership divests limited partners' of their control of the company. Again, while there is a division of ownership and management in modern corporations, shareholders still wield considerable control.⁸¹ Therefore, these issues still leave the business model with significant deficits when compared with modern corporates.

It is perhaps also worth mentioning the Limited Liability Partnership (LLP) at this point. A very recent addition to the roster of corporate forms, the LLP was instituted by the Limited Liability Partnership Act 2000.⁸² Where the LLP and the Limited Partnership significantly differ is in the ability of partners (somewhat confusingly referred to as "members" in the Limited Liability Partnership Act) to engage in management of the partnership. In an LLP, partners are able to be both limited and to engage in the management of the company.⁸³

⁸¹ Elias Ferran and Look Chan Ho *Principles of Corporate Finance Law* (OUP, 2014) p. 129

⁸² Limited Liability Partnership Act 2000.

⁸³ Hillier Hopkins, 'LLP v Limited Company - What's Best?' <<https://hillierhopkins.co.uk/faq/llp-v-limited-company-whats-best/#:~:text=Each%20has%20its%20place%2C%20but%20for%20most%20owner-managers%2C,in%20a%20manner%20almost%20identical%20to%20a%20company.>> accessed 26 September 2021.

However, as this is such a novel modality, this was unavailable to historical investors and so is only truly relevant over the past 21 years. Therefore, for the historical analysis of this thesis, the LLP is of marginal relevance.

1.2.5 Joint Stock Companies

Joint Stock Companies (JSC) are the pinnacle of expression for modern capitalist society.⁸⁴ It is without question the most successful form of business in the world and forms the cornerstone of large, national and multinational, joint enterprises in modern capitalist society. There are however a number of forms it has taken throughout its lifespan. The following subsections seek to trace the JSC's evolution.

1.2.5.1 Unincorporated Joint Stock Companies

As Fallis notes, one detriment to the partnership was the restriction on the tradability of shares.⁸⁵ Tradability and the alienation of membership acts as a form of risk mitigation. That members could trade their membership stakes increased the attractiveness to potential investors in large voyages, in particular to the New World.⁸⁶ This tradability was of enormous attraction to many investors, in particular *rentier* investors who wished not to have much input into the JSC's management.⁸⁷

⁸⁴ M Schmitthoff, 'The Origin of the Joint-Stock Company' (1939) 3 The University of Toronto Law Journal 74.) p. 74

⁸⁵ Fallis (n 49). p. 8

⁸⁶ *ibid.* p. 8

⁸⁷ Phillip Lipton, 'The Evolution of the Joint Stock Company to 1800: An Institutional Perspective' (Monash University Department of Business Law and Tax 2016) Monash University Department of Business Law and Tax Research Paper No 19 ID 1413502. p. 16

JSCs developed as an answer to this issue. Several forms of the JSC emerged. The first was that of the unincorporated JSC (UJSC). This form of JSC included an early form of transferable share. Historically, its development is found in the ventures of the mercantile class of England who needed a way to divided the earnings of voyages between investors.⁸⁸⁸⁹

Trust played an important part in this area. Not only did it provide a form of investor protection (trust shielded members from each other's creditors), but also provided the basis of share transferability.⁹⁰ As the assets were held by a trustee, the members did not have a personal, contractual relationship with each other.⁹¹ Thus shares in the trust assets could be transferred and traded.

Another interesting note is that trust gave these enterprises a form of legal identity prior to the decision in *Saloman v Saloman*.⁹² As the assets were held by a trustee, creditors could only sue the trustee as opposed to the individual members.⁹³ These concepts were further developed in the creation of the chartered joint stock company.

1.2.5.2 Chartered Joint Stock Companies

⁸⁸ Fallis (n 49). p. 8

⁸⁹ Tyler Halloran, 'A Brief History of the Corporate Form and Why It Matters' (*Fordham Journal of Corporate Law and Finance*, 18 November 2018) <<https://news.law.fordham.edu/jcfl/2018/11/18/a-brief-history-of-the-corporate-form-and-why-it-matters/>>.

⁹⁰ Fallis (n 49). p. 9

⁹¹ *ibid.* p. 9

⁹² *Saloman v Saloman & Co Ltd [1897] AC 22*

⁹³ Fallis (n 49). p. 9

One of the most famous incarnations of the JSC was that of the Chartered Joint Stock Company (CJSC). As noted above, JSCs in general were designed to attract larger amounts of capital from a more diverse body.⁹⁴⁹⁵

This mode of JSC differed from the previous mode discussed in terms of its creation. Whereas the UJSC was created on an almost 'ad hoc' basis, the CJSC were created via the enactment of a charter. Some of the most famous included the *Russia Company* and the *Africa Company*, both chartered in 1553.⁹⁶ Generally this charter took the form of a Royal Charter, and as Lord Coke exclaimed in the *Case of Suttons Hospital* (1615), lawful incorporation via a charter was "of the essence of a corporation."⁹⁷⁹⁸ This mode was certainly efficient. The Russia Company in its initial share offering raised £3000 via individual £25 shares.⁹⁹

However, one of the most important features of the CJSC which other corporate forms lacked to certain degrees, was that of the separate legal personality.¹⁰⁰ This brought with it a host of peripheral benefits, including – critically – continuation in perpetuity regardless of ownership changes.¹⁰¹¹⁰² The importance of this cannot be overestimated. Prior to the grant of perpetual existence, JSCs had to be liquidated at the end of its venture in order to repay the investors.¹⁰³ Thus without the liquidation of the company, the longevity of the venture is ensured.

⁹⁴ CE Walker, 'The History of the Joint Stock Company' (1931) 6 *The Accounting Review* 97.p. 99

⁹⁵ Halloran (n 89).

⁹⁶ Walker (n 94). p. 99

⁹⁷ Bishop Carleton Hunt, *The Development of the Business Corporation in England, 1800-1867* (Harvard University Press 1936). pp. 4 - 5

⁹⁸ *Case of Suttons Hospital* (1615)

⁹⁹ Walker (n 94).p. 99

¹⁰⁰ Fallis (n 49). p. 9

¹⁰¹ Lee Roach, *Company Law* (Oxford University Press 2019). p. 84

¹⁰² Fallis (n 49). p. 9

¹⁰³ *ibid.* p. 9

Kyriazis and Metaxas outlines the theoretical evolution of the CJSC neatly:

“In the beginning these companies were associated with just one round trip and were then dissolved. But once the feasibility of the venture had been proven, as well as its profitability, decision-makers had an incentive to repeat it. In order to avoid incurring transactions costs linked to the establishment and dissolving of the company for each voyage, it is reasonable to expect that the company’s life horizon would be extended for longer durations.”¹⁰⁴

The perpetual existence of JSCs combined with the benefits of separate legal personality and transferable stock led to large CJSCs coming into existence. Focusing on tradable securities, there emerged an ability for individual investors, perhaps with more modest means than were historically required, to engage in large scale business investment. The ability to package investment into small sections and allow the trading of these mitigated risk and incentivised investment. This, in turn, allowed for the unprecedented expansion of business around the world, an effect that is still seen today. Perhaps the most famous of these newly invigorated ventures is the English East India Company. The next section shall consider this entity and its enduring legacy.

1.3 Joint Stock Companies: The East India Company

¹⁰⁴ Nicholas Kyriazis and Theodore Metaxas, ‘Path Dependence, Change and the Emergence of the First Joint-Stock Companies’ (2011) 53 Business History 363.p. 365

Perhaps the most famous of all CJSCs, the English East India Company (EIC) was granted its charter in 1600. One of the “*key instruments in [the] development of the mercantile economy*”, the EIC was created by a letters patent of Elizabeth I for the purpose of engaging in trade with the East Indies.¹⁰⁵¹⁰⁶

The legacy of the EIC is profound. Many modern business leaders have alluded to its success and drawn parallels with their own companies.¹⁰⁷ Indeed, its commercial success has made the EIC “*a model for today’s economy.*”¹⁰⁸

Therefore, how did the EIC come to have such an enduring legacy thanks to its success? Simply, the EIC had done what no other company had done before: combine all the positive, key elements of the previous systems’ attempts at separate legal personality, risk mitigation and, crucially for this thesis, the alienation of shares which resulted in great profit for investors.¹⁰⁹ Each of these elements is present in the modern form of the JSC.¹¹⁰ Indeed, as a progenitor of modern companies, one can see the success of the East India Company and its blue print for modern companies, attracting investment capital and thus promoting expansion and high investor returns.¹¹¹

¹⁰⁵ Fallis (n 49). p. 10

¹⁰⁶ Rupali Mishra, *A Business of State: Commerce, Politics, and the Birth of the East India Company: 188* (Harvard University Press 2018). pp. 17 - 19

¹⁰⁷ Nick Robins, *The Corporation That Changed the World - Second Edition: How the East India Company Shaped the Modern Multinational* (2nd edition, Pluto Press 2012).p. 14 – 15

¹⁰⁸ *ibid.* p. 14

¹⁰⁹ KG Davies, ‘Joint-Stock Investment in the Later Seventeenth Century’ (1952) 4 *The Economic History Review* 283.p. 291

¹¹⁰ Vojo Belovski, ‘The Concept of a Joint Stock Company’ (2017) 5 *Journal of Process Management - New Technologies*.p. 28

¹¹¹ Davies (n 109). p. 301

1.4 Joint Stock Companies: Vereenigde Oostindische Compagne (The Dutch East India Company)

It is worth mentioning the Vereenigde Oostindische Compagne (VOC) – the Dutch East India Company. Founded in much the same way and for the same reasons as the EIC, the VOC enjoyed considerable success stemming from the lucrative spice trade.¹¹²As a testament to the success of the VOC and the JSC structure, the VOC would, as Robins says:

*" in its lifetime... pay out 3,600 per cent in dividends based on the initial investment in 1602."*¹¹³

However, the VOC had one particular facet to its being that the EIC lacked.¹¹⁴ It was the first public limited liability company – i.e. its shares were traded on an open market.¹¹⁵ Why is this important? Quite simply, this allowed shares to be traded more widely and more efficiently through a stock market. This is a change that would take hold in most capitalist societies to enhance the efficiency of share trading.

1.5 The South Sea Company and the Bubble Act

¹¹² Robert Parthesius, *Dutch Ships in Tropical Waters : The Development of the Dutch East India Company (VOC) Shipping Network in Asia 1595-1660* (Amsterdam University Press 2010) <<https://library.oapen.org/handle/20.500.12657/34453>> accessed 24 August 2021.) p. 11

¹¹³ Robins (n 107). p. 42

¹¹⁴ *ibid.* p. 42

¹¹⁵ Jeffrey Robertson and Warwick Funnell, 'The Dutch East-India Company and Accounting for Social Capital at the Dawn of Modern Capitalism 1602–1623' (2012) 37 *Accounting, Organizations and Society* 342.p. 343

The development and use of the JSC has not always been smooth sailing however. A particular shock to the economy and development of the JSC was the South Sea Company and the Bubble Act. In order to increase its access to investor capital, the South Sea Company sought to influence Parliament to introduce a bill (The Bubble Act) prohibiting formation of JSCs without their assent, thereby giving the South Sea Company, EIC and a few other businesses a monopoly.¹¹⁶¹¹⁷

While the South Sea Company stock did rise to £1,000 per share with increasing foreign capital flowing in, these halcyon days were not to last.¹¹⁸ The share price soon fell to around £150 per share, causing significant losses to investors.¹¹⁹ While the economic crash that was precipitated in part by the Bubble Act (along with a host of other economic factors) was a significant event, more significant for the purpose of this thesis is the effect the Bubble Act had upon the creation of JSCs.

Harris postulates an interesting narrative of the Bubble Act which outlines the effect of the Act on non – chartered JSCs. The Act, in essence, deprived individuals from creating JSCs without a charter and permission from Parliament.¹²⁰ This was not to last. By 1825 there was significant pressure to reform company law and repeal the Bubble Act.¹²¹ As Fallis notes, the growth and expansion of the economy, alongside the added requirements for investor capital

¹¹⁶ Fallis (n 49). p. 11

¹¹⁷ Margaret Patterson and David Reiffen, 'The Effect of the Bubble Act on the Market for Joint Stock Shares' (1990) 50 *The Journal of Economic History*. p. 163

¹¹⁸ Fallis (n 49)., p. 11

¹¹⁹ *ibid.* p. 11

¹²⁰ Harris (n 56)., p. 64

¹²¹ Fallis (n 49). p. 13

necessitated the reinstatement of the JSC via the repeal of the Bubble Act.¹²² Indeed, for a century, the lack of JSCs stilted the growth of the economy due to the deprivation of capital that halting the JSC form brought.¹²³

Despite the Act, a number of JSCs continued to operate. They were admirably successful in continuing to promote and expand the industry in which they operated (notably mining and shipping) via raising significant levels of capital.¹²⁴

Through evidence of their success, and lobbying by interested parties, the Bubble Act was repealed in 1825. By this point, the usefulness and necessity of having JSCs, had meant that the Bubble Act had not been invoked in decades.¹²⁵

As a further evolution, Parliament passed the Joint Stock Companies Act in 1844.¹²⁶ The Act sought to validate and regulate the JSC, and was followed by more developed acts on the subject in 1856, 1862 and 1908.¹²⁷ Thus, with this, the modern form of the JSC was born into existence.

What this also shows is the importance of the JSC in the creation of business. There is some debate as to why the Bubble Act was eventually repealed. Harris, as noted above, has stated that it was due to pressure for substantive legal change. He goes further to say that part of

¹²² *ibid.* p. 12

¹²³ Hunt (n 97).) p. 6

¹²⁴ Lipton (n 87).p. 2

¹²⁵ *ibid.* p. 4

¹²⁶ Joint Stock Companies Act of 1844

¹²⁷ MS Rix, 'Company Law: 1844 and To-Day' (1945) 55 *The Economic Journal* p. 242.

this change was due to the act being “unintelligible” to its contemporary legal minds.¹²⁸ This is corroborated by others, such as Watzlaff who also notes how others had said the Act “screamed at us from the statute books.”¹²⁹

Despite the considerations of why it was repealed, there can be no doubt that the greater availability of JSCs was beneficial to the prospering of business in the UK in the nineteenth century. As Lipton notes, business people including “entrepreneurs and investors... sought the freeing up of the law dealing with companies” namely, the repeal of the Bubble Act.¹³⁰ It should be noted that while there was not an immediate increase in the number of JSCs being incorporated after the repeal, the importance and role played by JSCs as drivers of the economy is self-evident.¹³¹¹³² The corollary is therefore, that with the rise of the JSC, so too is there a rise and proliferation in the use of shares and securities. Clearly then, there must be an efficient legal framework to underpin securities holding and trading. This will be discussed in forthcoming chapters.

1.6 – Analysis of Corporate forms

It is clear from the above, that the rise of the JSC, and by extension tradable securities, was based in a need of business to raise cheap capital from sources that historically were not tapped into. It did this through the availability of tradable securities that allowed investors to

¹²⁸ Ron Harris, ‘Political Economy, Interest Groups, Legal Institutions and the Repeal of the Bubble Act in 1825’ (1997) 50 *The Economic History Review*. p. 690

¹²⁹ RH Watzlaff, ‘The Bubble Act of 1720’ [1971] *Abacus*. pp. 8 and 28

¹³⁰ Lipton (n 87). p. 4

¹³¹ William McColloch, ‘A Shackled Revolution? The Bubble Act and Financial Regulation in 18th Century England - University of Utah Working Paper No: 2013-06’ (University of Utah 2013) Working Paper.

¹³² Charles P Kindleberger, *A Financial History of Western Europe* (Routledge 2006). pp. 196 - 206

limit their liability and trade their share when the risk became too great. In turn, this incentivisation of investment allowed businesses to grow exponentially and the capitalist system to flourish.¹³³

Thus, the rise of securities and the strong and prosperous businesses it precipitated is a cornerstone of current capitalist economies. For the purposes of the thesis, it is important that the law creates a system to uphold the core concepts of securities and ensure the prospering of business. In terms of an economic analysis, such prosperity can be analysed in terms of reducing transaction costs that prohibit efficient trade, while balancing goals of wealth maximisation and utility maximisation of all parties. As this thesis will continue to show the law has historically used the trust to ensure that these goals are met. However, it shall also show how technology now allows for greater efficiencies to be made, namely through the replacement of trust with a bespoke legal regime.

1.7 Paradigm Shift: The Paper Problem

Prior to concluding this chapter, there needs to be an historical evaluation of one further development of securities. This is that of the conversion of securities from a paper-backed paradigm, to a dematerialised state. Dematerialisation is essentially synonymous with digitalisation. However, a more detailed analysis is needed.

¹³³ Columbia University: The Centre on Capitalism and Society, 'Theory of Capitalism' <<https://capitalism.columbia.edu/theory-capitalism>>.

As the use of the above stock-based corporate forms became more widespread, an increase in the use of securities as a corporate financing tool followed. This, in turn, precipitated a rise in the number of certificates and peripheral documentation needed. The result of this sharp increase was the exploration of new holding and trading modalities. There shall be a greater analysis of why there needed to be a reduction or dematerialisation of securities certificates in subsequent chapters.¹³⁴ However, it suffices to say that the overwhelming number of certificates increased transaction costs and reduced efficiency in terms of wealth maximisation and utility. Thus, in order to ensure the security continued to be used efficiently and precipitate economic efficiencies, a solution was required.

The first tentative efforts to remedy this was the concept of immobilisation. This was a relatively simple concept. The share certificates were created and then stored in the newly created concept of the Central Securities Depository (CSD).¹³⁵

The CSDs were, in many respects, the first true securities intermediary. In order to effect transfers, the stock certificates are deposited with the CSD who then become the record holder. When deposited, the securities become fungible (as long as they are of the same issuer and class) and transfers are done via book entry.¹³⁶ This modality will be analysed in greater detail in further chapters.¹³⁷

¹³⁴ See chapters 4 and 6 of this thesis

¹³⁵ Kanzaki, K., 'Immobilization of Stock Certificates: The Position of the Beneficial Shareholder' (1981) 3 *Journal of Comparative Corporate Law and Securities Regulation*. p. 115

¹³⁶ *Ibid.*

¹³⁷ See chapter 3 of this thesis.

This solution makes much sense in jurisdictions where the security is embodied by the physical security certificate. A prospective seller can point to the CSD's books and, by virtue of the CSD having record of the security, the prospective purchaser can be sure that they will receive complete ownership of the security (that is, legal and beneficial ownership) if they choose to transact. This is a significant economic efficiency. Transaction costs are reduced through certainty of title to the security and the simplicity of book entry transactions through a single point, the CSD. Additionally, the seller's wealth and utility is increased through receiving a sum that they value more than the security and the utility that stems from that. Similarly, the purchaser's wealth increases through the potential reward from the security and the rights the security entitles them to exercise.

However, this becomes more complicated when this is not the case. In England and Wales, as has been discussed, the actual share certificate is not an embodiment of the security. The security – or more accurately the rights bundled in the security – are an abstraction. As a result, the mere holding of the certificate by a CSD would not have the same effect as it would in a jurisdiction where the certificate is the manifestation of the security. Using again the above analogy, a prospective seller can point to the CSD's books to show that they hold the securities certificate. The difference is that the prospective purchaser is not able to receive full ownership of the share until the novation of the company's books occurs. While this may cause less of a concern where the purchaser is interacting directly with the CSD (which counts as amending the company books in the UK), where there are multiple layers of intermediaries, there is no guarantee that the purchase will have their name entered onto the company

books.¹³⁸ Often, the name is merely entered into the intermediary's books without the CSD book (and thus register of title) being novated.

In terms of efficiency therefore transaction costs are still substantially present as a book entry in an intermediary's books only shows the transfer of the security certificate. There still needs to be novation of company books in order to fully effect transfer. Thus, while one portion of the transaction is made somewhat more efficient, it does not address all the requirements of these forms of securities.

Additionally, the presence of a multiplicity of paper security certificates presents CSDs with a far more onerous task. Safekeeping of these securities is far more difficult where there are many as the risk of loss or damage is naturally greater. Similarly, the need to gather all of these certificates in order to affect a transaction poses a significantly greater administrative burden than the single, embodied global note.

Thus, an altogether different modality was needed in order to alleviate the condition of the London Stock Exchange. This modality first arrived in the form of TAURUS and dematerialisation in the late 1980s.¹³⁹ It is perhaps no coincidence that this solution presented itself shortly after the paper crisis in 1987. The Paper Crisis of 1987 cannot be

¹³⁸ See chapters 4 and 5 for a discussion of this.

¹³⁹ J. Wilcock, 'The City Comes Unplugged: TAURUS Was to Revolutionise Share Trading by Replacing Huge Volumes of Paper with an Electronic System. But Politics in the Square Mile Doomed It to Failure, Writes John Willcock | The Independent | The Independent' (14 March 1993) <<https://www.independent.co.uk/news/business/the-city-comes-unplugged-TAURUS-was-to-revolutionise-share-trading-by-replacing-huge-volumes-of-paper-with-an-electronic-system-but-politics-in-the-square-mile-doomed-it-to-failure-writes-john-willcock-1497659.html>> accessed 24 August 2021.

overstated in its importance. Such was the significance of the Crisis, that it precipitated a stock market crash. There were a number of contributing factors to this crash, the main one of which for the purposes of this thesis, is the role of paper-based trading and holding systems.¹⁴⁰ The Crash caused the S&P 500 to fall by 20%, an enormous figure in stock trading terms.¹⁴¹

In the UK, it is important to note the political climate at the time as this had a direct effect upon the buckling of the paper-based trading and holding system. The Conservative Party under the leadership of the late Baroness Thatcher (without the peerage at the time) came to power in 1979 for a reign that would last until 1996 (from 1990 under Sir John Major.) One of the core policies of Thatcher, and perhaps her most enduring legacy, is that of privatisation.¹⁴² Since the Labour government under Clement Attlee in the late 1940s to early 1950s many industries in the UK had been nationalised. This included coal, steel, gas and railways. The industries that were nationalised totalled around *“10% of the economy and 14% of capital investment.”*¹⁴³ This is a significant number for a country with an economy the size of the UK's.

As mentioned, a core policy of the Thatcher government was the privatisation of these nationalised industries. Privatisation involves the transfer of government owned assets into publicly owned institutions, often by floating on the stock market. This is exactly what

¹⁴⁰ M Carlson, 'A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response'.p. 2

¹⁴¹ Ibid

¹⁴² 'Privatising the UK's Nationalised Industries in The1980s | Centre For Public Impact (CPI)' <<https://www.centreforpublicimpact.org/case-study/privatisation-uk-companies-1970s/>> accessed 24 August 2021.

¹⁴³ Ibid

happened under Thatcher. When each industry was privatised a new issue of stock was created. This caused an influx of paper certificates alongside the peripheral paperwork such as stock transfer certificates. By way of illustration, in 1979 when Thatcher was first elected shareholders in the UK totalled around 3 million. When Thatcher left in 1990, this number had quintupled to around 15 million.¹⁴⁴

One other factor further compounded the influx of paper securities. This was the length of time that was given to pay for the transfers. Buyers were given three weeks to pay for the transfer which in turn increased the risk for both parties.¹⁴⁵ For example, the seller could go bust before delivering the shares and the buyer could go bust before paying for the shares.¹⁴⁶ However, as Wilcock notes, as transactions are now regularly in the hundreds of millions of pounds, such potential risk, if realised, could have catastrophic influences on the banks.¹⁴⁷

Again, TAURUS was designed to ameliorate this risk. Instead of a three – week time period, TAURUS allowed this to reduce to 5 days with actual transfers being facilitated instantaneously.¹⁴⁸ In doing so, the risk that buyers and sellers would default was reduced commensurately.

The purpose of TAURUS then, was to enhance the economic efficiency of the securities trading process. Reducing risk of loss and damage through dematerialisation reduces overall risk for the investor and incentivises investment. Similarly, the reduction in the time it takes

¹⁴⁴ Ibid

¹⁴⁵ Wilcock (n 139).

¹⁴⁶ Ibid

¹⁴⁷ Ibid

¹⁴⁸ Ibid

to effect a transaction also reduces risk of, *inter alia*, insolvency. These all enhances wealth maximisation and utility for the parties involved by the reduction of associated transaction costs, both monetary (e.g insurance costs for loss and damage) and temporal (time it takes to complete a transaction).¹⁴⁹ It is still critical to note that securities in the UK are, at this time, still underpinned by trust law. As shall be noted in later chapters, this was still the most efficient legal regime at the time, even for dematerialisation.

Despite the virtues of the TAURUS system, its implementation was ultimately a failure. At the cost of £500,000,000 it was expected that TAURUS would fundamentally alter the way that the City of London and the LSE had operated for centuries.¹⁵⁰ Reasons that lead to the demise of TAURUS and its cancellation in 1993 include withdrawal of support from major backers; over complexity, and; changes by the security industry to the original design.¹⁵¹ However, the system of dematerialisation was to reappear in the City once again in 1996. This was under the new name of CREST.¹⁵² This works in a similar way to TAURUS, utilising dematerialisation to improve the efficiency of the securities system.¹⁵³ CREST is, since 2002, a wholly owned subsidiary of Euroclear.¹⁵⁴

The use of dematerialisation, indeed the perseverance of the use of dematerialisation, is illustrative of the security infrastructure's understanding of the limitation of paper – based holding, transfer and remittance systems. Technology has been, and is being, used to improve

¹⁴⁹ Georgakopoulos (n 22).

¹⁵⁰ Helga Drummond, 'Riding a Tiger: Some Lessons of TAURUS' (1998) 36 Management Decision 141.p. 141

¹⁵¹ Ibid

¹⁵² BIS, 'Payment Systems in the United Kingdom'.4 December 2019

¹⁵³ Euroclear, 'Our History' <<https://www.euroclear.com/about/en/history.html>>.accessed 4 December 2019

¹⁵⁴ Ibid

the efficiency of the securities system. However, the laws surrounding its use have not developed in tandem to allow the ease of use of this technology. Not only this, but the potential for technology to remedy the inefficiencies of the trust based system currently in place has not yet been considered. This shall be explored in subsequent chapters.

1.8 Conclusion

This chapter had two objectives. The first was to trace the historical evolution of the company form in England and more globally. The second was to trace the historical evolution of the share and security in relation to evolutions in the company form.

Regarding the first objective, the chapter began by looking at the most basic form of venture, the sole trader. This form of venture is small scale with minimal capital input. It is also geographically confined, generally to a small area. Similarly, partnerships between multiple sole traders had limited need for very large capital inputs, exhibiting many of the size constraints of a sole trader. While efficient for smaller businesses and ventures, this was not an appropriate modality for large scale ventures such as those beginning in the mid-19th century.

The biggest step change in the company form occurred with the advent of the joint stock company. These companies grew from limited liability partnerships, themselves a response to economic growth and the need to attract greater amounts of capital. The JSC offered

securities to investors, initially providing investors a cut of the venture's profits. This greatly incentivised investment and allowed large business ventures to flourish.

The outstanding theme of this chapter is that of commercial innovation. It was commercial needs and innovation that drove the creation of new forms of company. This was generally via the need to increase investment to expand their scope. In lock step with this is that commercial innovation in companies led to innovation with securities. As companies adapted to the changing needs of the commercial environment, so too did securities. However, the reasons for their evolution remain the same, the need to attract more investment via offering low risk investment options, namely alienable securities. Evolutions in securities and evolutions in company forms are symbiotic.

It is around these commercial innovations that the legal system adapted. Commercial interests took precedence while the legal system sought to promote efficiency and security. This is no more apparent than how commercial pressure forced Parliament to repeal the Bubble Act.¹⁵⁵ At every point in the development of companies and securities, it was commerce that dictated the evolution. Thus, companies and securities are first and foremost a commercial innovation used to promote commercial and economic interests.

This analysis drills to the core of this thesis. Primarily, this is the assertion that as an instrument born from commercial necessities, the law should promote as efficient a securities regime as possible. This hinges on the notion of swift and risk mitigated trade of securities.

¹⁵⁵ Kindleberger (n 132). p. 202

As discussed above, the evolution of both securities and companies finds its root in that of commercial necessity. Thus, the law is obliged to consider this as the very essence of securities when considering its approach to regulation and legal rules.

The next chapter shall give an historical overview of the development of the security from a contractual claim to a property, as well as outline the current legal regime relating to securities. In doing so, the thesis builds upon this chapter, specifically the notion that the primary purpose of securities is to promote commercial needs.

Chapter 2: The Conversion of Debt to Equity – An Economic Overview of the Reasons Behind the Emergence of Securities.

2.1 Introduction

The previous chapter has given an historical overview of the evolution of companies and the relation to the development of securities in the UK and globally. This chapter looks to expand upon this overview with an economic analysis of the conversion of securities from debt to proprietary claims. Understanding the reasons behind the conversion is of fundamental importance to this thesis. In conducting the analysis, one can see that the conversion took place for reasons of efficiency, such as risk mitigation and liquidity, and can begin to understand what constitutes the essence of securities: an easily tradable pack of rights.

The essence of securities also constitutes their fundamental purpose in a modern capitalist economic system. By providing a legal framework that actively promotes and facilitates securities, the economy, businesses and indeed all of society reaps the rewards.

2.2 Transmogrification: The Conversion of Personal Claims into a Proprietary Right

The first substantive section of this chapter takes a closer look at the conversion of a personal claim (a right *in personam*) into a proprietary right (a right *in rem*). Running in parallel to the changing form of the company above, the section shall examine the reasons behind the conversion of rights *in personam* into rights *in rem* and the way in which this was enacted.

To link to the analysis above, by examining the evolutionary structure of the company form, the creation of tradable securities becomes a less abstract concept. By rooting the legal modulation in a practical reality, the thesis shows why the hypothesis postulated is so crucial to modern capitalist markets.

2.2.1 Securities as a Personal Claim

In the initial stages of the evolution of business forms, capital was raised either via personal contribution or loan. For example, one can look at the form of the sole trader. As discussed above, this is the most basic of business forms, involving a single person trading in his or her own name, fully and personally liable for any debts of the business.¹⁵⁶ Capital is raised either through personal contribution of the sole trader or via a loan.

Loans are by their nature a contract, and thus a right *in personam*. Therefore, what is the fundamental nature of a contract? A contract refers to both the legal obligation from person to person (legal or natural) and the document which outlines these obligations.¹⁵⁷ The relationship entails each party exercising certain actions for the benefit of the other party, subject to certain stipulated and imputed terms and conditions. Should the obligations not be performed or the terms and conditions breached, the injured party can seek legal relief and restitution.

¹⁵⁶ Mavrikakis, (n 49) p. 4

¹⁵⁷ Richard Taylor and Damian Taylor, *Contract Law Directions* (8th edn, Oxford University Press 2021).p. 4

The binding nature of a contract, and thus a right *in personam*, means that contracts cannot be traded.¹⁵⁸ The original parties of the contract may be changed in two particular ways, that of assignment and novation. Considering the fact that securities in their contemporary form rely on tradability to mitigate risk and enhance their efficiency, it is prudent to examine the ways a contract can be “traded” and how it is not suitable for securities.

2.2.2 Assignment

Assignment involves an agreement to assign certain powers within the contract to another, third party.¹⁵⁹ However, this situation is not so clear cut. There are three particular modes of assignment: equitable; statutory (also known as ‘legal’), and; absolute. Each of these modes have particular restrictions as to whom, when and how contractual benefits can be assigned. Suffice to say, the requirements for assignment are restrictive and are not reflective of the tradability found in property. However, it is important to note that, even if the rights within the contract are able to be assigned, there may be provisions in the contract preventing assignment.¹⁶⁰

Another key point about an assignment is that the burden of a contract cannot be assigned.¹⁶¹ For example, the requirement to perform an action cannot be assigned. In the

¹⁵⁸ Eva Micheler, *Property in Securities: A Comparative Study* (Cambridge University Press 2007).p. 21

¹⁵⁹ Taylor and Taylor (n 157).p. 356

¹⁶⁰ Beverly Flynn, ‘Assignment’ <<https://www.stevens-bolton.com/cms/document/Assignment.pdf>>. (accessed 4 May 2019)

¹⁶¹ Graham Alty, ‘Assignment and Novation’ (*Pinsent Masons*) <<https://www.pinsentmasons.com/out-law/guides/assignment-and-novation>> accessed 24 August 2021. (accessed 4 May 2019)

case of a loan, this may be the obligation to pay back the loan amount. The only way to assign both a benefit *and* a burden is via novation.

Therefore, considering the need for securities to be transferrable between persons, one can see how assignment is inefficient. There are firstly the constraints on transfer that can be found in the contract. This may well reduce the pool of potential transferees. Secondly, it doesn't transfer the whole security, merely the benefit. Thus the transferor will still be bound in some fashion. Again, this doesn't eliminate the entirety of risk. Considering the need for securities to be liquid (thus creating efficiency in the market), assignment actively hinders this.¹⁶² In turn investment is dissuaded and the economic efficiency of the security as an institution is diminished.

2.2.3 Novation

Novation is the other way of altering the parties to a contract. In the case of novation both the benefits and the burdens of a contract can be transferred. This is done via the replacing the old contract with a new, identical contract but containing the new parties.¹⁶³

Similar to assignment, there are procedural hurdles that must be navigated in order to affect a novation. This is namely gaining the consent of the original contracting parties and paying a new consideration (unless all three parties agree not to and indicate this via a deed).¹⁶⁴

¹⁶² Corporate Finance Institute, 'Liquidity' <<https://corporatefinanceinstitute.com/resources/knowledge/finance/liquidity/>>.

¹⁶³ Alty (n 153).

¹⁶⁴ *ibid*.

Thus, while 'trading' a contract in this way is theoretically possible, the procedural obligations make novation inherently difficult and expensive – both temporally and monetarily. There needs to be the agreement between parties achieved via negotiation, due diligence into the new party/ies, and then costs for drafting the new contract. This all costs money and time, reducing the liquidity of securities.

Again therefore, we see the inefficiency of contract to legally underpin a security that relies on tradability. Novation simply does not allow for cheap, quick and formality free (or greatly reduced formality) trading as property does. Why then, has contract been used historically if it is inefficient? The next sections shall explore this question.

2.2.2 Historical Analysis of Securities as a Personal Claim

Despite the disadvantages of assignment and novation, usage of contractual claims in early business models makes sense. As each business was in essence a sole trader, with full personal liability, contracts as a mode of raising capital was sufficient for this purpose. The business would not need to alienate their share as, in effect, the person *was* the business.

Further to this, at this time the businesses in England were relatively small scale. As discussed above, sole traders, craftsmen and, later, guilds, usually confined their operations to small geographical areas. This was often a town or an earldom.¹⁶⁵ Therefore, there was

¹⁶⁵ Fallis, (n 28). p. 5

little commercial need for anything more than simple contractual claims between a debtor and creditor, if any were required at all. This reasoning is similar for partnerships. While larger than sole traderships, partnerships were still relatively small enterprises. Thus, there was still little call for modalities to increase capital input at a minimal risk and cost to investor and investee.

However, this was soon to change. With the discovery of the New World in the 15th Century, many parties were particularly eager to exploit the resources abundant there. The exploitation of these resources required risky and expensive ventures which could seldom be financed by one person alone.¹⁶⁶ Thus, ventures were financed by multiple investors, each holding a contractual claim in the profits of the venture.¹⁶⁷ The investor would invest a sum of money, then upon the venture's return, the profits and assets of the venture would be liquidated and distributed *pari passu*.¹⁶⁸ This cycle of investment – venture – liquidation continued until the permanence of the JSC came about, as has been discussed. The permanence plus the advent of a form of legal personality helped create the proprietary form of the security.

Eventually the investment – venture – liquidation cycle became inefficient as a mode of investment and return on investment. As the venture became greater and filled with greater risk, and also as ventures became permanent companies (such as the VOC), the usefulness of a contract as the mode of security became less attractive to investors. In particular, there was the greatly increased risk of ventures which also attracted greater capital input. Even

¹⁶⁶ Fallis, (n 28). p. 9

¹⁶⁷ Fallis, (n 28). p. 9

¹⁶⁸ Fallis, (n 28). p. 9

for the wealthy, this could be seen to have been too great a risk despite the potential reward. They could not trade this risk with someone who valued the reward greater, and therefore have no way of leaving the arrangement. Similarly the investor could not demand a return of their investment as the venture would need to be liquidated, an extremely difficult task where the JSC became permanent and where the venture was underway across the globe (such as in the Muscovite Company).

Thus, a new form of security was necessary. One that would attract the largest possible pool of potential investors via risk mitigation, and allow the raising of sufficient capital to facilitate the ventures. Such a modality could be found in securities as a form of property.

2.2.3 Historical Analysis of Securities as a Proprietary Claim

The notion of the security as a proprietary claim which grew out of the concept of the JSC is put succinctly by Adam Smith:

*“In a joint stock company, on the contrary, no member can demand payment of his share from the company; but each member can, without their consent, transfer his share to another person, and thereby introduce a new member. The value of a share in a joint stock is always the price which it will bring in the market; and this may be either greater or less, in any proportion, than the sum which its owner stands credited for in the stock of the company.”*¹⁶⁹

¹⁶⁹ Adam Smith, ‘An Inquiry into the Nature and Causes of the Wealth of Nations: Volume One’ (London : printed for W Strahan; and T Cadell, 1776 1776) <<https://era.ed.ac.uk/handle/1842/1455>> accessed 24 August 2021. pp. 122 – 123

This conception has remained accurate as a description in the subsequent two centuries.¹⁷⁰

Smith also accurately described the genesis of the transferable stock based in the law of property. He noted the requirement of 'distant trade' that required significant capital input over a long period of time.¹⁷¹ Examples of this, namely the VOS and EIC, have been discussed above. By 1617, the EIC had 934 stockholders, each of whom held a claim to the profits of the voyage and could also demand their capital back.¹⁷²

In addition to this, stocks and shares became increasingly used to fund large infrastructure projects in England. In areas such as canals and railroads, shares were used to allow their large-scale expansion. For example, by 1790, canals in Britain had doubled in total size to around 2,200 miles and cost around £6.5 million (almost £1 billion in 2018 money).¹⁷³¹⁷⁴

These shares could subsequently be traded, albeit after £15 had been paid up.¹⁷⁵

Coupled with these advances was the rise in the practice of speculation. Speculation is the practice of buying stocks and securities with the expectation that their market price will increase.¹⁷⁶ This practice can be found as early as the 1700s.¹⁷⁷ A particularly interesting source comes in the form of Thomas Mortimer's "Every Man His Own Broker, Or A Guide to

¹⁷⁰ Andreas Martin Fleckner, 'Adam Smith on the Joint Stock Company' (Max Planck Institute for Tax Law and Public Finance Working Paper 2016 – 01 2016) Working Paper. p. 17

¹⁷¹ Kindleberger (n 132). p. 196

¹⁷² John D Turner, 'The Development of English Company Law before 1900' [2018] Research Handbook on the History of Corporate and Company Law. p. 7

¹⁷³ Kindleberger (n 132)., p. 198

¹⁷⁴ 'Inflation Calculator' <<https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>> accessed 24 August 2021. accessed 5 May 2019

¹⁷⁵ Kindleberger (n 132). p. 198

¹⁷⁶ Ryan Cockerham and others, 'Speculation Techniques for Stocks' (*Finance - Zacks*) <<https://finance.zacks.com/speculation-techniques-stocks-11562.html>> accessed 24 August 2021.

¹⁷⁷ Kindleberger (n 132).p. 209

Exchange Alley” published in 1769. Smith suggests this may be the earliest guide to the Stock Exchange in London.¹⁷⁸

Of relevance to this thesis, are pages 34 and 35. Mortimer outlines the several types of what are termed “stock jobbers.”¹⁷⁹ Of critical importance is the distinction he makes between those who have “property in the funds” (stock jobbers) and those who have no property in the funds but who do speculate and trade with them on credit with extreme frequency (stock brokers).¹⁸⁰ The trading frequency was such that it was said that stock brokers would do more transactions in one hour than the proprietor does in “several years.”¹⁸¹

This may be the first instance of stocks and shares being referred to as a property. Indeed, the frequency and ease of trade indicates that such shares exhibit the characteristics of property and not of contract. It is now widely held that shares and securities are a form of property. Leading academics such as Dr. Joanna Benjamin and Dr. Eva Micheler indicate this position, though there is some debate as to whether securities hold some special characteristics, making them a special category of property.¹⁸²¹⁸³ Such an assertion is reinforced by looking at the kinds of securities that became available. This includes vendor

¹⁷⁸ *ibid.* p. 209

¹⁷⁹ Thomas Mortimer, *Every Man His Own Broker; or, A Guide to Exchange-Alley ..* (London : S Hooper 1769) <<http://archive.org/details/everymanhisownbr00mort>> accessed 24 August 2021.

¹⁸⁰ *ibid.* pp. 34 - 35

¹⁸¹ *ibid.* pp. 34 - 35

¹⁸² Joanna Benjamin, *Interests in Securities: A Proprietary Law Analysis of the International Securities Markets* (Oxford University Press 2000).p. 303

¹⁸³ Eva Micheler, ‘The Legal Nature of Securities - Inspirations from Comparative Law’ (Social Science Research Network 2009) SSRN Scholarly Paper ID 1481427 <<https://papers.ssrn.com/abstract=1481427>> accessed 24 August 2021.(accessed 6 May 2019)

shares which, as Kindleberger says, were specifically designed for resale.¹⁸⁴ Thus tradability in shares became a critical part of their makeup, something which property law exemplifies.

Finally, as a property and in concert with the notion of limited liability, securities presented a reliable way to mitigate risk in large investments. This relies on the concept of share alienation, i.e. free trade. As ventures became larger so did their inherent risk, as discussed above in relation to the JSC. While the original contractually based shares did include a clause where an investor could demand the venture's liquidation and repayment of their input capital, this solution became impractical as JSCs gained permanence and the shareholder base increased. Alienation therefore, became a suitable way to mitigate risk.

Alienability allowed traders who could no longer tolerate the risk of a venture, to sell to a buyer who valued the reward more than the risk. In addition, by holding stocks and shares in different ventures, investors could use portfolio diversification to mitigate risk. Should one fail or the risk become untenable, then that share can be sold and reinvested in another company while still relying on shares in other companies in the portfolio to generate income.¹⁸⁵

The risk mitigation also had the effect of increasing the available pool of capital for investment. As the ventures and infrastructure projects grew larger, more capital was needed to help fund them. By providing this level of risk mitigation, investors such as those in the south east of England, and even workers, could invest a sum in a venture with the

¹⁸⁴ Kindleberger (n 132). p. 201

¹⁸⁵ *ibid.* p. 203

knowledge that they could alienate the share if the risk became too great and were not tied into an enforceable contract.¹⁸⁶

It is important to note, that it was the needs of commerce that formed the genesis and evolution of securities. As certain commercial needs arose, such as the need to increase the available pool of capital, business and traders invented and revised the notion of securities. The reasons for this were, as demonstrated above, usually for reasons of efficiency and increasing available capital. The legal regime of securities grew around this holistically, changing and adapting to the commercial evolutions and inventions in order to provide what is seen as the most efficient framework. The purely legal securities regime will be discussed in greater detail in subsequent sections.

As JSCs became permanent and grew larger in their scope – especially after the discovery of the New World – securities as a contractual claim became inefficient. Securities therefore became more of a proprietary item. With this change from a contractual claim to a property came the notion of alienability. Alienability provided the major benefit of risk mitigation. Rather than the original right to demand liquidation of the company if the risk became too great (impractical with a large investor base and impossible with the rise of the permanent JSC), alienability allowed an investor to sell their share to another investor who valued the reward greater than the perceived risk. In a word, the share became more liquid.

¹⁸⁶ *ibid.* p. 202

As discussed, by being classified as property, such ease of trade and economic freedom was allowed to flourish. Contracts, as shown above, cannot be traded and the procedures to change the parties to the contracts are laborious. This is inefficient for the original purpose of securities – to provide a method to increase available capital to a company via the offering of liquid, alienable packages of rights to potential investors to attract investment via risk mitigation.

2.3 – An Economic Analysis of Specific Facets of Property-based Securities

The previous sections have outlined, from an historical perspective, the reasons for the original use of contract for securities, as well as an overview of the context of adopting property. The following section shall outline specific facets of property that lent themselves to legal underpin securities in an historical context.

2.3.1 Enhanced Tradability

Perhaps the hallmark of property, the ability to trade an item is a central ability of an owner of property.¹⁸⁷ In its most basic form, tradability means that one owner can relinquish his or her rights over a thing in favour of another person – legal or natural. Generally, in a commercial context this will be for consideration (i.e something else of value in exchange), however, this is not necessarily the case such as in the case of a gift.¹⁸⁸ The ability of an owner to divest their property in whatever way they see fit is absolutely fundamental to a

¹⁸⁷ Michael Bridge, *Personal Property Law* (Oxford University Press 2015). p. 2

¹⁸⁸ *ibid.* pp. 153 - 155

capitalist economic system and an efficient securities framework. After all, considering one of the key aspects of efficient securities is liquidity, then ease of transfer directly facilitates this.

In order to understand why this is particularly important for the concept of tradable securities, one must understand the historic rationale and context behind securities.

Centrally, this lies in the notion of risk mitigation. It has been acknowledged that humans are generally risk averse. Mellers notes this in her analysis of Kahneman's Prospect Theory where the *"disutility of a loss is greater than the utility of a gain."*¹⁸⁹ Kahneman and Tversky describe this as *"the aggravation that one experiences in losing a sum of money appears to be greater than the pleasure associated with gaining the same amount."*¹⁹⁰ Risk mitigation therefore is the corollary to humanity's natural aversion to risk, with laboratory experiments showing that people will take steps to mitigate risk and loss with earned money.¹⁹¹

In the realm of securities, and the historical conversion of securities from debt to property, the risk aversion can be attributed to the capital input of an investor relative to the potential failure of the venture. Consider the ventures to the New World which were outlined in chapter 1.¹⁹² These were large, sophisticated ventures requiring significant capital input and attracting enormous risk such as failure to make a profit or, potentially,

¹⁸⁹ Barbara Mellers and others, 'Surprise: A Belief or an Emotion?' (2013) 202 Progress in Brain Research 3. pp. 7 - 8

¹⁹⁰ Daniel Kahneman and Amos Tversky, 'Prospect Theory: An Analysis of Decision under Risk' (1979) 47 Econometrica 263.p. 279

¹⁹¹ Hans K Hvide, Jae Lee and Terrance Odean, 'Easy Money, Cheap Talk, or Spuds: Inducing Risk Aversion in Economics Experiments' (Social Science Research Network 2019) SSRN Scholarly Paper ID 3433380 <<https://papers.ssrn.com/abstract=3433380>> accessed 24 August 2021. pp. 2 and 10

¹⁹² See Chapter 1 for an historical exposition.

destruction. Investors would receive consideration for their initial investment only where the voyage returned and made a profit. Therefore, investment entailed the investor taking on the risk that they may be paid little or not at all. For risk averse humans, this is not an attractive prospect.

Thus, in order to raise the capital required in these voyages and make investment more attractive, creating a tradable security offers an elegantly simple method of risk mitigation. When an investor considered the voyage to become too risky, they had the ability to sell their share onto another investor who valued the reward greater relative to the risk. However, such a trade would have to be quick and efficient, with low transaction costs as per the Coase Theorem.¹⁹³ This could only be accomplished efficiently via property law.

Contracts, and thus debts, are not tradable in the same way property is. This is due to the essence of what a contract is, a legally binding agreement which contains obligations owed to and by the parties.¹⁹⁴ As these obligations are made and promised by the parties considering each other's circumstances, it is understandable that contracts are not tradable, after all if that was the case, a party could trade the contract with someone else who may not be in a position to fulfil the obligations to the other party. This would fundamentally undermine the economic system and the value of a contract.

This is not to say that contracts cannot be transferred. As noted above, there are two principle modes of transfer available in contract: assignment and novation. However neither

¹⁹³ Coase (n 9).

¹⁹⁴ The Oxford Dictionary of Law states that a contract is a "legally binding agreement."

of these are efficient in this case. Transaction costs for effecting these are significantly higher than a simple trade of property. As discussed above, legal fees, administration fees and time all contribute to lower utility and wealth maximisation for the parties.

As has been mentioned, the purpose of securities is to allow capital to be raised from a diverse body of investors who can mitigate their risk by trading their share with one who values it more. This can be achieved, as Coase noted, in a system where transaction costs can be kept as low as possible.¹⁹⁵

2.3.2 – Legal Costs

When considering the onerous requirements of novation and assignment, one can see how the transaction costs are anything but low. Contracts do not embody the concept of free tradability. This is understandable when considering the role of contract in society (the documentation of legally binding agreements.)

However, as we have seen, contracts can be assigned and novated, thereby replacing parties to the contract. In doing so, new contracts must be drawn up to replace the original contract (in the case of novation), or the original contract must be amended to incorporate the new party (in the case of assignment). Further, in assignment, the original contract must not forbid assignment.¹⁹⁶ Therefore, the original contract must be drafted so as to allow

¹⁹⁵ Coase (n 10).p. 10

¹⁹⁶ Mindy Chen-Wishart, *Contract Law* (Sixth Edition, Oxford University Press 2018).Ch 4.1.7.4

assignment and due diligence must be undertaken in order to establish whether the assignment clause will be effective.

These all require legal costs, i.e. the costs of lawyers and legal professionals to undertake the drafting, assignment, novation and due diligence. Such costs can be classified as pure financial costs (the price paid for lawyers etc.) and also temporal costs (the time taken to complete the above steps.) These, in turn, can all be considered transaction costs. As has been mentioned, the level of transaction costs is inversely proportional to efficiency. The heightened level of transaction costs involved in “trading” a contract has to be borne by both parties which may prevent wealth maximisation via trade and investment through placing too high a cost on the transaction for the likelihood of sufficient remuneration.¹⁹⁷ This is clearly inefficient.

Property, however, does not have the same onerous requirements placed upon it. As a property right isn't an obligation between two parties (merely the rights of a party *vis-à-vis* the whole world), property can be easily transferred between two parties with little to no formalities.¹⁹⁸ Consider a gift, there does not need to be a contract, nor consideration, there only has to be an item given to another party i.e. there must be a transfer.¹⁹⁹ Considering the purpose of securities, this is a more efficient means of classification. The transaction costs of performing the essence of the security are significantly reduced through a reduction of formalities, justifying and mirroring the original purpose of securities as a liquid asset.

¹⁹⁷ See the Introduction of this thesis “establishing a benchmark” for a discussion of conceptualising efficiency as wealth maximisation.

¹⁹⁸ Wesley Newcomb Hohfeld, ‘Fundamental Legal Conceptions as Applied in Judicial Reasoning’ (1917) 26 The Yale Law Journal 710.p. 719

¹⁹⁹ Duncan Sheehan, *The Principles of Personal Property Law* (Bloomsbury Publishing 2017). pp. 51 - 53

It should be noted at this juncture, that securities are held to a different property regime than chattels and land. The reason behind this is that novation of the company register was originally required to transfer full legal title, with only equitable title passing if the books were not novated.²⁰⁰ Novation, as has been explained, is traditionally a contract law concept, however case law has confirmed that securities are indeed property.²⁰¹

Therefore, many of the legal costs associated with a “trade” of contracts are either not present, or significantly reduced, if securities are considered property. Firstly, the legal costs associated with drafting – in a securities trade’s most basic form – do not arise, at least not to the same extent. There, in theory does not need to be an explicit written contract for sale, merely a transfer of property from one owner to another.²⁰² By cutting out or reducing the need for drafting, the legal costs – both financial and temporal – are significantly reduced.

Thus, the classification of securities as property promotes greater efficiency via the reduction of legal transaction costs. In terms of both time and money, classifying securities as property is efficient, enhancing marketability, tradability and, in turn, maximising the wealth and utility of both investor and company.

²⁰⁰ Micheler, *Property in Securities* (n 5).p. 63

²⁰¹ See for example Lord Neuberger’s judgement in *Re Harvard Securities Ltd* (1997) EWHC Comm 371 and particularly Lord Justice Dillon’s judgement concerning certainty of subject matter in *Hunter v Moss* [1994] 1 WLR 452

²⁰² In present circumstances, the situation is somewhat more complicated. Stock transfers on the stock exchange will generally need to be accompanied by specific forms such as a stock transfer form in order to complete a transaction. This is something that will be discussed in greater detail within Chapter 4 – the influence of technology.

2.3.3 – Bargaining Costs

Another point to consider is the reduced negotiation costs associated with property. In theory, the negotiating parties in a transfer of property are those of the buyer and seller. The negotiation hinges upon how much the seller would accept for the asset and how much the buyer would pay for the asset, with them meeting somewhere in the middle. This is, in essence, bargaining.

As Dnes notes, bargaining allows both parties to reach the optimal outcome in a transaction.²⁰³ However, he also states that bargaining can occur only where transaction costs are sufficiently low.²⁰⁴ For example, consider the purchase of securities. The seller wants £1500 but will part for no less than £1000. The buyer wants to purchase at £750 but has a maximum ceiling of £1250. In a world where transaction costs are nil, the parties will come to an agreement where the seller will sell and the buyer will buy for a price in the region of £1000 - £1250. This is an efficient outcome, raising the utility and wealth of both parties.

However, consider then a more realistic world where transaction costs exist (indeed, the world in which Coase noted exists in *The Problem of Social Costs*.) Where the above example remains the same but securities are considered contracts, there now has to be a cost to the transaction incorporated. In our case, it could be the cost of novating and drafting a

²⁰³ Dnes (n 15).p. 74

²⁰⁴ *ibid.* p. 73

contract. The cost of this is £500. This has to be borne by one or both of the parties, significantly adding to the price of the overall transaction and thus reducing the efficiency of the transaction. If the parties come to the most fair bargain, £1150 sale (the midway between the seller's lowest price and the buyer's highest) then, in the case of the equal division of the transaction cost, this purchase is no longer efficient. This is because the purchaser would have effectively bought the securities for £1400 (price plus half of the transaction cost) and the seller would have sold at £900 (price minus half the transaction cost). Neither party's wealth or utility is increased in this scenario.

Consider this in the context of contract versus property. The above example has been of negotiating securities as a contract. This requires contractual drafting, which is an involved and elaborate process. After all, there needs to be clear drafting of the terms of services provided, discharge of obligations, payment, and frustration clauses. These cost time and money which increase the cost of the transaction, as seen above.

However, with property, there can be in theory fewer impediments to lower bargaining costs *vis-à-vis* contract. For example, there is no need to write the terms of the bargain in a contract (thus reducing the costs of drafting added to the bargain). There is also no need to discharge any obligations as there would be in a contract, merely the transfer of property and – if a commercial transaction – consideration. There does not need to be laboured negotiation over the minutiae of contractual terms in a quick sale of property such as the right owed to each party, rights of assignment or novation etc. Thus, the often significant

temporal and financial costs of discharging any obligations as part of the bargaining costs is significantly reduced with bargaining over property.²⁰⁵

What is particularly important about the reduction of bargaining costs is the lack of need to consider a third party. Namely, this is the company who is the issuer of the shares. As said, in a contractual novation, each party to the contract, plus the prospective new party needs to engage in negotiation and bargaining. However, in the case of property, only the transferor and transferee need be considered. The company does not need to engage in the contractual negotiations, thereby reducing the costs of bargaining for the shares.

Therefore, the ease of bargaining that can come with property is certainly preferable over the difficulty that often comes with contractual negotiation. While it is often the case that large sales of property come with protracted contractual negotiation, this is not in fact necessary. Equally, the lack of need to consider the issuer in the sale helps to reduce bargaining and transaction costs even further.

This is particularly the case for securities where a number of securities can be rapidly divested and purchased either via a private transaction or a transaction on the stock exchange. The rapid sale and purchase is highly desirable in the case of securities where part of their desirability as an asset and efficacy as a capital raising mechanism, rests on their ability to be quickly sold and bought. Thus, keeping bargaining costs low is not only

²⁰⁵ This is not to say there is no contract during a sale of property – securities included. There is almost always a contract for sale and purchase. See Bridge (n 171) pp. 153 - 154. However, this is a very different style of contract than, for example, a loan contract. It merely states the conditions for trade, as opposed to the complexity of setting out loan obligations.

efficient in terms of wealth maximisation, but also utility via securities inherent ability to quickly buy and sell them.

2.3.4 - Enforceability

The final point to note regarding the reasons behind the evolution of securities from debt to property is that of enforceability. As has been seen, shares were originally considered to be personal obligations (i.e a contractual debt) as opposed to property. This was based on the fact that, at the genesis of shares, the company form was seen more akin to a partnership and thus consisted of non-transferrable, non-assignable personal obligations.²⁰⁶²⁰⁷ Personal obligations are, of course, rights *in personam* and thus enforceable only upon the party by whom the obligation is owed.²⁰⁸ Generally, this manifests as the obligee forcing the obligor into some specific performance, particularly the repayment of a debt. As Birks notes, the right is only “exigible against... the person who must make the performance.”²⁰⁹

However, considering securities as loans generally, as we have noted, defeats their original purpose. The idea of securities is not to create a debt that must be paid back to the investor, it is to give capital to a company in exchange for the possible payment of dividends. Thus, equity securities are more effective to facilitate such a modality.

²⁰⁶ Fallis (n 28). p. 7

²⁰⁷ See also Chapter 1 for an historical analysis of the development of company and business forms.

²⁰⁸ Peter Birks, *Unjust Enrichment* (Second Edition, Oxford University Press 2005). p. 163

²⁰⁹ *ibid.* p. 164

Where the security is an equity security, the owner of the equity security holds stronger rights of enforceability. As a right *in rem*, which a security is, is enforceable over the property itself, property owners are able to assert that right against any holder of the property (except for those considered Equity's Darling).²¹⁰ This is exemplified by the remedies of tracing and, in particular, following where property can be followed into the hands of a third party.²¹¹ This is a good level of protection in instances where securities are erroneously, or illegally, transferred.

In a similar vein, a proprietary claim takes precedence over personal claims.²¹² They also allow claimants to receive increases in value of the property, as opposed to personal claims where it is strictly the original amount that can be claimed.²¹³ Where the priority is particularly relevant is in the case of insolvency. In this case, proprietary claims will rank before creditors in insolvency proceedings. Thus, should an intermediary become insolvent while holding the securities of other parties, the securities will not be considered assets of the insolvent intermediary and will be recoverable by the owner. This adds a layer of risk mitigation to the securities through an inherent part of its DNA.

Regarding an economic analysis, re transaction costs, this extra security via enforceability that comes as a part of the change from debt to security, helps to reduce transaction costs. As the purchaser can enforce their claim over third parties, less due diligence can be undertaken as part of the transaction. This reduces the costs of the transaction in terms of

²¹⁰ Paul S Davies and Graham Virgo, *Equity & Trusts: Text, Cases, and Materials* (Oxford University Press) .p. 856

²¹¹ *Ibid.* p. 858

²¹² Graham Virgo, *The Principles of Equity & Trusts* (4th edition, OUP Oxford 2020).p. 570

²¹³ *Ibid.* p. 570 - 571

time and finance. It also has the advantage of increasing the utility and wealth of the owner through ensuring that the full spectrum of rights that come with a security (and a security as a property) can be enforced relatively unimpeded. For example, in the event of insolvency, the owner can recover their assets due to the priority of claim over personal claim holders, mitigating or even negating loss and cost of recovery.

2.4 Liability of Each Party in a Debt Vis-à-Vis Property

The evolution of securities from a debt to a property also brought about a change in the liabilities of parties. This falls into two areas: firstly the nature of the relationship of parties in property vis-à-vis those in debt, and; secondly the liabilities of the parties to each other regarding payment. The first area looks at enforceability which has been talked about above, thus this section shall look at the second area.

Historically, as has been seen, securities were a debt instrument.²¹⁴ In essence, it was a loan from an investor to a company or venture. The nature of a loan is such that it is often constituted as a sum of money lent by one party to the other in consideration of that money being paid back the same amount, often with some interest added.²¹⁵ This is a personal obligation to pay back the lender. In the case of a security, the lender was of course the investor and the borrower was the venture.

²¹⁴ Micheler, *Property in Securities* (n 5). p. 21

²¹⁵ Taylor and Taylor (n 157). p.86

This has both economic benefits and detriments for both parties. For the investor, they are guaranteed a return on their investment. They are able to use a binding and enforceable agreement to demand a return on the terms agreed. This reduces financial risk to them and increases willingness to invest. However, they can claim only for the amount stipulated in the agreement. If, for example, the company or venture does extremely well and is very profitable, the investor will still only be able to claim the amount stipulated and not any extra amount. Thus, in terms of pure profitability, the debt instrument is more restrictive for the investor.

This is not to say that historically (or even presently) this wasn't efficient. For some risk adverse investors, having a guaranteed return on investment is more beneficial than the risk and reward that may come from property. Both parties gain increased utility and wealth from the transaction. The company receives the required capital input (a wealth and utility increase), while the investor gets their guaranteed return (again, a wealth and utility increase).

Similarly, for borrowers there are good reasons for the use of debt instruments and there is a mix of efficiency and inefficiency. In terms of efficiency, companies using debt instruments such as debt securities benefit from a fixed amount they must pay back.²¹⁶ For example, if they do very well and make a lot more income than originally thought, they are only bound to repay the amount they borrowed plus interest. The rest of the income is theirs to use to develop the company. Conversely, there are inefficiencies. For example, in the case where a

²¹⁶ Alastair Hudson, *The Law of Finance* (Sweet & Maxwell). p. 971

company is wound up, the company is still liable to pay debt investors. This is an enormous financial risk to a company where the venture is risky by nature (for example the voyages to the New World.)

Where the security is property, the liabilities change. In the case of securities as property, the investor becomes an owner of the company, or perhaps more accurately, rights attributable to the company.²¹⁷ Taken from the perspective of the investor, for their capital input, while they receive rights such as the right to vote, they do not have a right to recoup the capital.²¹⁸ In fact, shareholders rank last for right of payback in insolvency. This is a significant risk, particularly where the investment amount is large.

However, this can still be seen as an efficient outcome. While the investor does lose their right to a payback, they have the ability to quickly and cheaply transfer their share, recouping their investment cost, plus any premium, from another willing investor. Similarly, the company still retains the capital, not requiring any effort to pay the investor's capital back. Thus, in terms of utility and wealth maximisation, each party has their relative wealth and utility positions enhanced, and an efficient outcome attained.

2.5 Benefits for 3rd Parties As Transferees

There are significant benefits for third parties who are transferees where securities are considered property and not debts. Under the well-established principle of contractual

²¹⁷ Alan Dignam and John Lowry, *Company Law* (Oxford University Press). 2.33 – 2.35

²¹⁸ *Ibid.* 7.13

privity, third parties generally cannot enforce contractual rights, or indeed have rights enforced against them.²¹⁹ Considering the essence of securities, that of tradable packs of rights, any receiver of the securities may have difficulty enforcing these rights under a debt/contract style of security. As we have discussed, in order to “trade” a contract, there must be a process of assignment or novation.²²⁰ However, both are problematic as assignment doesn’t assign the burden of a contract, and both assignment and novation can be subject to documentary risk. This is, in essence, risk related to poor or incorrect drafting.²²¹ This could therefore leave the third party to the transaction (likely the transferee) in a position where they are unable to exercise the rights of the security.

Clearly, this is inefficient. If investors cannot relatively easily enforce the rights which they purchased, this disincentivises investment which stifles the ability of companies to raise cheap capital. This is negative for the company, the economy, and society more widely. It is, in a word, inefficient.

Securities as properties however do not suffer with this problem. Where property is traded, the full legal owner is owed – and owes – the duties and obligations that come with the property. A legal owner can, with little obstacle enforce the rights from the moment they receive title.²²² While this may seem less desirable for the company (they become, in a

²¹⁹ Elizabeth Macdonald and Ruth Atkins, *Koffman & Macdonald’s Law of Contract* (Oxford University Press).17.1 – 17.5

²²⁰ Alty (n 150).

²²¹ Andrew Balfour, ‘Managing Documentary Risk’ *The Treasurer* (November 1999)

<[²²² Bridge \(n 187\). pp. 1 - 2](https://www.treasurers.org/ACTmedia/TTNov99Balfour49-50.pdf#:~:text=Documentation%20risk%20can%20be%20divided%20into%20three%20categories%3A,adequately%2C%20or%20at%20all%2C%20a%20situation%20that%20arises.>.</p></div><div data-bbox=)

sense, more accountable to the shareholder), it is more efficient than debt. By allowing the third party transferee to more easily enforce their rights as new owner, it accomplishes two economically efficient outcomes.

The first economically efficient outcome is that it encourages investment. By allowing the new owners – indeed any owner – to easily enforce their powers, investment is encouraged. Potential investors do not feel disenfranchised and feel more protected. As a result, they may be more willing to invest. Thus, in terms of utility and wealth, we can see that, once again, the company, investor and transferee each have their positions enhanced through greater use of the rights of a security and the enhanced cash flow.

The second economic benefit is tied to the ability of third parties to enforce their rights. Shareholder theory is the dominant theory of corporate governance in the UK and other Anglo-American style companies.²²³ In brief, this is the theory that directors owe their duties to the company, with the main consideration being shareholders as owners of the companies and shareholders use their powers to keep the directors from acting inappropriately.²²⁴

The intention of the Companies Act and corporate governance theory is to encourage shareholders to utilise their powers in order to ensure that directors are acting in the best interests of the company (as defined by s172 Companies Act 2006).²²⁵ But there are two

²²³ RI Tricker, *Corporate Governance: Principles, Policies, and Practices* (3rd edition, OUP Oxford 2015). p. 65 - 67

²²⁴ S172, Companies Act 2006 (n 47).

²²⁵ *ibid.*

problems with this. Firstly, enforcing shareholder rights, especially as a minority shareholder, is notoriously difficult. While a share holder has a number of modes of redress, such as section 122 (1) (G) Insolvency Act 1986, s260 CA 2006 (Statutory Derivative Claim) or s994 CA 2006 (Unfair Prejudice Claim), there are significant hurdles for a claimant to successfully bring a case in each of these.²²⁶²²⁷²²⁸²²⁹

The second issues is, of course, that bringing any of these claims hinges on shareholders being sufficiently empowered in the first place. In a paradigm where securities are debt, while the initial investor will be empowered, if the contract is “traded” the new shareholder may have more difficulty asserting these rights. For example, if the contract isn’t properly assigned or novated, it could be that the rights do not vest correctly and thus become difficult to enforce.

Therefore, investors face the joint problem of firstly having limited and problematic modes of redress, as well as then perhaps not being in a position to bring a claim at all. Where securities are property however, this is at least partly less problematic.

As we have discussed, when one becomes an owner, there is an ability to exercise property rights. Economically, this is efficient. By increasing the ease of shareholders to enforce good

²²⁶ ‘S122 (1) (G) Insolvency Act 1986’.

²²⁷ ‘S260, Companies Act 2006’.

²²⁸ ‘S994 Companies Act 2006’.

²²⁹ In order, s122 (1) (G) IA 1986 is very much a last resort for a court as this involves a winding up of the company, something the courts are loath to do, especially where a company is still profitable. S260 CA 2006 firstly puts the burden of proof on the claimant and then only remediates the company. S994 CA 2006 claims have to be both unfair *and* prejudicial, and even then the likely remedy is a court ordered compulsory share purchase. None of these are easy or particularly attractive to minority investors who may wish simply to ensure the company is run properly and not exit the company.

corporate governance through ensuring they are, in fact, shareholders, not only are the finances of the company improved and society better off due to increased revenue, investors – particularly investors who wish to be active – are encouraged to invest as they can be more certain that the company will be run in a manner that reflects their wishes. This is particularly encouraging for investors to invest. Once more, these evidence relative increases for each party in terms of wealth maximisation and utility, enhancing the efficiency of the system. It is key to note however that it doesn't change the difficulty of bringing one of the aforementioned claims. What it does do is put the investor in a position to at least exercise their power to bring a claim, even if it is not successful.

A final point of efficiency is the process of transfer. In an assignment or novation, the party who is not assigning or novating must approve the third party (unless specifically agreed in the initial contract).²³⁰ Historically, this is understandable. Investors used to have a much more personal tie to the companies in which they used to invest, with each company vetting them before they were entered onto the books.²³¹ For companies, this may have been beneficial, they could for example, ensure the member was of good standing before admittance. Additionally, this measure of control would allow companies to only admit those who could afford to pay for the share – particularly important where the shares are only partly paid up and the company goes into insolvency.²³²

²³⁰ Jon Chapman, 'Novation - How and Why to Novate a Contract' <https://www.lexisnexis.com/uk/lexispsl/disputeresolution/document/393750/5CSW-3181-F18B-84TP-00000-00?utm_source=psl_da_mkt&utm_medium=referral&utm_campaign=novation%E2%80%94why-and-how-to-novate-a-contract>. last accessed 07 September 2021

²³¹ Micheler, *Property in Securities* (n 5). p. 22

²³² Derek French, *Mayson, French & Ryan on Company Law* (Oxford University Press) p. 748

However, this process is very costly in terms of time and money.²³³ For example, there needs to be due diligence undertaken and a vetting process which can take significant amounts of time and money. Where securities are property, these restrictions are reduced. An owner can divest their property to whoever they like, with – if they so wish – little formality. Thus, in this modality, the company is separated from the process of transfer.

Despite the loss of control over who is a member for the company, this lack of oversight and process yields economic benefits. In terms of transaction costs, that this due diligence and vetting process does not occur (at least to the extent it has historically or would in assignment/novation) helps to lower transaction costs and mimic a zero transaction cost environment. This, in turn, helps to improve the efficiency of the market via enhanced liquidity as well as the utility and wealth of the company and transferees.²³⁴

2.6 Peripheral Benefits (the Growth of the Secondary market)

A final point which highlights the efficiency of property over debt or contract for securities is the growth of the secondary market. The secondary market is defined as: *“A market in which assets are resold and purchased, as distinct from a primary market in which assets are sold for the first time. The stock exchange is a secondary market in which financial securities are traded, although it is also a primary market where these securities are issued for the first time.”*²³⁵

²³³ Georgakopoulos (n 22). p. 100

²³⁴ Bix (n 10).p. 218

²³⁵ Bannock, G. and Baxter, R. E. “Secondary Market” *The Penguin Dictionary of Economics* (Penguin, 2011)

There are a number of important benefits for the growth and development of secondary markets that securities as property facilitates. The Corporate Finance Institute outlines these on its website.²³⁶ There are three key benefits for the purpose of this thesis.

The first benefit is that the secondary market facilitates fair market value via supply and demand.²³⁷ Where the demand for a particular security increases so does the supply and price. The stock market helps to reflect this via providing the infrastructure to facilitate this process as smoothly as possible.

A secondary market that helps supply and demand could indeed occur where the securities are considered debts or contracts, but classification of securities as contracts makes the process of trade more difficult and obfuscates the facilitation of supply and demand. However, property, as has been discussed, is much simpler and less onerous to trade. This allows the market to more efficiently operate and bring about economic efficiencies. These efficiencies shall be outlined below.

The second benefit is that the market promotes high liquidity. Liquidity is a measure of how quickly and cheaply an asset can be converted in cash (the most liquid of assets.)²³⁸ If this is one of the primary functions of the secondary market, property helps to facilitate this.

Simply, this is down to property's tradability. The lack of formalities required to be complied

²³⁶ 'Secondary Market' (*Corporate Finance Institute*)

<<https://corporatefinanceinstitute.com/resources/knowledge/finance/secondary-market/>> accessed 24 August 2021. last accessed 15 July 2020

²³⁷ Ibid

²³⁸ Bannock and Baxter (n 180) "Liquidity"

with ensures that securities can more quickly be traded for cash, improving liquidity and helping to facilitate and grow the secondary market.

A third and final reason is that it improves economic efficiency through the reduction of transaction costs.²³⁹ The secondary market helps to bring together a seller and buyer, each of whom values the product they receive over the product they have. The secondary market attempts to reduce the cost of this process. Where securities are counted as properties, this helps ensure a quick and efficient trade, helping to improve the efficiency of the stock markets via *inter alia*, lower transaction costs.²⁴⁰ By facilitating a trade through low transaction costs, the secondary market and property work in conjunction to enhance the relative utility and wealth of both transferee and transferor.

Thus, the conversion of securities from debt to property has significant economic benefits for the efficiency of the secondary market. In particular, these benefits are related to the ease in tradability of property vis-à-vis contract. A well functioning and efficient market not only enables companies to become more successful and investors more wealthy, but also helps society to benefit from a strong economy.

2.7 Property as a Panacea

Despite the significant benefits of considering securities as properties, this does not mean there are no negative aspects to the conversion. Simply considering securities as property is

²³⁹ Corporate Finance Institute (n 181)

²⁴⁰ See above in this chapter.

not a panacea to the financial sector's woes. Perhaps the most obviously negative aspect is the repayment of investors. As has been noted above, investors in equity are not guaranteed repayment of their investment in full or in part. Indeed, they rank last in the order of repayment in insolvency.²⁴¹ Were securities contractual or debt based, the shareholders would be guaranteed to be paid back by the company. They would most likely be considered secured creditors and would be guaranteed to be paid according to the terms of the contract.²⁴² This is not dissimilar to a loan.

Similarly, there is danger in the mis-selling and illegal transfers of title. The defence of Bona Fide Purchaser for Value Without Notice, also known as "Equity's Darling" provides an absolute defence to third parties who innocently purchase shares for value.²⁴³ Consider where an intermediary (a trustee of the security property under the intermediated paradigm) sells shares belonging to an already established shareholder (the beneficiary and thus equitable owner) to a third party. The third party has no notice of the existence of the shareholder and provides consideration for the purchase. Under the Equity's Darling rule, the third party takes title of the shares free of any burden or obligation to the shareholder. The shareholder loses all title to the shares. While this is partly due to the intermediated paradigm (this shall be discussed in more detail in Chapter 5), if securities were not property, this simply could not happen. Thus, using property in this manner can be hugely risky to investors.

²⁴¹ Mavrikakis (n 70). p. 313

²⁴² Ibid.

²⁴³ Sarah Wilson, *Todd & Wilson's Textbook on Trusts & Equity* (Oxford University Press) .pp. 21 - 22

Tied into the previous issue is the problem of the intermediated paradigm property securities create. Indeed, this goes to the core of the thesis. Under this paradigm, intermediaries become legal owners of property who, in theory, hold the power to invest and vote. This is opposed to equitable owners who merely are entitled to the benefit – usually economic – of the share. In a contractual paradigm, intermediaries are considered contractual agents and hold no possessory right or rights of control over the property. Thus, they can (generally) exercise power only within the confines stipulated in the agency contract or within their purported authority.²⁴⁴ As this is the main thrust of the thesis, this problem shall be discussed in significant depth in chapters 4 and 5.

Thus, simply converting securities into property is not a “cure all.” The negatives do cause significant risks to the investor which may dissuade investment and stifle economic efficiency. Indeed, in many respects contract provides investors robust risk mitigation. This is particularly the case where investors are operating on the primary market where concerns over defects in title transfer are less relevant.

2.8 Conclusion

This Chapter has endeavoured to show the economic rationale behind the conversion of securities from debt to equity. There are many compelling and economically justifiable reasons for this conversion. Increased tradability allows investors to divest title quickly and

²⁴⁴ Andrew Burrows, Jack Beatson and John Cartwright, *Anson’s Law of Contract* (31st edn, Oxford University Press 2020). Pp. 681 – 688 and 695 - 696

cheaply, thus creating an important and potent mode of risk mitigation. Efficiency is also achieved via the reduction of legal costs due to the lack of formalities required in property trade. It is also achieved via the ability of investors to enforce their rights. This ease of enforcement can lead to better corporate governance and also risk mitigation which increases economic efficiency for investors, companies and society as a whole.

Further to this, liabilities owed to and by the company and shareholders – or indeed lack thereof – reduces the cost of raising capital for a company. This increases the ability of companies to raise cheap capital for expansion. Additionally, the growth and increased efficiency of the secondary market that arises from converting securities to property is highly beneficial for all parties.

However, this is not to say that considering securities as properties and not debt is completely efficient. Indeed, there are a number of negatives that can apply to investors. This includes investors losing the right of repayment and the protections to third parties who qualify as Equity's Darling in the case of illegal transactions. Of course, the other point that is the crux of this thesis is the highly complex and convoluted intermediated system that has arisen in the wake of the conversion of securities to properties.

Discounting the serious and significant issues of the intermediated security system which shall be discussed in chapters 4 and 5, it is argued that the conversion of securities into properties is generally efficient. The level of protection and tradability that is the essence of securities can most efficiently be achieved via considering securities as property.

The next chapter shall build on the efficiencies that have been highlighted here. It shall examine the use of technology in the securities system and the efficiencies that have been brought about because of this.

Chapter 3: An Economic Analysis of the Historical Use of Trust-Based Securities

Intermediation

3.1 Introduction

As this thesis has already noted, securities intermediation has historically been (indeed still is) rooted in the law of equity and trust. While chapter 5 will conduct an economic analysis of trust-based securities in the modern climate, this chapter will conduct an economic analysis of trust-based securities in an historical context.

It is difficult to say conclusively why the law of trust was used historically, as opposed to creating a bespoke legal regime. There is little extant contemporaneous reasoning, judicial, business or otherwise, to give insight into the choice of trust law over a bespoke regime. However, looking at the options available and the requirements of securities, one can infer why trust was used.

Firstly, what is known is that historically, commercial law has been substantially developed using a mix of contract and trust law.²⁴⁵ Indeed, Baskind goes further by suggesting that commercial law is based upon four principles: predictability, flexibility, party autonomy and efficient dispute resolution.²⁴⁶ For securities, the first two principles are of particular importance in that the law needs to adapt quickly, and it needs to be certain. Trust, historically, was the most efficient mechanism to provide this, as shall be seen.

²⁴⁵ Eric Baskind, Greg Osborne and Lee Roach, *Commercial Law* (3rd edn, Oxford University Press 2019). pp. 12 - 14

²⁴⁶ *ibid.* pp. 4 – 6

The second issue is that of a jurisprudential problem. As is known, English and Welsh law broadly recognises two substantive property rights: ownership and possession.²⁴⁷

Ownership relates to the division of title as is the case in trust, whereas possession is related to bailment. As is shown in this chapter, bailment is unavailable as this requires a corporeal asset which securities are not.²⁴⁸ Thus the only modality left to conceptualise the relationship was trust.

Therefore, the thesis will show jurisprudentially why trust *had* to be used, particularly *vis* agency. Secondly, it will show the historic benefits of trust for intermediated securities holdings. Simply, trust law was a very good fit for securities that provided numerous efficiencies for the investor, the trader and the issuing company. It reduced transaction costs and provided considerable economic benefits to society via the facilitation of business growth. In a simple context, the wealth and utility of both investors and companies was maximised as a result of this regime. Exactly how shall be discussed later in the chapter.

Before commencing this analysis there are two points to note. First it is important to set a timeline. It has already been noted how securities were initially rights *in personam* i.e. personal debts. In this respect, debts are not tradable in the same way property is. However, this section will focus on securities in their later form – tradable properties.

²⁴⁷ *ibid.* pp. 24 - 32

²⁴⁸ Andrew Burrows, *Principles of English Commercial Law* (OUP Oxford 2015). pp. 245 – 246

Secondly, it is worth providing an overview of why giving power over your property to a third party in general is beneficial, particularly in commercial transactions. This can be illustrated by an economic analysis of agency law. This area of law looks at giving powers to a 3rd party in order to conduct business in the name of the principal. In this respect, it is similar to the use of securities intermediation i.e to give a 3rd party a security in order to do business on behalf of the investor.

However, the first part of this chapter shall look at the concept of intermediation generally. It shall discuss the general purpose of intermediation for securities through a comparative analysis of agency, a form of contractual intermediation. The comparisons drawn will help to highlight why intermediation as a phenomenon arose in the beginning. Following this, the chapter can then continue to examine the historical use of trust based intermediation.

3.2 A Comparative Analysis of Agency and Intermediation Generally

As noted above, agency and securities intermediation share many similarities. Agency, being a form of contractual intermediation, provides a number of efficiencies to business transactions. In many respects, these are similar to the reasons for the existence of intermediation as a concept. Thus, this section shall analyse these comparisons.

Firstly then, what is agency? The concept of agency is at its core relatively simple. A definition of an agent is:

“A person appointed by another (the Principal) to act on his behalf, often to negotiate a contract between the Principal and a third party...”²⁴⁹

An agent therefore, is contracted by the principal to act in his or her stead, holding various degrees of power (usually delineated in a contract as shall be discussed later on) in order to affect such a contract. For want of a better term, an agent is in effect a (generally) non – liable proxy.

There are however, a number of types of agent. The first is that of a General Agent. This type of agent has vested in them the powers to act for their principal in the principal’s business matters generally, or for specific transactions.²⁵⁰ This can be counterpointed with the Special Agent, who has the power to act for a special and specific purpose outside of the Special Agent’s ordinary course of business.²⁵¹

A third type of agent also exists. They are known as a *Del Credere* Agent. This is where the agent interposed between the principal and the third – party acts as a guarantor that the third – party shall pay the principal the costs of the goods.²⁵² Generally however, an agent is not liable and will not directly benefit from the contract they are charged to sign.

A more general description of what agency is can be found in the US’s *Restatement of Agency (Third)*. It states:

²⁴⁹ Oxford Dictionary of Law (OUP, 2013)

²⁵⁰ Baskind, Osborne and Roach (n 245). p.51

²⁵¹ Ibid

²⁵² Ibid

*“Agency is the fiduciary relationship that arises when one person (a “principal”) manifests assent to another person (an “agent”) that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act.”*²⁵³

A particularly economically important form of general agent is the Commercial Agent. This type of agent has only relatively recently been recognised by common law, while having a well-established precedence in civil law jurisdictions.²⁵⁴ The law governing Commercial Agents in England and Wales is contained in the Commercial Agents (Council Directive) Regulations 1993.²⁵⁵ This legislation implemented the European directive EC Directive 86/653.²⁵⁶ Of note, with the departure of the UK from the EU, the future validity of such an agent in the UK is questionable. However, at the time of writing, this is a valid form of agent in the UK.

The Regulation gives a comprehensive definition of what constitutes an agent of this class. It states:

“2.— (1) In these Regulations—

²⁵³ Restatement of Agency (Third) § 1.01

²⁵⁴ GHL Fridman, *Law of Agency* (7th edition, LexisNexis UK 1996). p. 50

²⁵⁵ Commercial Agents is contained in the Commercial Agents (Council Directive) Regulations 1993

²⁵⁶ Sukil Suleman, ‘Summary of Commercial Agency Regulations | Perspectives | Reed Smith LLP’ <<https://www.reedsmith.com:443/en/perspectives/2012/10/summary-of-commercial-agency-regulations>> accessed 24 August 2021.

“commercial agent” means a self-employed intermediary who has continuing authority to negotiate the sale or purchase of goods on behalf of another person (the “principal”), or to negotiate and conclude the sale or purchase of goods on behalf of and in the name of that principal; but shall be understood as not including in particular...”²⁵⁷

We can see from this definition that such an agent acts as an independent “intermediary” with “continuing authority” to conduct business for the principal including negotiating the sale and purchase of goods. In effect, this is not so different to the genetics of a securities intermediary. As we have discussed in previous chapters, and also at the beginning of this chapter, securities intermediaries are independent institutions who, thanks to their legal ownership of securities, have continuing authority to do business on behalf of the UBO. This is generally via holding and trading of the securities.²⁵⁸ Thus, there is a parallel between agency and securities intermediation. One must bear in mind the fact that there is a significant difference between the two modalities, the relevance of which will become more apparent later in this chapter: unlike an agent, the securities intermediary has *legal ownership* over the securities.

The use of commercial agents makes economic sense. Bernard Bishop in his book *European Union Law for International Business* provides a number of compelling economic reasons for the utilisation of a commercial agent.²⁵⁹ These can be distilled into two main reasons. The first is that of technical advice. In the context of the EU, as Bishop is concerned with, a

²⁵⁷ Ibid (n 195)

²⁵⁸ For a greater description of the purpose of intermediaries, see s1 of this Chapter and also Chapter 1 of this thesis.

²⁵⁹ Bernard Bishop, *European Union Law for International Business: An Introduction* (Cambridge University Press 2009). pp. 108 - 111

commercial agent should be familiar with the relevant technicalities of doing that particular type of business either in the EU or the relevant country to which they are appointed. This includes trading customs, trading modalities and perhaps even some relevant legal knowledge.²⁶⁰ This expert knowledge decreases transactional risk (e.g hidden technicalities that must be complied with prior to trade) and increases the likelihood of a successful transaction.

The second reason is that of product knowledge. The effective commercial agent would be able to provide knowledge about the types of product that are being dealt with and also be able to link buyers with sellers.²⁶¹ In this sense, commercial agents act as a synapse between buyer and seller, facilitating an easy and fluid transaction.²⁶²

Both of these points increase the economic efficiency of a transaction by maximising the wealth and utility of the parties involved. On the first point, having expert knowledge of trading technicalities reduces the time and money it costs to, *inter alia*, conduct due diligence re transaction requirements and avoid costs of remediation where a transaction goes wrong. On the second point, by the agent linking buyers and sellers, the transaction costs of finding the opposite party is reduced, thus increasing the wealth and utility of the buyers and sellers.

Again, as has been discussed previously, securities intermediaries provide a similar function. Securities intermediaries, alongside a holding function, also provide other services including

²⁶⁰ Ibid

²⁶¹ Ibid

²⁶² Ibid p. 108

linking a UBO with a potential seller and vice versa (an important efficiency through keeping the market liquid), delivering issuers and UBOs expert product knowledge and, providing technical advice on trading and holding in other jurisdictions.²⁶³ These all reduce transaction costs and maximise the wealth and utility of the parties to a securities transaction in a similar fashion to the above. It is perhaps prudent to examine exactly how the agent maximises efficiency.

While these are indeed the black letter definitions of how the law summarises an agent, what is an agent in terms of an economic view? Quite simply, an agent is there to maximise the utility and wealth of the principal via the reduction of transaction costs.²⁶⁴ Cohen suggests that the agent accomplishes this in two separate, though related ways. Both ways stem from the concept of transaction costs.²⁶⁵

The first way he suggests is via 'transactional agency.'²⁶⁶ In this manner, agents are there to facilitate transactions via contracts in order to reduce the cost of a principal conducting this personally. Cohen states that factors such as distance, time and experience can increase transaction costs for the principal.²⁶⁷ By utilising an agent, the principal can – for example – reduce transaction costs by reducing the time needed to personally undertake contractual negotiations (their time can therefore be spent elsewhere, perhaps even conducting another contractual negotiation.)

²⁶³ See Chapter 4 for further information.

²⁶⁴ George M Cohen, 'Law and Economics of Agency and Partnership' (University of Virginia 2018) Virginia Law and Economics Research Paper No 2018-11.p. 400

²⁶⁵ Ibid

²⁶⁶ Ibid

²⁶⁷ Ibid

An important aspect for this to function is the concept of non – liability for the agent. This reduces the cost of participation for the agent. Critically, especially for this thesis, an agent need not personally own any property that is being considered. Ownership remains with the principal.²⁶⁸ This is a very important feature that shall be discussed later in this section.

The second mode Cohen suggests is that of employment. This is based on the idea of cost internalisation, where a company will employ people to conduct functions ‘in – house.’²⁶⁹ This can be, for example, recruiting an in – house legal team to conduct contractual drafting, as opposed to outsourcing to another firm. This mode has some relevance to the peripheral services that are offered by intermediaries. As we shall be seen, intermediaries offer many peripheral services to investors such as portfolio management. Therefore, in respect of cost internalisation, reduction of transaction costs via employment of an intermediary may be beneficial for the investor. This shall be discussed later in this chapter.

Therefore, one can begin to see the reasons for intermediation through a comparative analysis of agency. In essence, an agent is a person that is contracted by a principal to conduct business in the principal’s name which, in turn, minimises the principal’s transaction costs and increases their utility and wealth. This interposition of an agent between the principal and a third party is in many ways similar to the concept of intermediation. After all, intermediation is the interposition of an intermediary between an Ultimate Beneficial Owner (the principal) and a third party (the Issuer/CSD/Intermediary).

²⁶⁸ Ibid

²⁶⁹ Ibid

One could go so far as to say that agency is contractual intermediation. In the way an intermediary is interposed between a UBO and an issuer/holder, so too is an agent placed between a principal and third party. Of course, they aren't entirely synonymous, namely due to the different legal regimes that underpin the concepts. These shall be discussed later in this section.

3.3 The Historical Starting Point

Thus, with an understanding of the general reasons for the use of intermediation via a comparative analysis of agency, there can now be an analysis of the reasons why trust was used to underpin securities intermediation. In order to understand why trust was used, it is important to analyse the alternatives that were available historically. There are two main points that can be considered: bailment and agency. While the general economic benefits of agency generally have been discussed, the application of agency to securities intermediation has not. Thus, this section will examine agency from the point of view of securities intermediation.

3.3.1 Agency

Perhaps a logical initial question considering section two of this chapter is "why has agency not been used for securities intermediaries?" Undoubtedly, agency provides significant economic benefits, however, agency lacks some crucial benefits for the securities system, which trust could provide.

One needs to clearly delineate the area in which agency operates. In essence, agency is limited to the area of contract. An agent can act on behalf of the principal to enter into legal relations with a third party.²⁷⁰ When the agent is done, as Baskind notes, the agent will often depart “*leaving a binding transaction in place between his principal and the third party.*”²⁷¹ Undoubtedly, this is very useful as has been considered above. However, there are problems when it comes to the holding and transferring of securities.

In short, agency does not cover the areas of property. For example, while an agent could facilitate a share sale and purchase agreement, it could not hold or trade the goods as an agent. This requires a different legal modality, namely bailment or trust.

3.3.2 A Consideration of Property Law

Prior to considering the laws of bailment and trust, it is worth outlining the two types of property right recognised in English Law. These are possessory and ownership rights.

In consideration of possessory rights, the orthodoxy in England is that possession requires two elements: physical control and intention.²⁷² The point of concern for securities is that securities are intangibles and, as such, cannot be physically controlled.²⁷³

There are interesting developments in case law regarding the applicability of possession in the case of intangibles. Clarke notes this in her book *Principles of Property Law*.²⁷⁴ She

²⁷⁰ Baskind, Osborne and Roach (n 245). pp. 47 - 49

²⁷¹ *ibid.* p. 49

²⁷² Alison Clarke, *Principles of Property Law* (Cambridge University Press 2020). p. 471

²⁷³ Micheler, *Property in Securities* (n 5). p. 21

²⁷⁴ Clarke (n 272). pp. 475 - 477

highlights the case of *Your Response Ltd v Datateam Business Media Ltd* [2018].²⁷⁵ This case concerned the ability of one party (*Your Response*) to take a possessory lien of a register of customers held on a server. In essence, could a possessory right be exerted over an incorporeal database?

The judge in the first instance seemed to believe so. He indicated that he saw no distinction between records held as incorporeal data and those that could be held in hard copy (thus satisfying the element of control.)²⁷⁶ Interestingly, the judge says:

*“It would not be appropriate for the law to ignore the development in the real world of record keeping moving from hard copy records into electronic media...”*²⁷⁷

This is an incredibly important point as it highlights the central theme of this thesis – namely that the law needs to keep up to date with technological advances in order to promote an efficient body of commercial law, and efficient commerce generally.

However, this view was rejected by Moore-Brick LJ in the Court of Appeal. He took a more blackletter legal approach which was predicated upon the idea that intangibles were simply unable to be physically controlled and commenting that possession has no relevance to intangible property.²⁷⁸

²⁷⁵ *Your Response Ltd v Datateam Business Media Ltd* [2014] EWCA Civ 281.

²⁷⁶ *ibid.* see the judgement of Moore-Brick LJ at paragraph 9 where he quotes the judge at first instance.

²⁷⁷ *ibid.*

²⁷⁸ *ibid.* paras 16 – 19

While the author understands the approach and the reasoning of Moore-Brick's analysis of the orthodoxy, it is submitted by this thesis that the approach is somewhat short-sighted. While Moore-Brick noted that the ease of making multiple copies of intangible properties, such as the data on the servers, is this not also the case for instances of, for example, photocopying?²⁷⁹ More than this, one can only echo the sentiment of the judge at first instance in that ignoring the practical reality of the commercial environment and technological developments is somewhat folly. Such an approach will only make the law stagnant and less efficient.

Foreshadowing the later chapters, particularly chapter 9 where an alternative legal regime is hypothesised, a pertinent point is whether the reasoning of Moore-Brick LJ in relation to the ease of making like for like copies of electronic data, and thus the inapplicability of a possessory right, is in fact relevant due to advances in technology. For example, chapter 7 will show the use of blockchain and Distributed Ledger Technology which can create a non-fungible, individually identifiable digital item.²⁸⁰ Similarly, chapter 8 will show how Australia issues an individually identifiable security "key" which individually identifies individual security holdings.²⁸¹ This could render at least part of Moore-Brick LJ's reasoning redundant and pave the way for a new, more efficient system.

However, for the purposes of this section, the judgement in *Your Response* represents the orthodoxy and good law. Thus, possession for securities in the current paradigm is impossible. This leaves only the concept of ownership.

²⁷⁹ *ibid.*

²⁸⁰ See chapter 7.3 and 7.4

²⁸¹ See chapter 8.2

Ownership can be defined as a bundle of rights which includes rights to possession, use and transfer.²⁸² Under English law, ownership can be divided into legal and equitable ownership, with legal owners in effect controlling the property and the equitable owner enjoying it.²⁸³

This is the essence of the law of trusts. As section 3.3.4 shows, the law of trusts was the only recourse. It does not mean however, that trust provides no efficiencies. Indeed, historically it was very efficient. However, as the thesis will proceed to show, with the advent of new technology, trust is no longer as efficient as it once was.

Therefore, with the concepts of property rights delineated, the thesis shall now examine the concepts of bailment and trust, and how they relate to securities and intermediation, in greater detail.

3.3.3 Bailment

Bailment is the law which governs the possession of one party's property by another party.²⁸⁴ In this sense, bailment looks at the *possession* of property as opposed to *ownership*. Bailment can be used to allow another party to possess a piece of property for safekeeping and/or carrying out a specific purpose.²⁸⁵

²⁸² Baskind, Osborne and Roach (n 245). p. 26

²⁸³ *ibid.* pp. 29 - 30

²⁸⁴ *Halsbury's Laws* (2011) vol. 4 para 101.

²⁸⁵ Burrows (n 248). pp. 237 – 238 and chapter 7 more generally.

In terms of an economic analysis, this system creates numerous efficiencies, particularly in the commercial context. For example, consider where a business owner of a shop orders a stockpile of goods but has nowhere to store the entire stockpile. For a fee, the business owner can use contractual bailment to give possession of the goods to a warehouse for safe keeping until there is space for them in the shop.

In terms of transaction costs, the use of bailment in this case prevents the business owner from incurring large transaction costs from purchasing and maintenance of a warehouse. These costs would then have to be passed on to the end purchaser via an increase in the cost of the goods to cover the outlie and maintenance of the warehouse. This is opposed to a (presumably) lower cost of short-term bailment which has to be reflected in the price of the goods.

Another crucial point is that the warehouse (or more specifically the company who own the warehouse) does not take *legal ownership* of the goods, merely a right of *possession*.²⁸⁶ The concept of abstracted entitlement to ownership is a peculiarity of property law. Possession does not necessarily mean legal ownership. Critically, this means that they have no ability to control the items outside of their contractual remit. However, this does not mean that it is a poor choice. For example, the bailee can still hold the chattel and do something with it when a particular condition or trigger event arises (as per their contract of course). This could be, in the context of securities, to sell the security when the price hits a particular high or low point.

²⁸⁶ Baskind, Osborne and Roach (n 245). pp. 34 - 35

Generally, this seems like a logical area with which to underpin securities law. However, there are problems with bailment both in a practical and theoretical modality. Practically, securities often require rapid selling and buying in order to capitalise on gains or losses in the price of the security. This has been the case since the development of stock trading. With bailment and the strict holding of the chattel to contract, bailees are not able to take advantage of this without taking instruction from the bailor.

For example, large distances would not be uncommon historically where shareowners – as they are today – come from every section of Great Britain, and now the globe. In the absence of instantaneous communication, sending and receiving these instructions could take a great deal of time thus potentially causing missed opportunities to buy or sell shares. This in turn could cause investors to lose out financially. This is clearly an economic inefficiency.

A further issue is that of the theoretical ability for shares to be held via bailment. Shares in Great Britain – other than bearer shares – have always been considered as intangible properties.²⁸⁷ This means that they have no physical presence – there is no *thing* that embodies the share. For bailment, this is fatal. As has been outlined, bailment can only occur where there is a physical chattel.²⁸⁸ Clearly therefore, bailment cannot be used for securities as they are not embodied in a physical chattel that could be subject to bailment.

²⁸⁷ Micheler, *Property in Securities* (n 5). p. 21

²⁸⁸ Baskind, Osborne and Roach (n 245). p. 34 - 37

Thus, bailment is unavailable for use in the securities system in England and Wales. Whether this is via the economic inefficiencies stemming from the lack of instantaneous communication or from the fact that securities are an intangible property, bailment could not be used in the securities system.

3.3.4 Trust

In the absence of bailment, and unavailability of agency, trust was the only mode available in England and Wales to underpin securities law. As is known, trust provides a bifurcated ownership structure where the legal owner can be a distinct person from a beneficial owner. In essence, trust can allow shareholders to reap the benefits of agency in the form of property law. The section shall now examine them in greater detail.

3.3.4.1 Equity and Securities

Initially, securities were issued in a paper format to investors. While only evidence of the entitlement to a share, certificates alongside the paper transfer form were physical items and needed to affect a transfer of shares.²⁸⁹ The document of transfer itself was also a document detailing the number of shares transferred, consideration and signed by a witness.²⁹⁰

²⁸⁹ Micheler, *Property in Securities* (n 5).pp. 22 – 23

²⁹⁰ *ibid.*

At this point in history, the volume of share transfer was significantly lower than it is today. Indeed, each prospective transferee was, in effect, vetted by the company to judge their suitability as a member.²⁹¹ However, as discussed in previous chapters, by the late 18th century and into the 19th century the use of equity and debt backed securities to fund businesses grew exponentially. Kindleberger notes that while, originally, investment was the preserve of 'monied men' it eventually expanded to include increasingly larger numbers of smaller investors.²⁹² By way of an example, by 1910, investors in the railroads increased to somewhere between 230,000 to 500,000 investors from 50,000 in 1860.²⁹³ This huge expansion necessitated the creation of a more streamlined process for the creation, trade and holding of securities.

One of the notable advantages of English and Welsh law is its adaptability. It is well known that English law has the ability to rapidly adapt to developing commercial and business needs.²⁹⁴ Indeed, the development of the legal framework for securities is no exception. As the market developed its use of securities, so elements of contract and equity were abstracted to piece together a legal framework.²⁹⁵ The use of equity as the legal instrument used to delineate the relationship between investor, intermediary and security is down to the fundamental nature of a security. As we have mentioned above, the share certificate in English and Welsh law is merely a representation of a right as opposed to the right itself, thus the security is fundamentally an intangible right. That a security is classed as an

²⁹¹ *ibid.* p. 22

²⁹² Kindleberger (n 132). p. 187

²⁹³ *ibid.*

²⁹⁴ Chancery Bar Association, 'English Law, UK Courts and UK Legal Services After Brexit'

<<https://www.chba.org.uk/news/brexit-memo>>. P. 3

²⁹⁵ Micheler, *Property in Securities* (n 5). pp. 27 - 29

intangible dictates the modality by which securities are held. As they are intangible, securities are ineligible for the law of bailment to govern them, the traditional law for governing bearer securities in commonwealth jurisdictions.²⁹⁶ As a result, the use of trusts and its bifurcated ownership structure had to be used as this was the only form of proprietary holding available.

By utilising an existing concept of property to fit around securities, the law can quickly adapt to market innovation without the introduction and development of a new concept of property.²⁹⁷ While fitting existing trusts law around the market innovation of securities has allowed the many positive aspects of intermediation to flourish, it has also provided many challenging legal problems. These shall be discussed further along in this thesis.

However, aside from the mere fact that trust was necessary to use, it also provided a number of distinct benefits, particularly in the context of historical securities holding and trading. The thesis shall now outline some of the most pertinent.

3.3.4.2 Risk of Damage and Loss

The first benefit is that of risk of damage or loss. Naturally paper certificates are fragile and easily destroyable or prone to loss. Losing these certificates could potentially prevent a legitimate trade of securities from taking place.²⁹⁸ Thus, in order to reduce the risk of loss or

²⁹⁶ Dixon, Victoria, 'The Legal Nature of Intermediated Securities', in Louise Gullifer and Jennifer Payne (Eds.) *Intermediation and Beyond* (1st edn, Hart Publishing 2019).p. 63

²⁹⁷ *ibid.*

²⁹⁸ Part 21 Chapter 1 of the Companies Act 2006 explicitly states how share certificates are evidence of title but these are required nonetheless in a securities trade.

damage, investors were (and are) able to lodge their certificates with a custodian for safe keeping. Trust allows investors to protect their share certificates vis-à-vis loss by giving them to specialised custodians who, as trustees, owed duties (including fiduciary duties) related to safe keeping to the beneficial owners.²⁹⁹

Risk of loss and damage is reduced for the investor by allowing custodians and intermediaries who have specialist facilities to hold the securities certificates safely. Should damage or loss occur, trustees are potentially liable to the beneficiaries proprietarily and personally. These shall be discussed later in this chapter.³⁰⁰ In reducing risk, investors are encouraged to continue investing and at greater levels. This is beneficial for all parties involved as investors can reap larger rewards at less risk, issuers gain capital to expand their business and intermediaries gain financial reward for safe storage. As there is clear wealth and utility maximisation, this is an efficient outcome.

3.3.4.3 Quick Transferability

Turning to the concept of transferability. The ability of property owners to transfer their rights to another person is utterly crucial for effective capital markets (and capitalist society more broadly). As Shavell notes, rights of transferability actively “raises the utility of those who engage in it.”³⁰¹ This is because the participants in the trade value what they receive over what they have traded. In securities it could be a case that the trader values the cash over the potential return from the security and the tradee vice versa. In terms of economic

²⁹⁹ Virgo (n 212). Ch. 13.1 and Ch 15.

³⁰⁰ See Chapter 4.2 of this thesis.

³⁰¹ Steven Shavell, ‘Economic Analysis of Property Law’ (National Bureau of Economic Research 2003) Working Paper 9695 <<https://www.nber.org/papers/w9695>> accessed 24 August 2021. p. 7

efficiency as defined at the beginning of the thesis, the ability to receive wealth and use from the trade, raises the wealth and utility of the parties, heightening the efficiency of the transaction.

Shavell also notes how the utility of the participants can be raised where both have similar preferences. He states:

“Suppose one person possesses two apples and no bananas, another possesses two bananas and no apples, and each would prefer to consume one piece of each fruit than two pieces of the same fruit. Then each person will be made better off by trading one piece of fruit for a piece of the other fruit.”³⁰²

Transposing this into the realm of securities, one can replace the fruit with two different types of shares. This has ramifications for portfolio diversification and wealth maximisation. It may be the case that the apples represent a very risky share and the bananas a relatively safe share. Both investors may wish to possess a risky share and a safe share to hedge or diversify their portfolio. The tradability of the share actively facilitates both utility and wealth maximisation in this scenario.

Thus, one can see how transferability of property rights is critical to the maximisation of wealth and utility for proprietors and – for the purpose of this thesis – investors. Therefore, how does the use of trust help to facilitate these efficiencies in the arena of securities?

³⁰² Ibid.

Individual investors could of course gain these efficiencies without relying on intermediaries as securities are properties and are therefore transferable. However, trading them via the capital markets requires additional factors to take advantage of transferability. For example, we have already discussed how effecting a trade on the capital market requires the completion of a stock transfer form and the delivery of the certificates. However, how can this be accomplished with the requisite speed if the investor who holds the certificates are not located near the stock exchange? Simply it requires an agent in some form near to the exchange who are authorised to hold and trade the securities certificates in the name of the investor. As bailment is not available, and agency is the preserve of contract, trust facilitates this. An intermediary can hold legal title to the securities and trade them quickly on the stock markets thus gaining the efficiencies of transferability.

3.3.4.4 Too Many Certificates

A third efficiency is that of the ability of storing large amounts of certificates in a single location. The paper – based securities system that was in place around the world until the mid to late 1990s caused distinct market failures which have been termed “paper crunches.” This is typified by the US paper crunch in the late 1960s and the UK paper crunch in 1987.³⁰³³⁰⁴ While these crunches led to immobilisation and dematerialisation, prior to this, the exponential growth in securities beginning from the railroad boom in the 1850s

³⁰³ Elisabeth Ledrut and Christian Upper, ‘The US Paper Crunch, 1967-1970’ <https://www.bis.org/publ/qtrpdf/r_qt0712z.htm> accessed 24 August 2021.

³⁰⁴ Louise Gullifer and Joanna Benjamin, ‘Stewardship and Collateral: The Advantages and Disadvantages of the No Look Through Principle’, in Louise Gullifer and Jennifer Payne (Eds.) *Intermediation and Beyond* (1st edn, Hart Publishing 2019).p. 224

gave rise to an increase in the number of securities certificates. The corollary to this is that investors would have to have the infrastructure available to them to keep these certificates at home.

It has been said that historically, the normal course of business was for these certificates to be held by the beneficial owner or a custodian.³⁰⁵ The reason for this was the high level of operational risk that came with the handling of paper certificates. Theft, loss and damage are all risk factors in the holding of securities.³⁰⁶ Logically, this risk increases with the increase in the number of certificates issued. By transferring custody to a custodian an investor can offset the risk of holding them at home by paying a fee to a custodian to hold them in their stead.³⁰⁷ This is particularly the case where an investor could potentially hold many hundreds – if not thousands – of certificates and does not have the size of infrastructure available at their home to keep the certificates safely. Not only does the investor not have the risk of holding them himself, they also have recourse to claim compensation from the custodian in the event of loss caused by the custodian.

In a similar vein, with the unavailability of bailment to facilitate such custody, trust was the only mechanism available. As has been discussed above, securities cannot be governed via the law of bailment due to their inability to satisfy the requirement of physical possession.³⁰⁸ Thus, utilising trust allowed a custodian to hold these large amounts of

³⁰⁵ Morales, Barry and Mickelthwaite, Jim, 'CMI in Focus: Immobilisation/Dematerialisation of Listed Equities' <<https://thomasmurray.com/sites/default/files/CMI/pdf/20130201%20CMI%20in%20Focus%20-%20Immobilisation%20%26%20Dematerialisation%20of%20Listed%20Equities.pdf>>. last accessed 10 September 2021

³⁰⁶ Ibid.

³⁰⁷ Ibid.

³⁰⁸ See 3.3.2 above.

securities for safekeeping, while also providing the beneficial owner protections against loss and damage. These protections shall be discussed further in 3.3.3.4 below.

Therefore, one can see how the use of trust can create efficiencies in respect of custody. As securities became greater in number, the risk of damage and loss through the beneficiary storing them became greater also. Trust allowed securities to be kept in safe storage by a custodian who owed the beneficiaries rights *vis-à-vis* loss of the securities. Thus, beneficiaries were able to reduce the cost of their safe-storage of securities while also reducing the risk of their loss. This, therefore, reduces transaction costs for the beneficiary and enhances market efficiency.

3.3.4.5 Protections of Trust

The final point to note in this section are the protections available to the investor as afforded by trust. As has been mentioned throughout this chapter, trustees owe duties to beneficial owners and breach of these trusts can leave the trustees liable to both proprietary and personal claims. Of these duties, there are some which help to protect investors' property while the intermediary holds legal title. These duties have been touched upon above. However, they can be broadly categorised into three types of duty as per Lord Toulson's judgement in *AIB Group (UK) plc v Redler and Co* [2014] UKSC 58. These are:

“(1) a custodial stewardship duty, that is, a duty to preserve the assets of the trust except insofar as the terms of the trust permit the trustee to do otherwise;

(2) *a management stewardship duty, that is, a duty to manage the trust property with proper care;*

(3) *a duty of undivided loyalty, which prohibits the trustee from taking any advantage from his position without the fully informed consent of the beneficiary or beneficiaries.*³⁰⁹

For the purposes of this thesis it is the duties encompassed under headings one and two that are most relevant. These duties provide protections for the investor as beneficial owner of the trust property vis-à-vis the intermediaries as trustees and third parties. Some of these duties have been mentioned above but shall be elaborated upon here. Prior to investigating the protections (i.e the remedies for a breach of trust) we must first look at the breaches that lead to the remedies.

A) Acting Ultra Vires

One of the modes which outlines the duties of trustees can be found in the express terms of the trust document.³¹⁰ Acting outside of these duties can be equated with the public law concept of acting *ultra vires*.³¹¹ Pearce and Barr give the example of a breach arising where property is sold by the trustee yet they have no power of sale.³¹² An example of this is *Perrins v Bellamy* (1899) 1 Ch 797 – as quoted by Lord Walker in *Futter v Revenue and*

³⁰⁹ *AIB Group (UK) plc v Redler and Co* [2014] UKSC 58 at para 51

³¹⁰ Morales, Barry and Mickelthwaite, Jim (n 305).ch 29, para 2 (1)

³¹¹ *Ibid.*

³¹² Robert Pearce and Warren Barr, *Pearce & Stevens' Trusts and Equitable Obligations* (Oxford University Press, 2018) pp. 638 - 639.

Customs (2013) UKSC 26 – which involved a sale of leaseholds where no such power existed.³¹³³¹⁴

Transposing this into the realm of intermediated securities, this is particularly relevant for investors who merely wish to have the securities held safely and do not wish to actually sell or purchase. Where, the trust deed does not give the intermediary such a power, a breach of trust will arise where it takes place. This, as shall be shown, can lead to compensatory remedies for the investor.

Having these remedies in place is economically beneficial for the investor. As the thesis has discussed, risk can be monetised and humans are – on the whole – risk averse.³¹⁵ This is particularly the case where there are individual investors with limited financial means.

Daniel Bernoulli attempted to quantify this by noting that as one's income increases the marginal utility of the increase in wealth of a particular transaction decreases.³¹⁶ Thus, where a transaction is guaranteed to increase wealth by a modest amount, as opposed to a risky transaction that *could* increase wealth by a significant amount, the average person with relatively modest means will gain greater utility from the less risky transaction.³¹⁷

The corollary to this is that the less risky the transaction, the more likely it is that average investors will want to invest, and invest at a higher level. This is due to the ability of the

³¹³ *Perrins v Bellamy* (1899) 1 Ch 797

³¹⁴ *Futter v Revenue and Customs* (2013) UKSC 26 para 79

³¹⁵ Cooter, Robert and Ulen, Thomas, *Law and Economics: New International Edition* (6th edn, Pearson, 2014).p. 44

³¹⁶ Queensley Chukwudum, 'Foundations of Expected Utility Theory and Its Role in the Purchase of Insurance' (2016) 4 *International Journal of Economics, Commerce and Management*. p. 43

³¹⁷ *Ibid.* pp 44 – 45

investors to protect their investment and recoup loss. The protection of trust and the bar on intermediaries, or trustees in general, acting *ultra vires* directly helps to reduce the risk, producing a more efficient system.

B) Duties of Care

As they are the most relevant in this section, we shall turn to non – fiduciary duties first. The custodian owes a duty of care and skill to the beneficiary. There are in fact two tests for this duty. The first at common law is the duty that an “ordinary, prudent person of business” would exercise.³¹⁸ The second is the test under the Trustee Act 2000 where the test is that of what is reasonable in the circumstances considering the special skills and knowledge of the trustee.³¹⁹ This applies to certain powers including powers of investment and powers to nominate, *inter alia*, custodians but can be excluded by the trust instrument.³²⁰ Additionally, there is a duty to safeguard trust assets for the beneficiaries. This includes the need for property to be invested properly and that “securities ...are kept securely.”³²¹

Part of this duty of care can also encompass a duty of care as to the protection of trust assets via segregation. Under the law of trusts, client assets that are segregated in book form in an intermediary’s accounts are counted as properly segregated and do not form

³¹⁸ Virgo (n 212).Ch 13.2 p. 400

³¹⁹ Ibid

³²⁰ Ibid

³²¹ Virgo (n 212). Ch 13.3 p. 403

part of the intermediary's personal assets.³²² Thus, where – for example – an intermediary becomes insolvent, the assets of the client are not available to the creditors of the intermediary. Where this is not properly done, such as where no record of who the beneficial owners are in the intermediary's books, the loss of property can be recouped by the beneficial owner either via a personal or proprietary claim depending on the loss.

Where these duties are breached, liability, and thus a claim, *in personam* or *in rem* may arise in favour of the beneficiaries.³²³³²⁴ Therefore, a beneficiary – in this case an investor – has a mode of recourse for reparations should their certificate be – for example – lost or damaged. In terms of an efficiency analysis, while a beneficiary may have to pay for this custodial service, the payment would be offset by the long-term net increase in the wealth of the beneficiary.

C) Fiduciary Duties

Trustees also owe their beneficiaries duties known as fiduciary duties. These are a result of the fiduciary relationship that is owed between the trustee and beneficiary (essentially a relationship of the utmost confidence and trust.)³²⁵ Examples of these relationships include directors and shareholders, trustees and beneficiaries, and agents and principals more generally. While many scholars and practitioners have attempted to identify exactly how to

³²² Haentjens, Matthias, 'Dispossession and Segregation in Regulatory and Private Law', *Intermediation and Beyond* (1st edn, Hart Publishing 2019). p. 269

³²³ Virgo (n 212). Ch 17.2 p. 500

³²⁴ The nature of remedies shall be discussed later in this section.

³²⁵ Virgo (n 212). Glossary. p. 698

classify, and thus create an encompassing definition for, a fiduciary relationship few have been able to summarise them as neatly as Birks. He suggests:

*“The necessary elements can be spelled out: a fiduciary is one who has discretion, and therefore power, in the management of another's affairs, in circumstances in which that other cannot reasonably be expected to monitor him or take other precautions to protect his own interests.”*³²⁶

In taking this definition, one can see how the relationship between investor and intermediary can be categorised as fiduciary. However, the duties themselves are relatively difficult to identify. Despite this, there are two rules which can generally be regarded as the essential fiduciary duties and encompass the notion of absolute loyalty: the no profit and no conflict rules.

Both rules are relatively similar in effect and overlap in certain areas. The no-profit rule prohibits the trustee from making a profit off the assets of the trust (or knowledge gained therefrom) without the express consent of the beneficiary or without the express consent in the trust document.³²⁷ The rule is intended to ensure that it is only the interests of the beneficiary (or principal) that is being forwarded.

³²⁶ Peter Birks, 'Equity in the Modern Law : An Exercise in Taxonomy.' 26 University of Western Australia Law Review 1.p.18

³²⁷ Virgo (n 212). Ch 15.6.1 p. 466

The no-conflict rule is somewhat broader than the no-profit rule. The rule disallows the trustee from entering into any arrangement or agreement which will negatively prejudice or affect the principal's interest.³²⁸ As per Virgo's textbook, Lord Carnwarth neatly surmised this rule in *Aberdeen Railway Company v Blaikie Bros* (1854) 1 Macq 471:

*" [I]t is a rule of universal application, that no one, having such [fiduciary] duties to discharge, shall be allowed to enter into engagements in which he has, or can have, a personal interest conflicting, or which possibly may conflict, with the interests of those whom he is bound to protect."*³²⁹

This clearly highlights the requirement of trustees to show the utmost and unwavering loyalty to the beneficiary. Applying this to the relationship between investor and intermediary, one can see how these duties give investors increased confidence via the reduced risk of misappropriation or misuse of trust assets. This could be, for example, the trustee intermediary entering into a risky venture using investors' securities as collateral. Naturally, breach of these duties, much as a breach of a standard duty, can result in proprietary and personal remedies against the trustee in favour of the investor. These shall be discussed later in this section.

The economic analysis of the fiduciary duties is identical to that of the analysis of "standard" duties. This is namely that the duties and modes of recourse reduce risk.³³⁰ Specifically, it

³²⁸ *ibid.* Ch 15.5.1 p. 459

³²⁹ *Aberdeen Railway Company v Blaikie Bros* (1854) 1 Macq 471 available at <https://www.casemine.com/judgement/uk/5a8ff8dd60d03e7f57eceafo> last accessed 18 April 2020

³³⁰ For a more detailed analysis see Ch 3.2.4.2

does this via duties of loyalty to the beneficiary. This, in turn, reduces risk and facilitates wealth growth for both investors and investees through encouragement of investment – a clear enhancement of investor, and company, wealth. However, through this encouragement, market liquidity is heightened through greater investor participation in the markets. With a greater number of investors willing to buy and sell shares, the ability of finding a party to sell shares to – or buy them from – is heightened, thus enhancing market liquidity.

D) Remedies for Breach

While the duties that are in place show trustees and beneficiaries what must and must not be done with the trust assets, these guidelines would be irrelevant without the means to credibly enforce them. Breach of the duties lead to remedies in favour of the beneficiaries which can be divided into two taxonomies: personal and proprietary.

Personal Remedies

Personal remedies, or claims *in personam*, are claims against the trustee (or trustees) as a person. These often take the form of compensatory or restitutionary remedies for breach of duty.³³¹ However, they can also accomplish other objectives such as unwinding a transaction and penal objectives.³³²

³³¹ Virgo (n 212).Ch 18.1.4 p. 534

³³² Ibid.

Transposing these into the realm of the intermediary / investor relationship, aside from the obvious results of pecuniary compensation and restitution, unwinding a transaction is particularly important. This allows beneficiaries to, in essence, rescind a contract which has been entered into counter to the duties of the intermediary trustee. For example, if an intermediary enters into a contract for sale of securities to another party but is mistaken as to the wishes of the investor, the contract can be rescinded and, if possible, each party returned to its position prior to the sale.³³³ Where securities (or indeed property more generally) have already changed hands, this may be accompanied with a proprietary remedy to recover the property.³³⁴ Where the property cannot be recovered, the court can order equitable compensation in its stead.³³⁵

Proprietary Remedies

The other form of remedy available is that of the proprietary remedy. These remedies are targeted at the property as opposed to the person, hence them being remedies *in rem*. The remedies are based on two rules, following and tracing. This thesis does not propose to go into the minutia of how these work at law. It is sufficient to say that following is applicable where the property has not changed form (e.g if the property is liquidated) and tracing is applicable where it has changed form.

If property can be traced or followed, a proprietary remedy is available in several different forms. This includes a constructive trust (the acquirer of the property is deemed to hold the

³³³ Pearce and Barr (n 312). pp. 800 - 801

³³⁴ Ibid.

³³⁵ Ibid.

assets on constructive trust for the claimants); an equitable charge or lien (a secured charge over property of the defendant of the amount owed to the claimant plus interest), or; subrogation (the claimant acquires the right to “step into the shoes” of a third party to acquire their rights vis-à-vis the defendant.)³³⁶

Aside from the recovery of property, these remedies provide a particular benefit to claimants: they give them priority over the defendant’s creditors. This is because, as they are proprietary remedies, the property is considered to belong to the claimants and are not a part of the defendant’s assets. This is particularly important in the case of insolvent intermediaries where the investors – as beneficiaries – will gain priority for recovery of their shares and securities over the general creditors of the intermediary.

The critical point about these remedies is that they reduce investment risk for the investors. The credibility of enforcement is attributed to the duties prescribed for the intermediary trustees. This is, in turn, reduces risk for the beneficiaries in relinquishing legal title to the intermediary(ies) and encourages investment. Thus, the protections also generate practical efficiencies, particularly via lowering the financial costs of investing through the reduced need to, for example, take out insurance, as well as utility and wealth growth via the increased incentivisation to invest.

E) Protections Vis-à-vis Third Parties

³³⁶ Ibid.

The final point to note in this chapter are the protections that trust provides beneficiaries against third parties and how they create economic efficiencies. These protections can be taxonomised into two categories: receipt-based liability and accessorial liability.³³⁷ In essence, receipt-based liability is where a third party receives misappropriated trust property and accessorial liability is where a third party assisted in a breach of trust. The thesis does not intend to go into the minutiae of the protections, merely give a very brief overview and an economic analysis.

Where the trust property can be followed or traced, the remedy remains proprietary. However, where it can no longer be followed or traced, or the third party assisted in the breach but holds no property, the third party becomes personally liable.³³⁸ This gives an added layer of protection for the beneficiaries and reduces the risk of loss. Similarly, to the analysis above, this encourages investment thanks to the strong investor protections (thus mitigating risk) which is beneficial for every party involved and society as a whole.

3.4 Conclusion

This chapter has endeavoured to show the reasons behind the historic use of equity and trust law to underpin securities law in England and Wales. In the first instance, the concept of intermediation arose to provide economic efficiencies to the securities market that agency brought to contract law. The ability to delegate certain powers to a fiduciary agent in

³³⁷ Virgo (n 212). Ch 20 p.624

³³⁸ *ibid.* p 658

order to conduct business on behalf of a principal is a well-established concept to promote efficiencies. This is particularly true in the realm of contract law. Indeed, these efficiencies can be transferred to the arena of property law, in particular securities law.

There were two primary modes at law to create this efficiency: bailment and trusts.

Bailment only applies to chattels which, in the law of England and Wales, does not encompass securities which are intangibles. This left the concept of trust to classify the relationship between investor and intermediary. Thus, at least in part, the use of trust historically stemmed out of commercial and legal necessity.

However, that is not to say that historically trust provided no benefit or economic efficiencies. On the contrary, trust has allowed the securities markets to flourish via remedying issues that arose from the direct relationship between investor and issuer in a paper-based paradigm, established duties owed to the beneficiary by the intermediary and strong legal protections and remedies. This combination of factors created an efficient market which encouraged an exponential growth in the capital markets.

A critical point to note, and the reason that these efficiencies are historical, is that the efficiencies were based in an era where technology was not as advanced as it is now. For example, there was no way to keep a record of ultimate beneficial owner in real time or rapidly identify individual securities in a homogenous bulk. Nowadays technology exists to allow these efficiencies to continue but without many of the inefficiencies that are inherent in the use of trust for securities, particularly the bifurcation of ownership and the lack of

direct relationship between investor and issuer. Therefore, the next two chapters analyse the use of intermediation and trust based intermediation in a modern context.

Chapter 4: An Economic Analysis of Intermediation in the Modern System

4.1 Introduction

So far, there has been an emphasis put on the historic rationale for intermediation and trust-based intermediation. However, in order to substantiate the hypothesis of this thesis, there needs to be an analysis of the economic efficiency of intermediation in the modern

context. As has been noted in previous chapters, the economic analysis of trust based intermediation in the modern context is being split into two sections. The first section is an analysis of intermediation generally, and the second is an analysis of trust based intermediation. This chapter shall undertake the first analysis.

Therefore, there are two main objectives for this chapter. The first is to explore the concept of intermediation and delineate its benefits and detriments. The second is to assess these benefits and detriments in terms of economic efficiency. In doing so, the thesis can differentiate between the benefits and detriments of intermediation generally, and the benefits and detriments of trust-based intermediation.

4.2 The Benefits of Intermediation in the Modern Context

This section will look at the benefits of intermediation as a concept. As shall be shown, intermediation as a vehicle for wealth maximisation is very important, certainly during the mid and latter parts of the 20th Century where the volume of sales and holding of securities increased exponentially.

Therefore, this section shall outline the benefits of intermediation in the modern securities framework. What it does not aim to do is outline the pros and cons of using trust as the mode by which we govern intermediation. That shall be analysed in the following sections.

4.2.1 Investor Nature and Growth of Share Trade Volume

As mentioned in the first chapter, as the volume of securities sold began to increase exponentially, so the mechanisms by which investors could hold, trade and store securities increased in complexity.³³⁹ This complexity led to the market need for a more streamlined system for individual investors to access and effectively trade in the market.³⁴⁰ This increase in trading volume can be observed on the markets. For example, one can look to the FTSE Top 20 Traded Share growth rate over a ten year period. Looking at this data, one can clearly see a significant growth, even over this relatively short timeframe, with the figure in GBP almost doubling over that period.³⁴¹ Clearly therefore, there has to be a growth of intermediation in order to facilitate the growing volume of transactions.

In addition to the pure volume, the nature of the investors has promoted the rapid rise of security intermediation. Whereas historically the prevalent makeup of investors was that of a relatively sophisticated investor (i.e. one with an educated understanding of the financial landscape), the modern topography is somewhat different. There has of late been an exponential growth in the rise of unsophisticated, retail investors.³⁴² These retail investors make up a significant part of the financial market, with over half of Americans owning “a stock directly or through investment vehicles, like a self-directed 401(k) or IRA.”³⁴³ These are, in large part, unsophisticated investors for whom the same SEC report advocated greater

³³⁹ See Chapter 1

³⁴⁰ Ibid.

³⁴¹ ‘FTSE 100: Top 20 by Volume’ (*Hargreaves Lansdown*) <<https://www.hl.co.uk/shares/stock-market-summary/ftse-100/top-volume>> accessed 24 August 2021.

³⁴² Dan Jones, ‘The Era of the Retail Investor Is Here to Stay’ (3 March 2017) <<https://www.ftadviser.com/investments/2017/03/06/the-era-of-the-retail-investor-is-here-to-stay/>> accessed 24 August 2021.

³⁴³ Mary Jo White, ‘SEC.Gov | Protecting the Retail Investor’ (2014) <<https://www.sec.gov/news/speech/mjw-speech-032114-protecting-retail-investor>> accessed 24 August 2021. 2 July 2019

continuing education. This is through modalities such as alerts, bulletins and “other educational tools.”³⁴⁴

Combined with increasing participation of retail investors was the overall expansion of the securities market. As discussed in chapter 1, the securities market expanded in line with the increasing usage of equity financing as a mode of company finance.³⁴⁵ As the chapter states, by 1952, 71% of British profits came from companies listed on the LSE.³⁴⁶ This enormous expansion, combined with the rise of the retail investor, precipitated the growth and use of financial intermediaries. As Guy Morton notes, reasons of practicality (limited investment knowledge and experience, alongside relatively small individual capital available for input) alongside incentives (including employers’ pension contributions and privileged tax treatment of pension and life assurance policies) made the use of experienced and knowledgeable intermediaries attractive.³⁴⁷ The logical step then, is that as the number of individual investors grows, the capacity of intermediaries to facilitate them diminishes. Thus, the intermediation industry has to grow in tandem.

Regarding an economic analysis, as mentioned, the utilisation of intermediaries began in part as a response to the volume increase in trading and the cost involved. The use of intermediaries in this context could, *inter alia*, remedy information asymmetries, lack of investor experience and support the growing volume of trading. Each of these brings in transaction costs in one form or another. For example, lack of investor experience can be

³⁴⁴ Ibid

³⁴⁵ See chapter 1 of this thesis

³⁴⁶ Ibid

³⁴⁷ Guy Morton, ‘Historical Introduction: The Growth of Intermediation and Development of Legal Analysis of Intermediated Securities’, *Intermediation and Beyond* (1st edn, Hart Publishing 2019). pp. 24 - 25

remedied at the cost of undertaking further education. This is costly both financially and temporally.

Additionally, keeping up with the volume of trade could be achieved via the investment of modern trading solutions such as computers. These are all costs to the investor on top of the individual share price. For example, as the volume of trade increases so does the number of transaction documents that must be completed and recorded.³⁴⁸ Each of these operational requirements incurs costs in terms of, for example, lawyers to draft the documents, systems and manpower to approve and record the documents, and of course storage costs for all this paper work. These are truly transaction costs that are not reflected in the market price of the asset.

However, by utilising an intermediary the investor can cut this cost. Instead of paying for all these solutions separately, the intermediary covers this outlay and charges each of its clients an amount for access to its services.³⁴⁹ This is, in effect, cost internalisation.³⁵⁰ While it may not reduce the transaction costs to zero, it does reduce them enough to help investors access the market more easily. Returning to the definition of an efficient market given in the introduction, the market becomes more liquid.³⁵¹ In turn this increases the economic efficiency of the market. Through easier access and egress of the market through facilitation of more fluid trading of securities, the market's efficiency, via enhanced liquidity, is increased.

³⁴⁸ Indeed, this growth of trading paper work was one of the main reasons that the UK faced a paper crunch in the 1980s. See Wilcock (n 139).

³⁴⁹ This, in essence, is an economy of scale. See Corporate Finance Institute, 'Economies of Scale' <<https://corporatefinanceinstitute.com/resources/knowledge/economics/economies-of-scale/>>.

³⁵⁰ Jean-Francois Hennart, 'What Is Internalization?' (1986) 122 *Weltwirtschaftliches Archiv* 791.

³⁵¹ See the introduction pp. 32 - 34

It should also be noted that the economic efficiency for the investor is also increased. In particular, wealth is maximised through the reduction of transaction costs associated with trading. This, in turn means that investors are able to make a greater profit (or a smaller loss) from their share dealings, thus improving efficiency of the trade.

Therefore, answering the main aspect of this section, intermediaries have grown in number as the number of retail investors has grown. The growth of retail investors as well as the growth of trading volume generally has required intermediaries to expand in order to meet these needs. Indeed, as the analysis has shown, intermediaries in this context provide an extremely valuable service to investors by reducing transaction costs and increasing efficiency of the market through enhanced liquidity and greater wealth maximisation.

4.2.2 Reduction of Complexity

The financial markets are an exceptionally complicated arena. Access to the market in the UK (as in many EU countries) requires abiding by the Euroclear (the company who operates the securities markets) rules and regulations. By way of example, the CREST (UK's CSD) reference manual alone is over 400 pages in length.³⁵² The contents of this manual include such esoteric areas as 'Tolerance Matching' and 'Technical Netting and Linked Transactions.'³⁵³

³⁵² CREST, 'CREST Reference Manual'.

³⁵³ Ibid

In addition to this the securities market and its participants are subject to the rules and regulations of other regulators such as the Financial Conduct Authority and Prudential Regulation Authority in the UK. These organisations regulate the market and its participants, ensuring compliance with *inter alia* the Markets in Financial Instruments Directive II, competition law and enforcing against non-compliance via fines and enforcement notices.³⁵⁴³⁵⁵³⁵⁶

Looking at the FCA handbook, one can see that market participation and regulation is based on compliance with *inter alia* multiple high-level principles, prudential standards and regulatory processes.³⁵⁷ All this is before even considering areas such as tax implications, lending facilities and transferring paper holdings into book entry form.³⁵⁸ While these are indeed more applicable to issuers and intermediaries, they are of importance to UBOs in a negative capacity. The sheer volume of regulations and peripheral legal requirements that must be followed necessitates a level of technical knowledge and resource above that possessed by an average retail investor. Thus, individual participation by retail investors is stifled due to the cost of access to the markets in terms of knowledge and technical application. These are true transaction costs.

³⁵⁴ 'Regulation of Markets in Financial Instruments' (FCA, 23 May 2016)

<<https://www.fca.org.uk/markets/regulation-markets-financial-instruments>> accessed 24 August 2021.

³⁵⁵ 'Competition Law' (FCA, 22 March 2016) <<https://www.fca.org.uk/about/promoting-competition/powers>> accessed 24 August 2021.

³⁵⁶ 'Enforcement' (FCA, 22 April 2016) <<https://www.fca.org.uk/about/enforcement>> accessed 24 August 2021.

³⁵⁷ FCA, 'FCA Handbook - FCA Handbook' <<https://www.handbook.fca.org.uk/handbook/PRIN/1/>> accessed 24 August 2021.

³⁵⁸ Christopher Twemlow, 'Why Are Securities Held In Intermediated Form?', Louise Gullifer and Jennifer Payne (Eds.) *Intermediation and Beyond* (1st edn, Hart Publishing 2019). p. 96

However, intermediaries are experts in this field.³⁵⁹ Security intermediaries are able to manage and advise on these issues, distilling complex requirements into manageable information for clients.³⁶⁰ Indeed, the United States' Uniform Commercial Code (UCC) Art. 8 defines a securities intermediary as '*... a person, including a bank or broker, that in the ordinary course of its business maintains securities accounts for others and is acting in that capacity.*'³⁶¹ The intermediary *maintains* the account, which includes the collation and analysis of all relevant information and legal rules. Thus, securities intermediaries can offer retail investors a medium through which to reduce complexity. This allows the retail and unsophisticated investor an opportunity to engage, albeit indirectly, with the securities market.

Regarding the economic analysis: as the intermediary can help the unsophisticated investor to navigate the complex world of financial markets, this helps to subvert increased transaction costs. The cost of an unsophisticated investor educating themselves on the complexity and nuances of the financial markets is enormously expensive. If, for example, a UK investor wished to purchase an education in the operation of financial markets, one could be looking at paying a large fee, even in the case of taking a short course not a full degree. By way of illustration, a short course in finance and financial markets at the London School of Economics begins at around £2,300 for a single session.³⁶² Even if one disregarded the financial costs of education, one still has the temporal cost of undertaking this education. This

³⁵⁹ Stephen J Choi (ed), 'A Framework for the Regulation of Securities Market Intermediaries' [2004] Berkeley Business Law Journal. pp. 46 – 47

³⁶⁰ Twemlow (n 358).p. 97

³⁶¹ U.C.C Art 8 S 8-102 14 (ii)

³⁶² J Frankel, *The Internationalization of Equity Markets* (Illustrated edition, University of Chicago Press 1994).LSE "LSE Finance Summer School" available at <https://www.lse.ac.uk/study-at-lse/Summer-Schools/Summer-School/Courses/Secure/Finance> accessed 17 June 2019

could be a minimum of several months for short courses, moving into years for a degree. Of course, this is merely for the academic education and does not count the practical experience that is critical which takes years to accrue. Thus, in terms of market liquidity, the intermediaries enable the investors to access and exit the market, at the minimum possible cost.

Thus, in terms of economic efficiency, utilising an intermediary can lead to a significant reduction in transaction costs. By avoiding the temporal and monetary cost to the investor of educating themselves as to financial markets' rules and regulations, the costs of market access, and therefore transaction costs for the investor, are kept to a minimum. The corollary is therefore, the investor's wealth is maximised, as well as their utility in terms of access to the market and use of time and money.

4.2.3 Cross Border Custody and Transactions

Another efficiency intermediaries can create is that of enabling the rise of cross border securities trade. The move towards a globalised financial infrastructure precipitates a trend towards a more diverse and international investment portfolio. As Frankel notes, while the securities market has been an important part of the financial system in the US and UK, further

integration with the global financial system has meant domestic investors are looking outwards and foreign investors are looking towards the domestic market.³⁶³

In some cases, investors may only hold securities via an intermediary or broker.³⁶⁴ In this case directly investing as an individual is prohibited and the role of intermediary is necessitated. The situation in the UK is somewhat nuanced. While it is indeed possible to hold a Personal Crest Account where an individual can trade securities in their own name, these still require the input of a broker who operates the trading interface.³⁶⁵

Regardless of whether an investor may or must operate via an intermediary, in many cases it may be more efficient to utilise an intermediary for cross border transactions. For example, should an individual investor wish to diversify their portfolio to include securities from, say, Germany and the US, the investor must then individually contract with different CSDs; understand and operate the trading and clearance mechanisms; and, in the case of an English-speaking investor, understand German to a level that allows them to participate in the business and financial markets. These are onerous requirements.

Instructing an intermediary in these circumstances can prove economical for a retail investor. By contracting with a single intermediary and delegating these requirements to an intermediary with the requisite expertise, an investor can reduce the temporal and monetary

³⁶³ J Frankel, *The Internationalization of Equity Markets* (Illustrated edition, University of Chicago Press 1994). p. 1 accessed 2 July 2019

³⁶⁴ Katherine Gaw, 'Why You Should Invest in Foreign Shares' (*IG*) <<https://www.ig.com/uk/investments/news/share-dealing/2019/03/07/why-you-should-invest-in-foreign-shares>> accessed 24 August 2021.

³⁶⁵ Roger Lawson, 'Personal Crest Accounts' (*ShareSoc*) <<https://www.sharesoc.org/investor-academy/advanced-topics/personal-crest-accounts/>> accessed 24 August 2021.

cost that comes with individually entering foreign markets. This may be considered the “one point of contact” benefit.

Further to this, some intermediaries operating in a cross-border capacity may in fact contract with other intermediaries in another jurisdiction. The reasons for this are similar to the reasons a UBO would contract with an intermediary themselves: to delegate the onerous burdens of accessing foreign markets with their different laws, regulations and CSDs.³⁶⁶ As Twemlow suggests, the operational and financial burdens of accessing foreign CSDs are prohibitive to all but the largest intermediaries. It is instead better to contract with a CSD present in the foreign jurisdiction so as to obviate the associated costs.³⁶⁷

This is again similar to the reduction of complexity. The transaction costs in this case are achieved via the reduction in agents with which the investor has to contract. By reducing the number of agents with which one must contract, an investor reduces the number of fees they are liable to pay.

As discussed, it is often the case than in order to access foreign markets, one has to go through a local intermediary. By delegating this responsibility to a single intermediary as part and parcel of their offering, transaction costs are reduced to the cost of the first intermediary’s services. Carvalho neatly surmises this point in her paper “Cross-Border Securities Clearing

³⁶⁶ Twemlow (n 358). p. 95

³⁶⁷ Ibid

and Settlement Infrastructure in the European Union as a Prerequisite to Financial Markets Integration: Challenges and Perspectives.”³⁶⁸ She notes:

*“The importance of an efficient securities clearing and settlement system lies on the safer transfer of ownership of assets against payment. Such a system must be developed in a way to minimize the risks involved on securities transactions, and it must still offer lower costs, which do not hinder the intention to acquire or dispose securities.”*³⁶⁹

By using a single intermediary as a gateway to the foreign securities market, one is paying a single fee to access multiple areas. This is therefore a reduction in the transaction costs. As wealth is increased (via the reduction of transaction costs) and utility is increased (easier access to foreign stock markets) for the investors, the use of intermediaries in this manner can be considered economically efficient.

In reducing the complexity and access or exit to foreign markets, using intermediaries in this manner is also improving the liquidity of the markets. Investors can buy and sell shares via a single intermediary, as opposed to having to contract multiple different intermediaries and actors. Thus, the market is made more efficient, alongside enhancing the wealth and utility of the investors themselves.

4.2.4 Obviation of Systemic Risk

³⁶⁸ Cynthia Hirata de Carvalho (ed), *Cross-Border Securities Clearing and Settlement Infrastructure in the European Union as a Prerequisite to Financial Markets Integration: Challenges and Perspectives* (2004). p. 1

³⁶⁹ Ibid

As has been highlighted in the previous sub-sections, the financial markets are enormously complex and of fundamental importance to modern capitalist economies. In 2018 in the UK alone, there were over 258 million transactions conducted, totalling over £3 trillion.³⁷⁰ Indeed, the value of securities held in the UK Euroclear accounts amounts to €5.8 trillion.³⁷¹ These numbers are significant. Issues of fraud, insolvency and imprudent trading could have serious consequences upon the stability of capitalist financial systems. Undoubtedly systemic risk is an issue that is pervasive in the financial markets.

The Bank for International Settlements published a report in 2012 discussing principles for financial market infrastructures (the Report).³⁷² Such infrastructures are defined to encompass every part of the securities purchasing, holding and selling process.³⁷³ The Report outlines the necessity for securities infrastructures to be both safe and efficient to avoid systemic risk and promote well-functioning financial markets.³⁷⁴

The Report outlines a number of areas which contribute to the unsafe and inefficient operation of financial markets. Among those which are relevant to this thesis include systemic risk, legal risk and custody/investment risk.³⁷⁵ Each of these elements underscores the importance of having a safe, efficient and certain infrastructure. The question central to this thesis is whether a trust - based intermediation system contributes to these objectives.

³⁷⁰ European Central Bank, 'Securities Exchange Statistics' <<http://sdw.ecb.europa.eu/servlet/desis?node=1000001579>>.

³⁷¹ Euroclear, 'Key Metrics' <<https://www.euroclear.com/about/en/business/Keymetrics.html>> accessed 24 August 2021.

³⁷² Bank for International Settlement, 'Principles for Financial Market Infrastructures'.

³⁷³ Ibid p. 7

³⁷⁴ Ibid pp. 10 - 11

³⁷⁵ Ibid pp. 18 - 20

Of particular importance in this section is the noting of systemic risk. In this sense, systemic risk is in essence a domino effect where the failure or inefficiencies of one market participant can affect other participants – akin to cascading dominos. The Report highlights this problem by discussing how inefficient market infrastructures – particularly those which are interdependent on other countries’ infrastructures – can lead to systemic, and potentially global, risk.³⁷⁶

This risk then leads to potentially increased operational costs, transaction costs and, critically, an undermining of public confidence in the system. The downturn in market participation which may come as a result of a loss of public confidence ultimately has consequences of its own. Namely, the downturn would hamper the ability for companies to raise cheap capital to grow their business and thus undermine the capitalist economic model that underpins the UK’s economy, alongside the economy of much of the globe.

Since 1998, the International Organisation of Securities Commissions (IOSCO) has had as an objective the reduction of systemic risk, albeit via regulation.³⁷⁷ Such systemic risk has the potential for impacting the entire financial sector in a wholly negative fashion.³⁷⁸ Thus, to avoid, or at least reduce, systemic risk, it may be necessary to trade via a skilled and knowledgeable intermediary.³⁷⁹

³⁷⁶ Ibid p. 18

³⁷⁷ Anita I Anand, ‘IS SYSTEMIC RISK RELEVANT TO SECURITIES REGULATION?’ (2010) 60 *The University of Toronto Law Journal* 941. p. 941

³⁷⁸ Ibid p. 942

³⁷⁹ Twemlow (n 358). p. 99

In particular, the trading of certain securities such as highly liquid stocks requiring clearing via a Central Counter Party (CCP).³⁸⁰ CCPs act as an intermediary, interposing themselves between buyer and seller, acting as the buyer to the seller and the seller to the buyer.³⁸¹ This is a form of risk mitigation. Risk mitigation occurs via the CCP as the CCP essentially acts as insurance in the case of problems such as default. CCPs have a range of capital buffers and backstop positions to ensure that transactions still take place even in the case of default or another adverse triggering event.³⁸²

In the case of the UK, as discussed above there is scope for individual direct participation in the market. However, this is via a sponsor. These sponsors (usually a form of broker) manage a personal CREST account while the name of the individual owner stays on the account and the shares. Despite the possibility, it is in practice more difficult as few brokers offer such sponsorship services due to the expense in terms of time and money.³⁸³

In all these cases, the use of an intermediary (a CCP, broker or otherwise) helps to obviate systemic risk. By utilising a knowledgeable intermediary with layers of contingencies, safeguards and buffers, the health of the financial system can be ensured.

³⁸⁰ Ibid

³⁸¹ European Securities and Markets Authority, 'Central Counterparties' <<https://www.esma.europa.eu/policy-rules/post-trading/central-counterparties>> accessed 24 August 2021.

³⁸² ICMA, '27. What Does a Repo CCP Do?' <<https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/27-what-does-a-repo-ccp-do/>> accessed 24 August 2021.

³⁸³ Emily Perryman, 'Crest Accounts | Shares Magazine' <<https://www.sharesmagazine.co.uk/article/crest-of-a-wave>> accessed 24 August 2021.

Compare this to an unsophisticated investor who has significant financial resources but no knowledge of the financial markets (disregard for now the unlikelihood of such a hypothetical for the purposes of illustration). Should they invest in something unwisely, or even illegally, then they may lose their money along with the money of other investors. This in turn will have negative effects that ripple throughout the market in a form of domino effect.

Thus, the UK uses a sponsorship mechanism in order to mitigate the risk of individual participation. In turn, this helps to reduce systemic risk via a relatively knowledgeable and skilled sponsor operating the investment account thus reducing the likelihood of any adverse systemic incidents.

Another reason for the use of intermediaries as a proponent of systemic risk management is illustrated by the Paper Crunch of 1987. In this case, the backlog for settlement was so severe that it threatened the entire financial market.³⁸⁴ Using an intermediary allows the backlog to be reduced and therefore reducing systemic risk in turn. This is done via intermediaries clearing on a net basis, thus reducing the total number of securities actually transferred. It also allows for some transactions to be conducted internally by the intermediary.³⁸⁵

Thus, as a skilled and knowledgeable participant, financial intermediaries are in the best position to ensure that systemic risk is kept to a minimum via the abidance by certain regulations and procedure. For the investor, transaction costs are reduced via delegating the responsibility of abidance to the intermediary. Should an intermediary not be used then the

³⁸⁴ Joanna Benjamin, 'Stewardship and Collateral' (27 June 2017)
<<http://www.lse.ac.uk/collections/law/wps/index.htm>> accessed 24 August 2021. p. 5

³⁸⁵ Ibid

investor would have to ensure that they were adhering to the relevant regulation and had the requisite safeguards against systemic risk in place. This is costly both temporally and financially. Thus, using an intermediary for this purpose reduces the transaction costs for the investor. In turn therefore, the utility and wealth of the investor is increased via the risk reduction of transactions and reduction in the cost of compliance.

4.2.5 The No Look Through Principle and Intermediary Risk

The application of the no look through principle is relatively simple to elucidate. The UBO has no ability to directly bring an action against the issuer. It may only commence an action against the Relevant Intermediary, i.e the intermediary directly above them in the chain.³⁸⁶ This principle affects each individual member of the intermediary holding chain. The principle certainly has disadvantages which shall be discussed later in this thesis. However, it also poses a distinct advantage in terms of risk mitigation. Utilising the no look through principle means that UBOs and intermediaries only have to calculate risk relating to the relevant intermediary. Juxtapose this with an abandonment of the principle: UBOs and intermediaries would have to calculate risk for every other link in the chain.³⁸⁷

This poses considerable transaction costs. Considering that, as the thesis has shown, intermediaries in the chain may pose various levels of risk such as, for example, operating in foreign jurisdictions and subject to foreign laws and regulations, a UBO and the intermediaries

³⁸⁶ Gullifer and Benjamin (n 221). p. 223

³⁸⁷ Twemlow (n 358). p. 100

would have to invest considerable amounts of time and capital in order to conduct due diligence and mitigate risk. This would, in turn, raise the cost for the investor above the share baseline cost.

Finally, this principle reduces transaction costs via the reduction of risk mitigation and due diligence requirements to the relevant intermediary. By reducing the scope of these requirements for the investor, the potentially significant cost of due diligence and potential cost of intermediary fault further up the chain is also reduced. This, in turn, is a reduction of transaction cost for the investor. On this basis, it can be said that utilisation of an intermediary in this capacity helps to ensure efficiency of the securities system.

4.2.6 General Comments on the Benefits of Intermediation

Thus, we can see that intermediation has arisen for many reasons and brings considerable advantages. These, needless to say are beneficial for the UBO, the market and, in some cases, the intermediaries themselves.

In terms of an economic analysis, there are many reasons why intermediation is beneficial for the investor. The process of intermediation has numerous ways in which it can help to reduce transaction costs for the investor and promote market liquidity. Through the reduction of transaction costs for the investor, their wealth maximisation, as well as utility in some cases, are increased. Going back to this thesis' definition of economic efficiency outlined in the definitions section, one can see how the use of intermediaries can create important and impactful efficiencies for the investor.

However, despite these efficiencies, intermediation as a general concept can also create inefficiencies. It is important that these are examined and balanced against the efficiencies intermediation precipitates. Thus, the next section will examine the detriments of intermediation as a concept.

4.3 Detriments of Using Intermediation as a Concept

This section shall investigate the detriments of intermediation as a concept. It shall look purely at the problems that arise as part of the process of intermediation regardless of the legal regime that underpins it.

4.3.1 Uncertainty of Jurisdictional Applicability

The use of intermediaries has negatively impacted the certainty of jurisdictional application. This is due to a number of factors, namely the non-uniformity of judicial decision making in cases surrounding location of jurisdiction and also the problems inherent in dealing with incorporeal assets in cross-border transactions. By way of example, the thesis shall examine the case of *Macmillan v Bishopsgate Investment*.³⁸⁸ This case has a particularly complex factual matrix and involves various different judgements and jurisdictions. However, it serves as a good example of the uncertainty that surrounds finding the location of the

³⁸⁸ *Macmillan Inc v Bishopsgate Investment Trust Plc and Others* (no 3): CA 2 Nov 1995

applicable jurisdiction, as well as the uncertainty over the reliability of the applicability of the current law surrounding the location of *situs*.

The main point of law that the case deals with is that of the *lex situs*. This is a conflict of laws principle that looks at the location of the object in question to deduce the applicable jurisdiction.³⁸⁹ In the case of intermediated securities where the security may be construed to inhabit a number of locations, this can prove a difficult concept to apply.

One of the main decisions the English judges in the case had to provide was that of the applicability of the relevant law. In particular, the potential jurisdictions were London (on account of it being the *lex situs* of the share certificates) and New York (the place of incorporation and registration.) Ultimately it was the decision of the judges that the relevant and applicable law was that of New York. However, the main point to note for this thesis is not that the law of New York was the applicable law, but the process of the judges' decision making.

The judges in the case unanimously decided that it is the *lex situs* that applies in this case. However, while arriving at the same conclusion, the judges arrived there via three different paths of reasoning. We shall in the first instance turn to Lord Staughton who gave the leading judgement in this case. Staughton LJ agreed with the ruling of Millet J in the court of first instance that the matter was to be decided under New York law. However, he

³⁸⁹ Jonathan Law and Elizabeth Martin, 'Lex Loci Situs'.

disagreed (as did the other judges) that this was due to the *Lex Loci Actus*. This is the Latin term for the place where the action that gave rise to the suit took place.³⁹⁰

Instead, Staughton LJ in unison with the other judges ruled that this was a matter of *lex situs*. This is the Latin term for the location of the thing in question that the suit refers to. He argued that – as there was a paucity of precedence on this matter – this was the logical mode of determining jurisdiction. His logic was that it puts shares and securities on a par with other forms of property which are governed by this rule.³⁹¹

Aldous LJ took a different approach to his decision that the rule of *lex situs* should apply. He suggested that there was synonymy between the *lex situs* and the place of incorporation of the company whose shares are in question.³⁹² He stated, after consulting English and North American law, that:³⁹³

*“As a matter of principle, I believe that the appropriate law to decide questions of title to property, such as shares, is the lex situs which is the same as the place of incorporation.”*³⁹⁴

His reasoning was that it was impossible to deduce who was a valid shareholder without consulting the company’s documents of incorporation as construed in accordance with the

³⁹⁰ John Stevens, ‘Restitution or Property? Priority and Title to Shares in the Conflict of Laws’ (1996) 59 *The Modern Law Review*. p. 743

³⁹¹ *Ibid*

³⁹² *Ibid*

³⁹³ *Ibid* p. 744

³⁹⁴ *Ibid* (n 365)

law of the place of incorporation. Thus, he suggested that for reasons of simplicity and efficiency, it makes sense to include questions of incorporation and title to be included under the same law.³⁹⁵

However, there is a logical deficit in Aldous LJ's reasoning. What happens in the case of companies who hold registers in more than one location and, potentially, more than one jurisdiction?³⁹⁶ As Auld LJ rightly noted, in this case the *lex situs* would not necessarily be the same as the place of incorporation. In this situation, the *lex situs* would be where the transfer would occur in the ordinary course of business.³⁹⁷ In this case, there could be significant legal obfuscation. Indeed, the interposition of intermediaries, as well as the prevalence of intermediaries to run a number of offices and server locations globally, is not uncommon. Therefore, where is the "ordinary course of business" when there are a number of global offices, each playing a role in the transaction?³⁹⁸ This is clear legal uncertainty.

The case of Macmillan is an illustration *par excellence* of the legal uncertainty stemming from cross border security transactions in an intermediated and bifurcated ownership form. Firstly, it shows how difficulty may arise in respect of discerning jurisdiction. As the case clearly demonstrates, there are a number of conflict of law and private international law rules that govern the identification of the relevant applicable law. While they may lead to the same conclusion, as was the case in Macmillan, this is by no means guaranteed. To

³⁹⁵ Ibid

³⁹⁶ As Stevens notes, the *situs* of securities is wherever the register is *not the place of incorporation*. Stevens (n 390). p. 744

³⁹⁷ Ibid

³⁹⁸ Goode, Roy et al., 'HCCH | Explanatory Report on the 2006 HCCH Securities Convention' (2017) <<https://www.hcch.net/en/publications-and-studies/details4/?pid=2955>> accessed 24 August 2021. pp. 19 - 20

further complicate matters, the case evidences the difficulties surrounding judges' individual paths of reasoning. In this case, though their final decision may be unanimous, the reasoning by which they arrived there was not.

Secondly, this case has little bearing on intermediated securities, despite it being fundamental to the consideration of *situs* in the case of securities. Goode provides a withering critique in his eponymous book on commercial law. He notes how in the case there is no intermediary and thus no intermediary relationship with an account holder, or ultimate beneficial owner.³⁹⁹ Thus, it does not accurately reflect the realities of doing business through an intermediary internationally. A particularly pertinent quote is:

*"It is difficult to see why the law of the issuer's incorporation in, say, France, should be thought to have any relevance to proprietary rights of a New York business in respect of a securities account held with a New York bank which itself holds through an account with a German bank."*⁴⁰⁰

Goode is, of course, quite right. The reality is that applying the law in *Macmillan* for non-intermediated securities is difficult enough. Applying it to an even more ambiguous and legally opaque regime of international intermediated securities adds a new layer of difficulty. Multiple offices in multiple jurisdictions can cause problems regarding imposition of international law, especially laws such as *lex situs*.

³⁹⁹ Roy Goode, *Goode on Commercial Law: Fifth Edition* (UK ed edition, Penguin 2017). pp. 1184-1185

⁴⁰⁰ *Ibid.*

Similarly, we can see how the law as defined in Macmillan is of questionable relevance to the international paradigm. Taking Goode's example, why should French law have any relevance to the relationship between the ultimate beneficial owner in Germany and an intermediary in New York several rungs down the chain?⁴⁰¹ This simply does not reflect the legal reality or produce an efficient outcome. We can see how this increases risk and cost of transacting, through, for example, needing to conduct exceptionally deep due diligence in order to identify actors higher in the chain or shouldering the risk that the law the investor thought applied, in fact, does not. Indeed, in Goode's example, there would need to be expertise and advice in three different jurisdictions: France, Germany and New York. This substantially raises transaction cost and reduces wealth and utility, thus causing inefficiency in the securities market.

Importantly, chapter 5 will outline the Hague Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary, which has attempted to resolve this issue. However, as it stands, there has been extremely limited implementation, with only three states signing.⁴⁰²

Thus, this obfuscation brings securities further away from their original purpose: that of easily divestible packs of rights. In turn, this makes securities economically inefficient due to the increased transaction costs the obfuscation incurs.

⁴⁰¹ Goode (n 399).

⁴⁰² "'Status Table" Hague Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary' <<https://www.hcch.net/en/instruments/conventions/status-table/?cid=72>> accessed 27 September 2021.

For example, the legal risk that is quite clearly a part of using intermediation for cross-border securities brings with it increased transaction costs and lower economic efficiency. As there is no definite consensus in jurisdiction for international trade of securities, the cost that an investor or intermediary incurs for the extra due diligence, potential loss or, in the worst-case scenario, legal costs are either realised or potential costs that are not necessarily reflected in the market price of an asset.

While of course an investor assumes an element of risk, they do so with a price to reflect that. If, for example, an investor purchased a share via an intermediary then that price should reflect all the inherent risk and potential reward so that the investor makes an informed purchase and thus, an efficient trade occurs. However, if such an investor is not aware of some legal problem that may arise as a product of the relevant intermediary's business model which then affects the investor's share and causes the investor to incur additional unforeseen cost, this causes a decrease in wealth maximisation and utility.

Clearly therefore, the use of intermediaries in cross border trades is potentially very inefficient. The detachment of the investor from the issuer through the imposition of intermediaries – particularly those with legal title – and thus the elimination of direct ownership clearly causes, or has the potential to cause, significant inefficiencies for the investor and for the markets generally.

4.3.2 Upper Tier Attachment

As shall be shown later in this thesis, the ability of investors to exercise the rights inherent in their shares is hampered by the bifurcated ownership system. Indeed, in many cases these rights will not be properly divested from intermediary to intermediary to investor.

However, to further the problems with these rights is the ability, or lack thereof, for investors who do poses these powers to exercise them *vis – a – vis* anyone other than the immediate, relevant intermediary. This is the problem of Upper Tier Attachment and is a problem of intermediation generally.

Generally speaking, investors are limited to their relevant intermediary when considering a legal course of action. This means that the investor is limited as to who they can pursue, thus usually unable to attach claims to the issuer or CSD. The reader may remember that, as discussed earlier in this chapter, the prohibition on Upper Tier Attachment has some positive aspects including the limitation of legal uncertainty.⁴⁰³ However, it is very much a double – edged sword.

While the prohibition on Upper Tier Attachment may reduce market inefficiencies such as accounting for risk higher in the chain, it also effectively reduces the scope of redress for the investor.⁴⁰⁴ One can view this as a natural extension of the No Look Through Principle discussed earlier in this chapter.

⁴⁰³ See Chapter 4.2.5 above

⁴⁰⁴ Law Commission, 'Law Commission Project on Intermediated Securities' <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2015/03/Intermediated_securities_seminar_2.pdf>.

This prohibition may well beget economic efficiencies in non – transparent intermediary systems (i.e systems where the UBO cannot be identified) such as increasing legal certainty. However, it may also disenfranchise investors by reducing the scope of their recourse should there be an issue further up the chain which affects the UBO, the affected party would have no recourse against the intermediary in question.

Further, as we have discussed, intermediaries are poor enforcers. Thus, should there be an issue further up the chain and as the UBO only has recourse against the relevant intermediary, it is unlikely that the relevant intermediary would pursue the rights of the investor with any verve and vigour.⁴⁰⁵ Thus, the disenfranchisement of the investor which may well come as a part of this would reduce the willingness of investors to invest. This in turn reduces the pool of capital available for businesses to grow, undermining the fundamental essence of securities.

This position has been reinforced by Article 22 of the Geneva Securities Convention. The Article specifically prohibits Upper Tier Attachment to any person other than the account holder, the issuer and any intermediary other than the relevant intermediary.⁴⁰⁶ Of particular note is the UNIDROIT legislative guide which elucidates the reasons behind the prohibition on Upper Tier Attachment. It states that a securities blockage could happen as upper tier intermediaries often do not know who the UBOs actually are.⁴⁰⁷

⁴⁰⁵ Gullifer and Benjamin (n 304). Pp. 223 - 224

⁴⁰⁶ UNIDROIT Article 22 Geneva Securities Convention

⁴⁰⁷ UNIDROIT *Legislative Guide on Intermediated Securities* p. 78 available at <https://www.unidroit.org/instruments/capital-markets/legislative-guide> accessed 11 August 2019

However, while in an opaque system this is an understandable conclusion (possible legal uncertainty is too great an operational risk), in a system where the UBO is known and can assert a full proprietary claim, this system becomes redundant. By promoting a system which clearly delineates property rights over a share by an identifiable shareholder, the legal uncertainty which necessitates the prohibition on Upper Tier Attachment disappears. This system could be facilitated by the abolition of the use of trust law for holding securities in the Common Law countries. As trust means that legal property rights are bifurcated and the UBO remains at the mercy of their intermediaries, using an alternative holding system could allow the clear delineation of property rights to an identifiable investor. These alternative systems will be discussed in further chapters.

Thus, this issue is primarily one stemming from intermediation generally, but with overtones of trust. Without intermediation, upper tier attachment would be unnecessary regardless of the legal regime underpinning it. As it stands, there are evident economic inefficiencies relating to the inability to exert rights above the relevant intermediary. While there is an ability for the UBO to send their wish to enforce up the chain, there is often difficulty associated with this, as noted above.⁴⁰⁸ As a result, the utility of the share is reduced. Simply, the UBO cannot enforce the rights inherent in the share they own.

4.3.3 Too Many Intermediaries.

⁴⁰⁸ Gullifer and Benjamin (n 304). Pp. 223 – 224

The final detriment of intermediation is the simple fact that there are far too many in operation. Micheler details this in her paper *Intermediated Securities and Legal Certainty*.⁴⁰⁹

The first paragraph in this section refers to the Lamfalussy Report which notes:

*“...a large number of transaction and clearing and settlement systems ... fragment liquidity and increase cost especially for cross border clearing and settlement.”*⁴¹⁰

There can be no more clear indictment of the problems that an overabundance of intermediaries causes for investors. Broadly, the problems associated with too many intermediaries can be categorised into three main areas. The first is that of increase cost; the second is that of increased risk (itself broken into several distinct categories), and; erosion of investor rights. The alert reader may see that each of these have been covered already in one or more sections of this thesis. Therefore, for brevity, only the impact of an excessive number of investors shall be discussed in this section.

4.3.3.1 Cost

As Micheler highlighted, the number of intermediaries is exacerbated by the number of clearance and settlement systems, especially regarding the cross-border trade in the EU. As

⁴⁰⁹ Eva Micheler, ‘Intermediated Securities and Legal Certainty’ .p. 3

⁴¹⁰ European Securities Markets Authority, ‘Lamfalussy Report’
<https://www.esma.europa.eu/sites/default/files/library/2015/11/lamfalussy_report.pdf>.p. 82

the EU is yet to fully implement a single, unified capital market, it is estimated that the cost of use is ten times greater than that of the US.⁴¹¹

The reason that the US is significantly lighter on costs of use than the EU is thanks to its central CSD, the US Depository Trust and Clearance Corporation system (DTCC). It is estimated that by not having a single settlement system like the DTCC, the EU has a €1 billion outlay on cross-border trade that could be saved per year.⁴¹²

The Kay report published in 2012 outlines how such a large figure is possible. As it rightly notes, as the chain of intermediaries expands, so too do the costs associate with their running. This includes lawyers, staff and, of course, operational and running costs.⁴¹³ These costs must naturally be recouped from somewhere and therefore, as a consequence, these costs must be passed on to the intermediary's client.

Clearly, this is an economic inefficiency. These peripheral costs are indeed transaction costs. While, some level may well be unavoidable, the exponential increase in the number of intermediaries means that such transaction costs increase in proportion. The reality is that the overabundance of intermediaries provide little benefit to UBOs and other intermediaries. Indeed, the increasing transaction costs reduces wealth maximisation for the investor as these costs must be passed down the chain to the investor. This, in turn, reduces the efficiency of the securities market. The price of securities on the market, when

⁴¹¹ Micheler, 'Intermediated Securities and Legal Certainty' (n 409).p. 3

⁴¹² European Securities Markets Authority (n 410).p. 82

⁴¹³ John Kay, 'The Kay Review of UK Equity Markets and Long – Term Decision Making, Final Report' <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/253454/bis-12-917-kay-review-of-equity-markets-final-report.pdf>.

transaction costs are taken into account, do not reflect the fair market value and may actively impede access and exit of the markets.⁴¹⁴ This is a clear reduction of liquidity.⁴¹⁵

This is particularly relevant to the technological innovation that is beginning to permeate through the securities system. As increasingly intelligent technology begins to make intermediaries redundant, so the relevance and benefit of intermediaries reduces. This shall be talked about in greater detail in the coming chapters.

4.3.3.2 Risk

Some of the risk inherent in unnecessarily extended intermediary chains has been talked about previously in this chapter. However, this section warrants an overview of exactly how the extended chains either create or exacerbate these problems.

The first problem is the case of documentary risk. At each link in the chain, the intermediaries have to contract with each other. This contract sets out the relationship between both parties and, critically, helps to pass the rights from one party to another.⁴¹⁶ Aside from the obvious transactional cost of drafting and effecting the contract, the risk of drafting errors increases both risk and potential cost. At each intermediary synapse, the contract must be drafted and, as case law has shown us, the fallibility of humans transposes

⁴¹⁴ Fama (n 44).

⁴¹⁵ See definition of an efficient market in the introduction.

⁴¹⁶ Micheler, 'Intermediated Securities and Legal Certainty' (n 409).p. 4

itself onto the quality of drafting. Such drafting mistakes do happen. One need look only at the case of *Eckerle v Wickeder*.⁴¹⁷

In brief, this case involved a discussion over what constituted a shareholder. This was deemed not to be the Claimants as their names were not on the shareholder register. While the law in England and Wales does allow for a provision in the company articles to nominate someone other than that of the person named on the shareholder register. The documents that had been started did not allow for this provision as they defined the Claimants as possessing a “Clearstream Interest”.⁴¹⁸

As Micheler notes, the German and English systems of law are both advanced with a comprehensive set of rules governing interaction.⁴¹⁹ Despite this, the drafting mistake still occurred. In turn, this caused both parties to incur significant costs in terms of finance and time. This is clearly an unwanted and somewhat avoidable transaction cost that occurs because of excessive intermediation. Again, the cost is born by the investors, decreasing their wealth and the economic efficiency of the market.

The second risk is due to potential insolvency. This particular risk has already been discussed in the section on the detriments of trust.⁴²⁰ However, what is important to note for this section is that for every intermediary that is inserted into the chain, the risk of insolvency – alongside all the negative economic ramifications that come with that – increases. Clearly,

⁴¹⁷ ‘*Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor* [2013] EWHC 68 (Ch) (23 January 2013)’ <<https://www.bailii.org/ew/cases/EWHC/Ch/2013/68.html>> accessed 24 August 2021.

⁴¹⁸ Micheler, ‘Intermediated Securities and Legal Certainty’ (n 409). p. 4

⁴¹⁹ *ibid.* p. 6

⁴²⁰ See Section on the detriments of trust in Chapter 5.3

this is not an economic benefit. As each intermediary is inserted, increased due diligence and careful drafting must take place in order to mitigate any potential risk. Ultimately, the increased cost of this is born by the UBO whose asset price increases for each intermediary in the chain.

4.3.3.3 Dissipation of Rights

Finally, the increased number of intermediaries included in the investment chains leads to the dissipation and diminution of the rights of the UBO. Micheler neatly outlines this problem.⁴²¹ As the contracts are concluded between each intermediary, the primary duty of both sets of lawyers is to their clients and to mitigate liability on both sides, not to the UBO.⁴²² As a consequence, the UBO finds itself in a weak bargaining position.

The UBO has, assuming it's a retail investor, little scope other than to accept the standard contract given to it along with all the risk and liability that comes with it. However, they also bear any risk and liability stemming from the contracts concluded further up the chain, of which they have no ability to view, adapt or amend.⁴²³

This evidently has negative economic consequences for the UBO. Not only is the UBO left with accepting the standard contract but the right of the UBO to enforce their rights is limited to the relevant intermediary. This is thanks to the concept of Upper Tier Attachment

⁴²¹ Micheler, 'Intermediated Securities and Legal Certainty' (n 409). p. 7

⁴²² *ibid.* p. 7

⁴²³ *ibid.* p. 7

that has already been discussed. Thus, the rights that a UBO can exercise are extremely limited thanks to the remoteness of the UBO from the company.

Economically therefore, the UBO has to bear the cost of the risk of not knowing what the previous contracts contained and the inability to enforce their rights at a level higher than the relevant intermediary. This is a clear decrease in wealth maximisation and utility, therefore reducing the economic efficiency of the system.

4.4 Conclusion

This chapter has sought to delineate the main economic efficiencies of intermediation as a concept in the modern securities market. When assessing the overall efficiency, it is reasonable to conclude that intermediation is, on balance, a market efficiency. In terms of technical expertise, administrative abilities and general trading facilitation, both domestically and in foreign markets, intermediation makes the process easier and cheaper for almost all investors. There is a clear reduction of transaction costs associated with using intermediaries in certain forms, which precipitates economic efficiency. Intermediaries also clearly enhance market liquidity through the facilitation of easy entry and exit of the capital markets for investors.

However, it is important to balance these efficiencies with some of the clear negatives of the system. There is arguably a surplus of intermediaries operating within the market which needlessly raise cost and risk for potential investors. There are also questions over the need for the no-look through policy, especially in transparent systems.

Despite these negatives, on closer inspection, some of these detriments are not caused by intermediation as a concept. They are caused either by an improper legal regime (as is the case with jurisdictional applicability) or simply an overabundance of intermediaries. Thus, intermediation as a theoretical concept does bring about net efficiencies. Indeed, the remediation of the detriments shall be discussed in forthcoming chapters.

Chapter 5: An Economic Analysis of Trust Based Intermediation in the Modern System

5.1 Introduction

The previous chapter has analysed the benefits and detriments of intermediation as a concept. As has been shown, on balance, intermediation as a concept does provide significant economic efficiencies. However, in order to fully investigate the hypothesis, it is important to analyse the economic efficiency of trust-based intermediation in the modern context. Thus, this chapter shall analyse modern trust-based intermediation through the lens of economic efficiency.

5.2 The Operation of Trusts in Modern Intermediary Modalities

In a practical sense, how exactly does trust law operate in the context of intermediaries?

Victoria Dixon outlines its operation succinctly in the chapter she authored in *Intermediation and Beyond* which this section shall rely upon in part.⁴²⁴ Initially, equity securities issued by a UK issuer are held by intermediaries as legal owner, with CREST acting as a register. It is important to note at this juncture that most UK debt securities are held as a global note via Euroclear or Clearstream with the UK investor being further down the chain. Despite this, English law will apply to that section of the chain.⁴²⁵

These intermediaries then hold the securities as trustees for their own clients. These clients may be the UBO or they may be another intermediary with the UBO coming further down

⁴²⁴ Dixon (n 296). pp. 63 - 67

⁴²⁵ *ibid.*

the chain. This model of trust and sub trust means that the UBO has a mere beneficial interest as opposed to a full legal proprietary interest in the security. The issues that this modality raises are discussed later in the chapter.

Undoubtedly, equity and trusts law has historically provided an economically efficient modality to hold securities. Prior to the advent of advanced technology and dematerialisation, the securities certificates in England and Wales (and also globally) were left in a corporeal form. As chapter 1 explained, the increasing use of securities necessitated the creation of intermediaries in order to facilitate the storage of increasing amounts of security certificates. In doing so, they helped to prevent the risk of loss or damage of the certificates and also helped to expedite transactions.⁴²⁶

This provided a distinct economic advantage over the alternative of holding the certificates individually. In terms of a transaction cost analysis, while a premium was payable to the intermediary for holding the certificates, the risk of losing or damaging the certificates bringing around a potentially profound economic loss for the UBO, was diminished. This risk was diminished by allowing the liability of their safekeeping to fall upon the intermediary. As the intermediary is the legal owner, and thus the trustee, of the securities, they owe fiduciary obligations towards the UBO, namely that of exercising due care and skill.⁴²⁷ Thus, should this obligation be broken, the UBO may have recourse in law to claim compensation from the intermediary.

⁴²⁶ See Chapter 1 for a more detailed explanation.

⁴²⁷ Gary Watt, *Equity and Trusts Law Directions* (7th edn, Oxford University Press 2021). p. 265 – 66

Therefore, the transaction costs of risk were lowered thanks to the use of trust-based intermediaries in this case. The risk and liability that were transferred to the intermediary meant that the transaction costs for the UBO of safekeeping were reduced and also potentially compensable in the case of a breach of obligation by the trustee intermediary. Clearly therefore, this is a wealth and utility maximisation. The investors can ensure that their securities are generating wealth safely and thus can be considered an economic efficiency.

Secondly, the transaction costs were lowered for the UBO by allowing for expedited transactions. As securities were legally owned by the intermediary, time and cost saving measures for transaction, in particular netting, could be facilitated. As the legal owner was the intermediary, they were able to conduct a bulk transaction with another intermediary, as opposed to multiple smaller transactions with many different UBOs.⁴²⁸ This was a single transaction in the name of the intermediary who would then credit the securities to the various UBO's accounts.

This single transaction reduced the costs of transacting multiple times. For example, rather than having to fill transaction forms for multiple different clients, a single form could be completed instead. This would reduce the time it took to make transactions on behalf of all the intermediary's clients along with the costs associated with filling the form (e.g legal costs and man power.) Again, the saving of transaction costs leads to the maximisation of wealth, and in this case increased utility through use of netting, for the investor. This, once

⁴²⁸ Louise Gullifer, 'Ownership of Securities', in Louise Gullifer and Jennifer Payne (Eds.) *Intermediated Securities: Legal Problems and Practical Issues* (Hart Publishing). p. 14

more is an evident economic efficiency. Not only are transaction costs reduced – and thus wealth maximised – for the investors, but the markets remain liquid and thus efficient.

This section has sought to demonstrate the development of equity and trust's usage for modern intermediated securities. One can see that the adaptable nature of English and Welsh law has allowed legal mechanisms to be moulded around market innovations. This suited the needs of the market for many years. Indeed, the system, clearly, still provides a number of efficiencies.

However, there are numerous detriments to the utilisation of trust as legal framework for securities that raise questions around the efficiency of this modality. In particular, there are questions of the economic efficiency of this modality in light of new technological innovations. Thus, one must question whether this system is now suitable for the global and technologically advanced securities market. To begin to answer this question, there needs to be an economic analysis of these detriments prior to an analysis of how technology can remedy such inefficiencies. The next section shall investigate this.

5.3 The Detriments of Equity and Trusts for Intermediated Securities

As noted, this thesis so far has espoused the virtues and advantages of the intermediated system in the modern context. Undoubtedly the modality of intermediation has many advantages in its operation. This thesis does not seek to disprove the efficiency in these advantages. However, what this thesis does seek to do is challenge the conception of the bifurcated ownership structure used to underpin the legal relationship between UBO and

intermediary. In particular, this section shall explore how utilising the bifurcated ownership structure of trust, in some ways, reduces the economic efficiency of the market and undermines the original purpose of securities, that being an easily tradable pack of rights.

5.3.1 A Question of Efficiency: Exercising Shareholders' Rights

As mentioned, the right to the benefit of the money generated as part of the security is vested in the UBO. This is the most outward, immediate benefit to the UBO (although even this is not guaranteed)⁴²⁹. However, one of the most critical rights associated with the vesting of a security is the right to vote. The right to vote is a long established right that vests in an owner of a share. Taking the example of an 'ordinary share', i.e a share that is statutorily standard, the right to vote is enshrined in legislation.⁴³⁰ While the medium of voting will change the way in which a shareholder votes (i.e based on proportion stock holding for a written resolution and one vote per person for a show of hands), the right to vote in the case of ordinary shares is sacrosanct.⁴³¹

It is important to note at this point that not all shares will convey to the owner a right to vote. In this case, this other class of shares (or shares) are known as preferential shares. These do not necessarily vest in the owner a right to vote, the exact rights vested will be dictated by the company articles.⁴³² However, for the purpose of this thesis, we shall

⁴²⁹ It is widely known that dividends are only called at the behest of the company directors. Even then, the directors may only call a dividend when there are sufficient 'profits available' see *Companies Act 2006, s 830*

⁴³⁰ *Companies Act 2006, s 284*

⁴³¹ *Ibid*

⁴³² Mavrikakis (n 70). p. 52

assume that the shares in question, ordinary and preference, both vest in the owner the right to vote.

The problems regarding the right to exercise the vote stem from the division of legal and beneficial ownership of the share, alongside the mode of perfecting a transfer. To perfect a transfer, as discussed in earlier chapters, requires the amendment of the company register to include the name of the new transferee.⁴³³ By perfecting the share and including the name of the transferee on the company register, the right to vote vests in the named proprietor. However, in the current system, it is rarely the name of the UBO that is entered onto the register. More often than not, it is the name of the first intermediary in the chain.

This has caused significant consternation in the UK shareholder community. These concerns are based on a number of different issues. The first issue surrounds the conception of corporate governance. Specifically, this issue is related to the debate as to whom directors of companies owe their duties. The starting point is that directors owe their duties to the company as an entire entity as opposed to the individual shareholders. This was established in the case of *Percival v Wright* [1902] Ch 421. In this case, shareholders of a company sold their shares to the directors of the same company. The directors failed to notify the shareholders that a sale of the company was being negotiated at a significantly higher price per share than that at which the shareholders sold. It was adjudged that the directors owed the duty to the company as opposed to individual shareholders.⁴³⁴ This seems to follow the

⁴³³ See Chapter 1

⁴³⁴ Jos Moule, 'Directors' Fiduciary Duties to Shareholders' (VWV, 11 January 2019) <<https://www.vwv.co.uk/news-and-events/blog/business-corporate-law/directors-fiduciary-duties-shareholders>> accessed 24 August 2021.

idea of separate legal personality of companies as developed in the landmark case of *Saloman v Saloman* [1897] AC 22.

This concept is known as corporate stewardship. The Owen Report of 2003 outlines this concept rather succinctly:

*“The governance of a public company should be about stewardship. Those in control have a duty to act in the best interests of the company. They must use the company’s resources productively. They must understand that those resources are not personal property.”*⁴³⁵

Indeed, when examining the Companies Act 2006, one can see that this is emulated within the act. S172 of the Companies Act 2006 has been mentioned in this thesis previously, however it is relevant here. The provision of the section highlights how directors have a duty to act in the best interests of the company and promote its success.⁴³⁶

It is perhaps also prudent to outline that this consideration of corporate stewardship is referring to the idea of directors as stewards. However, care needs to be made not to conflate this with the idea of *shareholders* as stewards.⁴³⁷ The term “stewardship” has legitimately be used in both arenas. However, this section focuses on directors as stewards.

⁴³⁵ Report of HIH Royal Commission, Volume 1 (2003) available at http://pandora.nla.gov.au/pan/23212/20030418-0000/www.hihroyalcom.gov.au/finalreport/Front%20Matter,%20critical%20assessment%20and%20summary.html#_Toc37086537 accessed 22 July 2019

⁴³⁶ ‘S172, Companies Act 2006’ (n 47).

⁴³⁷ Financial Reporting Council, ‘The UK Stewardship Code 2020’ <https://www.frc.org.uk/getattachment/5aae591d-d9d3-4cf4-814a-d14e156a1d87/Stewardship-Code_Dec-

A further distinction can be made over the term “control” used in the Owens Report. In this section, the thesis uses the term “control” as a term to define the powers of the directors in controlling the day-to-day running of the company. This is opposed to the term being used in reference to shareholder control, which generally means the process of voting on ordinary and special resolutions.

However, how can one define what the goals of the company are? This goes to the heart of what the ultimate purpose of the company actually is. In the UK, and Anglo-American type companies in general, the dominant theory is that of Shareholder Primacy.

In this theory it is postulated that the ultimate objective of the company is the maximisation of the wealth of the shareholders.⁴³⁸ This is the result of the shareholders’ claim to the residual returns of the company and also their right to the election of the company management board. The directors in turn act as stewards of the company, running it in the best interests of the shareholders (best interest defined as wealth maximisation).

However, this theory hinges on the concept of the empowered shareholder. In order to ensure that directors are acting in the best interests of shareholders, there must be adequate checks and balances in place regarding the exercising of directors’ duties. In particular, the power to replace a director – or even an entire board – is of great

19-Final-Corrected.pdf> accessed 29 April 2022. In particular, the Code refers to “Asset Owners” as stewards. Such “owners” can be shareholders.

⁴³⁸ David Ronnegard and N Craig Smith, ‘Shareholder Primacy vs. Stakeholder Theory: The Law as Constraint and Potential Enabler of Stakeholder Concerns’ [2018] INSEAD Working Paper 2018/15/ATL/ISIC <<https://www.ssrn.com/abstract=3165992>> accessed 24 August 2021.p. 2

importance. The shareholders of a company hold the power to both elect a board and to replace a director or board who they believe is inept. The threat of this power, it is theorised, pushes the managerial board into compliance with the wishes of the shareholder.⁴³⁹ So important is this power, that it has been enshrined in legislation. For example, the Companies Act 2006 s168 (1) sets out the right of shareholders to vote to remove a director (or auditor) via the passing of an ordinary resolution.⁴⁴⁰ This requires a 50.1% or greater vote in favour of a removal.⁴⁴¹

This theory therefore, requires shareholders to be able to exercise the powers of voting as vested by the purchase of a share. As we have touched upon, the bifurcation of legal and beneficial ownership in the UK and other common law jurisdictions complicates the exercising of these rights. As was noted in *Wickeder* if the UBO's name is not on the company's register, they may not be counted as a shareholder, and thus ineligible to exercise the ordinary powers of the shareholder.⁴⁴² Often, it is the name of the issuer's relevant intermediary on the company register, leaving the UBO significantly disenfranchised.

Similar to the idea of acting in a supervisory capacity over the conduct of the directors, shareholders have further duties regarding the important decisions in the lifecycle of the company.⁴⁴³⁴⁴⁴ For example, a vote may be called to amend the company's articles. Under

⁴³⁹ Lucian Arye Bebchuk, 'The Case for Increasing Shareholder Power' (2005) 118 Harvard Law Review 833.

⁴⁴⁰ Companies Act 2006 s 168 (1)

⁴⁴¹ Mavrikakis (n 70). p. 102

⁴⁴² 'Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)' (n 417).

⁴⁴³ Tricker (n 223).p. 86

⁴⁴⁴ The idea of duties related to shareholders as Asset Owners is enshrined within the UK Stewardship Code 2020 as noted previously. Financial Reporting Council (n 437).

s21 of the Companies Act 2006, a shareholder vote must be called to amend a company's articles via passing a special resolution.⁴⁴⁵ This is a vote that requires a 75% or greater vote in favour of the change to pass.

As further evidence of the shareholder primacy of companies, one can look to Article 4 of the Model Articles. The Model Articles are the default articles of association in England and Wales which are used as the 'standard' model. Article 4 outlines the shareholders' power to force a course of action on the directors or restrain a course of action the directors intended to take.⁴⁴⁶ This again requires the passing of a special resolution. As a caveat to the Shareholders Reserve Power, it should be noted that this will only be exercisable in very specific circumstances, and not as a general power. Hannigan notes that these circumstances are generally where there is an inability for the board to make decisions through an inability to act, deadlock or "for all practical purposes has ceased to exist".⁴⁴⁷⁴⁴⁸⁴⁴⁹

Nonetheless, this is still indicative of how important the role of shareholders is in the lifecycle of the company. Their power to vote to dictate a particular direction or monitor the company is of such great importance that the Companies Act 2006 has provided a number of different media through which a shareholder can vote. These mediums include, first and foremost, the general meeting. In this meeting shareholders vote on issues the directors of the company have raised. This can be either via a show of hands (one vote per person) or a

⁴⁴⁵ *Companies Act 2006* s 21

⁴⁴⁶ *Companies (Model Articles) Regulations 2008* S.I 2008/3229 Art 4

⁴⁴⁷ Brenda Hannigan, *Company Law* (6th edn, OUP Oxford 2021) p. 154.

⁴⁴⁸ *Barron v Potter* [1914] 1 Ch 895.

⁴⁴⁹ *Foster v Foster* [1916] 1 Ch 532.

poll vote (weight of vote dictated by the proportion of the shareholding).⁴⁵⁰ Any shareholder owning over 10% of the total shareholding can demand a poll vote. This clearly requires shareholders to attend the meeting in person. However, there are other provisions in place for shareholders to vote even if they cannot make it in person.

The first provision is that of the written resolution. In this case, a written resolution is sent to the shareholders of the company alongside a 1000 word statement. This then allows resolutions to be passed without calling a general meeting.⁴⁵¹ Another provision is found under s 324 (1) of the Companies Act 2006. This provision allows a shareholder to send a proxy to vote in his or her place. Not only can they vote, they may also voice the shareholder's views.

Thus, the importance of the right of voting for shareholders cannot be underestimated. This is evidenced not only via the situations in which shareholders vote, but also the range of provisions to allow a shareholder to vote. However, in the current bifurcated system the ability of shareholders to vote in intermediated systems – specifically UBOs – is hampered at best and completely blocked at worst. This is due to the division of ownership and the entrance of names on to the membership register.

As we have discussed in previous chapters, the full title of a registered security is only vested upon entrance of the investor's name on the company register.⁴⁵² In the intermediated system it is rarely, if ever, that the name of the UBO is entered onto the

⁴⁵⁰ Mavrikakis (n 70). p. 101

⁴⁵¹ *Supra* n102 pp. 101 - 102

⁴⁵² See chapter 4

company register. In the most part, the name entered is that of the first intermediary in the chain.

To further complicate this scenario, as mentioned previously it is frequently the case that the shares of multiple investors are held in omnibus accounts by the intermediary, known as pooled accounts.⁴⁵³ These accounts are held on the company register under a single entry. Thus, the title of many investors is registered under a single entrance on the company register.⁴⁵⁴ The complexity of this system leads to a number of issues outside of the right to vote. These shall be discussed later in this chapter.

It is important to root this theory in a practical reality. By way of illustration, the recent case of *Eckerle & Ors. v Wickedder Westfalenstahl GmbH & Anor* [2013] EWHC 68 (Ch) shall be discussed.⁴⁵⁵ As noted before, this case well illustrates the issues surrounding exercising the right to vote of shareholders.

The facts of the case are as follows. DNick Holding plc (DNick) was a public company incorporated in England. However, the seat of control of the company was in Germany and the shares of the company were listed exclusively on German stock exchanges. Importantly, the shares were all dematerialised and held through a series of intermediaries. The shareholding was held by the Bank of New York (BNY) for Clearstream's clients. It is also important to note that the clients of Clearstream held "Clearstream Interests" (CIs), which are to be separated from holding the actual shares themselves.

⁴⁵³ Gullifer (n 428). pp. 12 - 16

⁴⁵⁴ *Supra* n102 pp. 9 - 10

⁴⁵⁵ 'Eckerle & Ors v Wickedder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)' (n 417).

Prior to the incident which gave rise to action, Wickeder Westfalenstahl GmbH (Wickeder) gained possession of 75.005% of DNick, allowing it to pass special resolutions. In the July of 2012, a special resolution was passed to delist the DNick from the German stock exchange and reregister it as a private limited company.

Three parties claimed to be minority shareholders of DNick: Mr Eckerle, Mr Bertheux, and Hallensleben (the Claimants). The Claimants applied to the Companies Court in England to apply section 98 of the Companies Act 2006. This section provides the court the power to reverse a resolution passed to reregister a company as a private limited company. This is on the condition that those making the application *inter alia* hold a minimum of 5% of the nominal share value and have not voted in favour of the resolution in the first instance.⁴⁵⁶ As the Claimants held more than 5% of the nominal shares (in reality the figure was around 6% of the shares) and, allegedly, had not voted in favour of the resolution, the provision in section 98 of the Companies Act 2006 applied.

However, in reality this proved not to be the case. The judgement of Mr Justice Norris found that via operation of law and fact, the Claimants did not hold the 5% aggregate shares, and that they had, due to operation of the intermediated system, voted in favour of the reregistration.

⁴⁵⁶ Companies Act 2006, s98

Turning to the first point, Mr Justice Norris quoted Lord Templeman in the case of *National Westminster Bank plc v Inland Revenue Commissioners* [1995] 1 AC 119 in respect of the construction of the concept of ‘members’ or ‘shareholders.’

He quotes:

"The Act of 1985 preserves the distinction in English law between an enforceable contract for the issue of shares (which contract is constituted by an allotment) and the issue of shares which is completed by registration. Allotment confers a right to be registered. Registration confers title. Without registration, an applicant is not the holder of a share or a member of the company: the share has not been issued to him... No person can be a shareholder until he is registered. A person who is not a shareholder by registration cannot claim that the share has been issued to him..."⁴⁵⁷

We can see here that this definition of ‘members’ and ‘shareholders’ clearly shows that these terms are applicable solely to those who are included on the members’ register. As one will recall, the only two entities recorded on the member’s register were Dr Platt and BNY. The Claimants were not recorded on the register.

The Claimants, as has already been mentioned, were the holders of an underlying beneficial interest in the share. They were beneficial, and thus partial, owners. It was the BNY who were the legal owners and thus ‘members’ or ‘shareholders’ under Lord Templeman’s

⁴⁵⁷ *National Westminster Bank plc v Inland Revenue Commissioners* [1995] 1 AC 119 p. 126

definition. Therefore, the Claimants could not be seen to hold the 6% of nominal share value of DNick, merely 6% of the beneficial interest of the share. Because of this, the powers afforded could not vest in the Claimants and, as a result, they could not petition the court for a reversal of the reregistration.

The second point is that the provision of s98 cannot vest in a party if they voted in favour of the reregistration. Clearly, BNY voted in favour of the motion to reregister DNick as a private company limited by shares. They had this power as they held the legal ownership of the shares via the entry of BNY as a member in the members register of DNick.

Thus, even should the Claimants' first argument have passed, that what would be considered their proxy (BNY) voted in favour of the reregistration would mean that s98 could still not apply to the Claimants. This is due to the power in s98 not vesting in a party that has voted in favour of the reregistration.

These issues clearly disenfranchise investors and are also counter to the shareholder centric principles of UK corporate governance. Due to the bifurcated system of ownership, shareholders are effectively stopped from exercising their rights as shareholders, due to the vesting of legal ownership in a different entity, in this case BNY. Thus, the utility of the shareholder is significantly reduced *vis-à-vis* the ability to exercise the rights inherent in the share.

There are a number of economic disadvantages to the bifurcated ownership system and the exercising of the right to vote. The first part of this section dealt with investor

disenfranchisement and the problem of corporate governance. Thus, this is the first point to which we shall turn.

As is evident from the information above, one can see how the bifurcated ownership system causes many investors to lose their right to vote. Due to this, the concerning phenomenon of investor disenfranchisement is highlighted. In particular, there are concerns regarding the effective stewardship and the ability to exercise effective oversight of the management board. A recent Deloitte report has highlighted how, post financial crisis, there was criticism directed towards shareholders claiming that shareholders could have played a larger role in preventing some of the poor governance that led to the crisis.⁴⁵⁸ While this argument may be valid, without the power to exercise such rights of oversight, the primacy of shareholders as a watchdog is fatally undermined.

On 11 July 2019 ShareSoc and the UKSA issued a joint statement on intermediated securities and individual shareholders. In the note they stated a number of concerns regarding the stewardship of companies by individual shareholders. In particular, they have looked at how stewardship efforts are directed by institutional investors.⁴⁵⁹ Of importance is the number of shares that retail investors hold. For FTSE 100 companies, the number of shares that a retail investor holds is around 10%, rising to around 30% of the total shares listed for AIM companies.⁴⁶⁰ The note states how large institutional investors due to their size can only focus their efforts on a handful of the most important investments.⁴⁶¹ The larger companies

⁴⁵⁸ <https://www.iasplus.com/en-gb/standards/corporate-governance/shareholder-rights-and-institutional-investors> accessed 29 July 2019

⁴⁵⁹ *Intermediated Securities and Individual Shareholders* (Sharesoc and UKSA Briefing Note, 11 July 2019)

⁴⁶⁰ *Ibid*

⁴⁶¹ *Ibid*

with the greatest impact on the institutional investor's portfolio shall receive the greatest attention, whereas the smaller companies will often be lacking in oversight.⁴⁶²

Therefore, as corporate stewardship and shareholder oversight is the key mode for ensuring good corporate governance in the UK, the inability for shareholders to cast votes is of great concern. As the briefing note states, in absence of attention from institutional investors, retail investors must be empowered to ensure good governance in these smaller companies.⁴⁶³

Lee suggests that the argument of shareholder primacy as a mode to maximise economic efficiency rests on giving the directors a clear mandate to follow.⁴⁶⁴ In ensuring the directors have a clear, unambiguous mandate the agency costs of ensuring compliance for the shareholders are reduced. Through this unambiguous mandate, the scope of what the shareholders need to monitor to ensure compliance is reduced. For example, by mandating that directors manage the company in order to maximise shareholder profits, the shareholders need only monitor to ensure that profits are maximised. However, if the directors' mandate is to, as Lee suggests, balance the competing interests of other parties e.g workers, and wider society (i.e stakeholder theory), then the scope of what has to be monitored by the shareholder becomes exponentially more complex.⁴⁶⁵

⁴⁶² Ibid

⁴⁶³ Ibid

⁴⁶⁴ Ian B Lee, 'Efficiency and Ethics in the Debate about Shareholder Primacy' (2006) 31 Delaware Journal of Corporate Law. p. 537

⁴⁶⁵ Ibid

However, the effective – and economically efficient – monitoring of the management board to ensure requires the shareholders to be sufficiently empowered. In the current bifurcated system this is simply not the case. As we have seen, investors often do not have the ability to cast votes due to their limited ownership rights stemming from beneficial ownership. Thus, how can shareholders – particularly retail investors – hope to exercise the oversight that is required?

Without such ability of oversight and control, the inability of shareholders to act in a monitoring capacity could have far further reaching economic implications. By ensuring that managers act to ensure the maximisation of shareholder value, not only do the shareholders reap the rewards of an increase in share value but stakeholders also benefit financially.

Lee states that the stakeholders of the company receive better ‘terms’ for accepting the idea of shareholder primacy.⁴⁶⁶ For example, he notes that if shareholder wealth maximisation enlarges the size and wealth of the company, then stakeholders will benefit from *inter alia* higher wages for employees and higher interest rates for creditors.⁴⁶⁷

However, this is perhaps an oversimplification. While shareholder interests are indeed the primary concern of directors, the Companies Act 2006 outlines other interests to which directors of companies must pay due regard.⁴⁶⁸ These include the environment, the

⁴⁶⁶ Ibid pp. 537 - 536

⁴⁶⁷ Ibid p. 536 (see footnote 7)

⁴⁶⁸ ‘S172, Companies Act 2006’ (n 47).

community, long term consequences of any decision and company employees.⁴⁶⁹ This is known as the Enlightened Shareholder Value and has at its heart the idea that shareholders want more than simple financial returns, but to see a positive effect on their environments from the companies in which they invest.⁴⁷⁰ Therefore, while Lee may be correct in that enhancing shareholder value is a very important aim of directors which will prove beneficial for stakeholders, it is not the only aim, with stakeholders and ESG considerations themselves being a concern for directors.

This is not to say that the need to promote shareholder wealth maximisation has taken a back seat to other ESG concerns. There are certain levers available which help to push directors towards the primary goal of shareholder wealth maximisation. A good example of this is performance based pay contracts. These contracts peg the remuneration of individuals to certain performance indicators. In the case of directors, it is not uncommon to have such contracts where salary is linked to the performance of the share price – the greater the increase in share price, the greater the director's salary.⁴⁷¹ Directors are, therefore, incentivised to pursue the goals of the shareholders (in other words, increase their wealth through a more profitable company) in order to maximise their own wealth, as well as that of the shareholders. In this sense then, despite the prevalence of the Enlightened Shareholder Value, as enshrined in the CA 2006, there are still mechanisms to encourage directors to put the wealth maximisation of shareholders above all other concerns.

⁴⁶⁹ *ibid.*

⁴⁷⁰ French (n 232).

⁴⁷¹ Guido Ferrarini and Maria Cristina Ungureanu, 'Executive Remuneration', in Jeffrey N Gordon and Wolf-Georg Ringe (Eds.) *Oxford Handbook on Corporate Law and Governance* (OUP Oxford 2018).

However, as we have stated, there is a need to encourage shareholder oversight (including oversight of the directors acting according to the enlightened shareholder value), both in terms of shareholder wealth maximisation, and the shareholders' role as asset owners (as per the Financial Reporting Council).⁴⁷² A key tool for facilitating this is through shareholder empowerment. Without the ability to vote to exercise sufficient oversight to ensure that the board is acting to enhance shareholder value, the economic benefits of a model are severely eroded. The bifurcated ownership structure of shares means that the rights embodied in the Companies Act 2006 and the Model Articles, in this case the right to vote, cannot be exercised. However, in relation to the exercise of sufficient oversight of the board of directors, there are other provisions and protections held within the Companies Act 2006 that can only be vested in a shareholder. But how is a 'shareholder' defined? This is a critical definition for the applicability of the law yet one, as *Wickeder* highlighted, that is not always clear. This shall be discussed in the next section.

Considering the definition of economic efficiency this thesis has utilised, it is evident how the disenfranchisement of investors reduces their utility, and possibly wealth.⁴⁷³ The reduction of investor utility is the natural corollary to the inability to exercise their vote. That they cannot utilise their property to the fullest extent is a reduction in utility, and thus economic efficiency. Again, this is down to the fact that, due to the bifurcated ownership of trust, the UBOs are rarely entered onto the members' register of companies.⁴⁷⁴

⁴⁷² Financial Reporting Council (n 437).

⁴⁷³ See definition in introduction.

⁴⁷⁴ Dixon (n 296). p. 63

It is equally important to consider the potential problems with wealth maximisation. While not as direct a consequence as the reduction of utility, without the ability to properly oversee the companies in which they invest, investors may find the company being run without their wealth maximisation being the prime consideration. Where shareholders are sufficiently empowered (i.e through being able to vote), there are corrective measures they are able to take in order to continue to have their wealth maximised. As it stands, this is rarely the case in trust-based intermediation.

5.3.2 Legal Uncertainty: Defining a Shareholder

As is common legal knowledge, the Companies Act 2006 and the Model Articles contains many provisions and protections for the shareholder. These provisions and protections encompass multiple aspects of the shareholder's relation to the company including rights of board oversight, rights to vote in resolutions and protections for minority shareholders. However, as has been discussed above, the definition of a shareholder in the law of England and Wales often precludes the owners of a beneficial share interest. Full shareholders, as already stated, are full members of the company as confirmed by entrance onto the company register.

This poses serious problems for the investor which, in turn, have a significant impact on the economic efficiency of the share. In a non trust-based system, when an investor purchases a certificated share, they purchase a legal and beneficial ownership of a slice of the company 'pie.' They have their name entered on to the company register of membership and are legally entitled to exercise the rights vested in them by the company articles and the

Companies Act 2006. However, as we have seen in previous chapters, the current systemic norm in the UK is to purchase shares that are trust-based.⁴⁷⁵ This changes the dynamic significantly.

This thesis has explored the fact that the trust-based intermediation system for securities means that an investor may not in fact purchase a share. They may purchase an *interest* in a share. The leading case on this is *Wickeder* as explored earlier in this chapter. As has been seen in *Wickeder*, the Claimants had not in fact purchased a share but a mere *interest* in a share. However, the Claimants were none the wiser as to this fact. In retrospect, the cost of finding out whether this was the case was particularly high. The Claimants had to receive a ruling and definition from the Court of Appeal in order to conclusively define their standing.

The facts of the case are broadly analogous with other intermediary holding structures. The Claimants had purchased what was ostensibly a share via the Deutsche Borse. Clearstream was the clearing and settlement arm of the Deutsche Borse, whose account holders must be banks or other financial institutions. In this case, the account holder was BNY. In turn, the Claimants were in fact customers of the BNY.

Therefore, the Claimants actually held the beneficial ownership of the underlying economic value of the company shares held by BNY in proportion of the amount they purchased. To further muddy the proverbial waters, there was a particularly complex construction of who holds the Clearstream interest (and would thus be able to vote). This construction was

⁴⁷⁵ See chapter 3

based on the interpretation of the definitions contained within DNick's Articles of Association. In particular this was the definition of who a Clearstream Interest Holder was. According to the Articles, this was whoever was registered on the electronic register maintained by Clearstream. This was BNY. The Claimants also ran an argument that the Clearstream Interest Holder was whoever held the beneficial interest of the shares (i.e the Claimants.) However, this failed due to the interpretation of the definitions.

Thus, one can see the enormous complexity involved in the bifurcated ownership intermediated shareholder model. In particular, the difficulty surrounding the definition of a Shareholder and the impact this can have on the vesting of rights is of critical importance. At this stage it is important to note that this definitional – and therefore legal – uncertainty is as a result of the bifurcated system of trust that is used. The leeway that is given as to the definition of a shareholder arises due to the fact that there are in equity two classes of owners, only one of whom is seen as the legal owner.⁴⁷⁶ It is, as this thesis has highlighted, the legal owner who can exercise the rights of a share and is classed as the legal shareholder by virtue of the fact they are entered onto the membership book of the company.

As shall be shown in later chapters of this thesis, this system is not the only modality of holding a share.⁴⁷⁷ Indeed, there are a number of systems in other jurisdictions that do not bifurcate ownership in this manner. Such a system with a singular ownership structure has the ability to avoid the definitional ambiguity that can occur in the trust system.

⁴⁷⁶ Virgo (n 212). p. 13

⁴⁷⁷ See chapter 8 of this thesis.

Thus, how does this ambiguousness translate to economic efficiency? There are two ways that this legal ambiguity, and the remediation of such ambiguity, can manifest in terms of economic efficiency. In the first instance, one can look to the concept of the step cost. Step costs are activities that do not rise and fall based upon the continuing rise and fall of an activity, but increase or decrease based upon meeting an activity threshold.⁴⁷⁸ For example, a machine can produce 50 pens per hour, and each machine costs £100. If the manufacturer wanted to make 51 – 100 pens per hour, they would need to spend another £100. It does not matter whether they make a single extra pen, or an extra 40 pens, that cost stays the same regardless of the number they make within that bracket.⁴⁷⁹

In many respects, the costs of remedying the uncertainty of defining a shareholder seem akin to step costs. It doesn't matter if the investor is purchasing one share or one hundred shares, there is a single cost associated with remedying the uncertainty. This could be the cost of a trial, or it could be the cost of due diligence (due diligence and disclosure shall be discussed in some greater depth below). Nonetheless, this is a cost that must be borne by the investor.

Secondly, and perhaps in the alternative, this legal uncertainty can simply be a priced risk. Businesses undertake risky activities frequently, and, in order to ensure the potential returns are commensurate with the risk, they consider the value of risk. In doing so, businesses assess the potential internal and external risks and costs of undertaking the

⁴⁷⁸ Corporate Finance Institute, 'Step Costs' <<https://corporatefinanceinstitute.com/resources/knowledge/accounting/step-costs/>>. Accessed 30 April 2022.

⁴⁷⁹ *ibid.*

proposed activity.⁴⁸⁰ Therefore, it is possible to also argue that legal uncertainty is simply a risk associated with trading on the markets that can be priced by the shareholders and market players.

In either conceptualisation of the issue, there is a cost that is associated with doing business. Paralleling and paraphrasing Coase, we do not live in a world where there are no costs associated with doing business, it is a reality of our free market system.⁴⁸¹ However, the law can, and – as this thesis postulates – should, seek to lower these costs in so far as is possible.

A further consideration is that of utility maximisation. In the case of an inability to – or great difficulty in – defining a shareholder, it may be that the investor believes that they can enforce rights (such as those under the Companies Act 2006) and relies on this, only to find out they cannot exercise such rights.⁴⁸² Again, this is disenfranchising the investor, divesting them of the utility of enforcing rights in their property. This is a direct consequence of trust-based intermediation and not having the beneficiary's name entered onto the books of the company.

In considering the reduction of wealth and utility, it is perhaps prudent to consider steps the law and markets have already undertaken to try and ameliorate these issues. In both wealth maximisation and utility maximisation issues, there is uncertainty stemming from a lack of

⁴⁸⁰ Corporate Finance Institute, 'Value of Risk'

<<https://corporatefinanceinstitute.com/resources/knowledge/finance/value-of-risk/>> accessed 30 April 2022.

⁴⁸¹ Coase (n 14).

⁴⁸² The case of *Wickeder* is a perfect example of this issue. See '*Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor* [2013] EWHC 68 (Ch) (23 January 2013)' (n 417).

information, inasmuch as that the investor may not know what product they are actually purchasing when investing.

However, investors – especially retail investors – are seen to be in a position where they are owed duties of disclosure by the companies offering the shares. Moloney suggests that such enhanced protection through disclosure requirements has been a feature of retail market regulation for some time.⁴⁸³ As she rightly notes, the risks and information asymmetries associate with the retail markets are “particularly acute” especially where retail investors are compared to institutional and professional market participants.⁴⁸⁴ Indeed, this is further exacerbated by the increasing levels of intermediation within the retail markets, something this thesis is directly concerned with.⁴⁸⁵

Of significant note is the consideration of whether the investor knows the product that they purchase may not be a share at all. As has been considered, it is questionable whether, in the current paradigm, investors are aware that the product they purchase is not in fact a share, but an interest in a share as exemplified by *Wickeder*.⁴⁸⁶ Such disclosure is a key protection for investors – particularly retail investors – and is outlined in the FCA’s consumer outcomes.⁴⁸⁷

⁴⁸³ Niamh Moloney, ‘Regulating the Retail Market’, in Niamh Moloney, Eilis Ferran and Jennifer Payne (Eds.) *The Oxford Handbook of Financial Regulation* (Oxford University Press, 2017) pp. 754 - 755.

⁴⁸⁴ *ibid.* pp. 736 - 740

⁴⁸⁵ *ibid.*

⁴⁸⁶ ‘Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)’ (n 417).

⁴⁸⁷ Financial Conduct Authority, ‘Fair Treatment of Customers’ <https://www.fca.org.uk/firms/fair-treatment-customers> accessed 30 April 2022.

Therefore, in considering the heightened protection that is (or perhaps *should be*) given to certain classes of investors, especially retail investors, this thesis postulates that the removal of the trust based system and the imposition of technology could actively facilitate such protection at a lower cost. The imposition of certain technologies to enhance the communication and disclosure between market participants (for example DLT and Proximity as outlined in Chapter 7). This will actively help to improve disclosure and uphold the principles of the FCA, as noted above.⁴⁸⁸

Similarly, as has been shown, many of these economic inefficiencies stem from the bifurcated ownership that trust perpetuates. If the end investor, the UBO, held full ownership rights in the share, many of these issues – particularly those surrounding defining a shareholder and exercising rights and protections of a shareholder – would simply not arise. These, in turn, would decrease the value of risk and, potentially, step costs.

5.3.3 The Problem of Uncertain Legal Regime

This section shall examine the problems surrounding bifurcated ownership and an uncertain legal regime. The particular focus shall be on the validity of trusts in foreign jurisdictions, the contractual relations between investors and intermediaries and, location of applicable jurisdiction.

⁴⁸⁸ *ibid.*

Victoria Dixon provides an excellent description of the benefits and detriments of the trust system in her chapter of the book *Intermediation and Beyond*. Among her assertions is that of the status of the recognition of trusts in foreign jurisdictions. As she notes, trusts in many foreign jurisdictions have no legal basis or enforceability.⁴⁸⁹ Rightly, she states how this may have implications in the enforcement of beneficial owners' rights in foreign jurisdictions.⁴⁹⁰ Naturally, due to the modality of holding via the trust model, this may have a serious and detrimental impact on the holding of securities.

This is not to say however that there have been no attempts to expand the recognition of trusts. The Hague Convention on the Law Applicable to Trusts and on Their Recognition 1985 (the Convention) was an attempt to harmonise the rules and recognition of trusts law around the world. However, this has been met with limited effect. Only a handful of countries are signatories and have ratified the Convention. Notable non-signatories or countries who have yet to ratify includes Germany and the People's Republic of China.⁴⁹¹

The Convention sought to deliver a semblance of harmonisation between countries' laws surrounding trusts and their recognition. This was to be accomplished by signatories agreeing to abide by an extensive list of conflict of law rules related to trusts. Of particular note is article 11 of the Convention. It states how a trust created under the applicable law of the original country must not be alternatively characterised as any other instrument.⁴⁹²

⁴⁸⁹ Victoria Dixon (n 336). pp. 66 – 67

⁴⁹⁰ *ibid.*

⁴⁹¹ Michele Graziadei, 'Recognition of Common Law Trusts in Civil Law Jurisdictions Under the Hague Trusts Convention With Particular Regard to the Italian Experience', *Re-imagining the Trusts: Trusts in Civil Law* (Cambridge University Press 2012).pp. 37 - 38

⁴⁹² The Hague Convention on the Law Applicable to Trusts and on Their Recognition 1985, Article 11

This in itself may cause legal obfuscation. The law of trusts is notoriously complex, even in England and Wales where case law has to help define and elucidate aspects of trust law.⁴⁹³ Thus, applying trusts law in civilian jurisdictions where historically trust law is not recognised could prove highly risky. For example, an investor could not know for certain whether the law of trusts would be applied correctly. Even if there was an appeal route available, this would be costly both monetarily and temporally.

Indeed, this risk and uncertainty is well documented in international law.⁴⁹⁴ Application of trusts law in foreign jurisdictions historically has either lead to the adoption of institutions which are called trusts but are, in substance, not the same, or have resulted in an incorrect application of trusts law.⁴⁹⁵ An example of the first problem (the creation of a different institution) is well represented by a case of a trust of land held according to the English laws of trust held over land in Sardinia. In this case, the Italian courts had to decide who had the benefit of the monetary compensation for the Italian government's expropriation of the land. They concluded that, due to the principle of *lex situs*, the beneficiaries were those entitled to the compensation and the trustee was a *sui generis* administrator.⁴⁹⁶ As Graziadei notes, while this may have been a satisfactory outcome, this is not guaranteed. In

⁴⁹³ See for example *Re London Wine Company, Hunter v Moss* and, *MacMillan*. These cases shall be discussed in detail later in this chapter.

⁴⁹⁴ Kurt Lipstein, 'Trusts', *International Encyclopedia of Comparative Law Online* (Brill 2018) <https://referenceworks.brillonline.com/entries/international-encyclopedia-of-comparative-law-online/detailed-table-of-contents-COM_0323TOC> accessed 24 August 2021.

⁴⁹⁵ *Ibid* §1

⁴⁹⁶ Tribunale de Oristano, 15 March 1956, *Foro It.*, 1956, I, 1019

addition, she correctly states that in terms of predictability of decision making, the uncertainty is very much unsatisfactory.⁴⁹⁷

In response to the second issue re incorrect application, as Lipstein mentions, one can look to the case of *Ex Parte Milton*.⁴⁹⁸ He notes that there are often significant difficulties in the recognition of rights *in rem* for both the trustee and beneficiary by civil law jurisdictions. For example, in some cases, civil law jurisdictions have recognised the trustee as the sole owner with only contractual obligations to the beneficiary.⁴⁹⁹ Quite evidently, this is not how trusts operate. The legal owner is not the sole owner and the beneficiary does not receive the benefit of contractual obligations towards the trustees.

Clearly, these are not desirable situations for any investor. In both cases the investor is left in a situation where their utility and wealth is diminished. For example, in the case of incorrect application such as considering the trustee sole owner, the beneficiary will have no proprietary rights over the shares. This leaves them in a significantly disadvantageous situation. Similarly, where they engage in a system called “trust” but is not in substance, the beneficiary could find themselves relying on trust provisions, yet an inability to enforce them. Therefore, the economic efficiency of the system is significantly diminished via a reduction in the investor’s utility.

The other problem with the Convention is its sphere of influence and applicability. As Dixon notes, the Convention only applies to an intermediary chain that consists of two parties: the

⁴⁹⁷ Michele Graziadei, (n 376). pp. 41 – 42

⁴⁹⁸ Kurt Lipstein (n 379). n135 §1.6

⁴⁹⁹ *ibid.* §1.6

account holder and the relevant, immediate intermediary.⁵⁰⁰ As this thesis has shown, intermediary chains are rarely as straight forward as that, often containing many layers of intermediaries. Dixon gives an illustrative hypothetical to demonstrate this issue.

She gives the example of a US investor who holds securities issued by an English company, held through a US bank, who holds them through a French bank, who then in turn holds them via an English bank who is a CREST participant.⁵⁰¹ At each point in this chain, the law of the US, England and Wales, and France will be applicable. Thus, by application of the Convention, the provisions contained therein would have to be applied at each level, potentially resulting in a different ruling on the validity of trusts each time.

Importantly, this can be distinguished from the no look through principle. While this principle is relevant to the liability of parties towards each other, what is being considered here is the validity of a trust. Naturally, if there is no trust considered at a point in the chain, then the series of sub-trusts on which the system is based, cannot arise.⁵⁰²

Evidently, this is unsatisfactory for the investor. There is not just uncertainty between the investor and the intermediary, but uncertainty between intermediaries further up the chain. This is economically highly costly and is counter to the original spirit of shares. It also links to the attachment of rights and enforceability *vis – a – vis* higher level intermediaries which

⁵⁰⁰ Victoria Dixon (n 336).p. 73

⁵⁰¹ Ibid

⁵⁰² Ben Macfarlane and Robert Stevens, 'Interests in Securities: Practical Problems and Conceptual Solutions', *Intermediated Securities: Legal Problems and Practical Issues* (Hart Publishing).

has been discussed previously. Therefore, one can consider that the economic inefficiencies in the preceding analyses is multiplied for each intermediary in the chain.

Thus, we can see that there is an enormous amount of legal uncertainty surrounding the validity of trusts in foreign jurisdictions. This stems from the esoteric nature of the concept of the trust, particularly in the realm of civil law jurisdictions. As has been shown, the recognition and enforceability of trusts law in foreign jurisdictions is patchy at best in regard to recognition and application.⁵⁰³ Despite the best efforts of international conventions, this continues to remain the case.

Economically, this uncertainty manifests in enormous transaction costs and inefficiency. The impact of varying laws at different levels, each potentially resulting in a different outcome increases the cost for the ultimate investor. This cost is incurred through the increased cost of due diligence, hiring of lawyers to ensure compliance and the costs passed on from the intermediary. These costs are compounded when one considers that the UBO may not even receive a concrete piece of property, that being the security.

Further to this, the possibility of documentary and drafting risk is significantly higher as more intermediaries are added to the chain.⁵⁰⁴ As seen in *Wickeder*, even the most carefully drafted documents can result in error, in this case meaning the purported shareholder was, in fact, not a share at all.⁵⁰⁵ This risk precipitates increased cost through, for example, court costs and drafting fees.

⁵⁰³ Lipstein (n 494).

⁵⁰⁴ Balfour (n 221).

⁵⁰⁵ 'Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)' (n 417).

Therefore, overall, the efficiency of the trust-based system in terms of cross-border application is poor. Utility and wealth are both clearly diminished through poor or incorrect application of trusts and documentary risk. This is compounded where multiple intermediaries are concerned, which is far from unusual in the current system. Thus, again, one can see the problems that stem from trust-based intermediation.

5.3.4 Does the Investor Even Own a Share?

As has been discussed previously in this chapter, the case of *Eckerle v Wickeder* was a case in point of the issues regarding legal uncertainty in the current system. Of particular importance for this section is the problem surrounding whether good title to the share had actually been passed at all. To recap the specific issue in the case: one argument revolved around the construction of who was considered a shareholder. In particular, there was reference in the company articles to shareholders being those who had a valid Clearstream interest.⁵⁰⁶ In this case, this was the BNY not the Claimants.

Despite the Claimants being referred to as ‘shareholders’ in correspondence, in reality as they had not been registered, they were not shareholders.⁵⁰⁷ What the Claimants were in

⁵⁰⁶ *ibid.*

⁵⁰⁷ *ibid.*

fact, were the holders of an underlying economic interest in the share and not the share itself. Therefore, good title hadn't even passed to the Claimants as they held a different product entirely. To illustrate, the Claimants were an owner of a separate product, the Underlying Interest (UI). Meanwhile, the immediate intermediary was the shareholder. Any dividend would be paid to the BNY who then would in the normal course of things, pay the owner of the UI a proportionate sum. However, for all intents and purposes, the BNY held full legal and beneficial ownership of the share. The Claimants held an underlying interest in the share.⁵⁰⁸

Therefore, one can see how such legal obfuscation arising from the bifurcated ownership severely hampers the efficiency of the current share system. In this example, neither legal nor beneficial title was held by the 'investors.' There can be no clearer form of disutility than not actually owning the property in the first place. While there can be rights to, e.g, vote given by the legal owner to the owner of the UI, in practice this is difficult to enforce. Indeed, as has been noted above, intermediaries are poor enforcers, thus even if the right was passed, there is no guarantee that the wishes of the holder of the UI would be heeded.

5.3.5 Passing Rights to Investors

As Gullifer and Benjamin note, intermediaries often do not pass on the rights vested in the securities to the UBO. Frequently, they limit their obligation to pass these on to the UBO or lower intermediary via contract.⁵⁰⁹ In some instances, this causes little disruption. For

⁵⁰⁸ *ibid.*

⁵⁰⁹ *Ibid*

example, this may occur where the client is not an active investor or where the intermediary is not a full – service firm, i.e just a holding agent. In these cases, passing votes and information on is of less significance.

However, for those who wish to exercise some control over the investment this is clearly unacceptable. As discussed previously in this chapter, the mode of corporate governance and oversight – that of shareholder primacy – is fatally undermined by the inability of UBOs to exercise their rights. In June 2014, the Law Commission published a report entitled *Fiduciary Duties of Investment Intermediaries*.⁵¹⁰ In this report they outlined a number of issues with the intermediary system. In particular they noted the difficulty in the exercising of investors' rights due to the holding of shares in nominee accounts.⁵¹¹ In effect, by holding shares in nominee accounts investors give legal title to the intermediary who operates the account. The report quotes another report published in 2013, the *Cox Report* which states:

“The ultimate shareholder, the individual saver or pension holder, is a long way removed from the company on whose growth his or her prosperity ultimately depends. The individual may well have a long- term interest, but that is not served by the cumulative behaviour of all the participants in the chain.”^{512 513}

⁵¹⁰ Law Commission, 'Fiduciary Duties of Investment Intermediaries' <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2015/03/lc350_fiduciary_duties.pdf>.

⁵¹¹ Ibid §11.123

⁵¹² Cox, Sir George, 'Overcoming Short-Termism within British Business: The Key to Sustained Economic Growth' (2013) <https://www.yourbritain.org.uk/uploads/editor/files/Overcoming_Short-termism.pdf>. pp. 20 – 21

⁵¹³ Law Commission (n 510). §11.124

This clearly demonstrates the issue with handing legal title of an investor's shares to an intermediary. The investor evidently becomes detached from the company that he or she has invested in, making the enforcement of their right to vote difficult or impossible. Importantly for this section, it highlights the long chains of intermediaries who must divest the rights through each layer to the UBO.

A BIS paper published in January 2016 detailed the problems with divesting legal title to intermediaries and voting. They clearly stated how the chain made the exercise of voting difficult to achieve, especially by smaller investors who held shares via omnibus accounts.⁵¹⁴ Smaller investors usually have to negotiate with the investment managers and persuade them to vote according to the investors' wishes. The report mentioned that this increases in difficulty where investments are also pooled at the custodian level.⁵¹⁵

In contrast, larger investors had contractual arrangements in place to ensure voting rights were passed back to them. This was done via having direct contracts between the investment banks and custodians.⁵¹⁶ This skews the power balance of investors which may have an impact on areas such as corporate governance and stewardship. While larger investors may have the ability to have their votes returned, smaller and individual investors do not generally have this ability, thus meaning they rely on their intermediaries to vote in accordance with their wishes.

⁵¹⁴ BIS *Exploring the Intermediated Shareholding Model* (January 2016) p. 103

⁵¹⁵ Ibid

⁵¹⁶ Ibid

Therefore, turning again to the economic efficiency of this paradigm, there are evident deficits in the UBO's wealth maximisation and utility maximisation. Initially, there is the erosion of utility through difficulty in having the investor imbued with the rights from the intermediaries in the chain. Secondly, even if this should happen, there is often a struggle to persuade the intermediaries to vote according to retail investors' wishes. This could lead the company in a direction the shareholder doesn't want (utility erosion) or could cause financial loss (e.g through share buyback) and thus a reduction in wealth maximisation. Returning to the definition of economic efficiency this thesis is using, one can clearly see how the efficiency is greatly diminished in this scenario.

However, it is important to note that this issue would be extinguished, or significantly reduced, if the investor held full title to the securities in the first place. As this thesis will show, there are other models where legal title remains with the investor and still allows for the operation of the intermediary model. This will ensure greater economic efficiency for the securities regime.

5.3.6 The Enforcement of Investors' Rights in Contentious Matters

Aside from the problem of actually divesting rights from an intermediary to an investor, should an investor have no choice but to hold through an intermediary will the intermediary in question actually enforce the investors' rights in contentious claims? The answer is, unfortunately, more than often a resounding 'no.'⁵¹⁷ This is different from enforcing day-to-

⁵¹⁷ Gullifer and Benjamin (n 304). p. 223 - 224

day voting rights of the investor. Enforcement of rights in contentious matters is a question of basic proprietary rights that even beneficial owners can expect.

There is a general reticence on the part of intermediaries to enforce investors' rights in contentious matters. Somewhat ironically, Benjamin and Gullifer indicate that this is down to the potentially high costs of litigation on behalf of their client, and the unpredictable nature of such litigation.⁵¹⁸ They also suggest that what litigation arises more often than not is resolved in the favour of the issuer.⁵¹⁹

Thus, one can see from this section that intermediaries are generally poor at enforcing the rights in contentious matters. This stems from the bifurcation of ownership in the trusts model of intermediation. Were the UBO to be vested with the full rights of enforcement, then – at least in theory – the UBO could engage in litigation in their own name, as opposed to requiring the consent and input of the intermediary.

This causes a significant and negative impact on the economic efficiency of the concept and instrument of securities. Quite simply, without the power to enforce their vote or other assorted rights, the investor is left at the mercy of the relevant intermediary. This means that in non – contentious matters, UBOs lose the ability to exercise control over their company. In contentious matters, UBOs lose the ability to personally enforce their rights against the liable party. Again, these are all erosions to the utility of the share that UBOs could expect if they were full owners.

⁵¹⁸ Gullifer and Benjamin (n 281). p. 224

⁵¹⁹ Ibid

5.3.7 Validity of the Trust

The final problem with the current structure is the construction of a trust. In particular this surrounds the certainty of subject matter requirement for the creation of a valid trust. It is contestable as to whether this is met and, if it is, whether the process by which this is ascertained is economically efficient *vis – a – vis* other private law rules such as *lex situs*.

As any undergraduate law student knows, there are three basic certainty requirements for the construction of a valid trust. These are certainty of intention to create a trust; certainty of subject matter, and; certainty of object. The question that arises for the purposes of this thesis is the question of whether the certainty of subject matter requirement is met in certain intermediary holdings. At first blush, one may immediately turn their thoughts to the case of *Hunter* (this shall be explained more later in this section) which clearly stipulated that, yes, securities can be considered subjectively certain.⁵²⁰ However, the following subsections shall outline the fact that the situation is not so clear cut.

5.3.7.1 The Basic Position: Certainty of Subject Matter

⁵²⁰ *Hunter v Moss* [1994] 1 WLR 452

As already mentioned, the main consideration concerning the validity of trust is the requirement of certainty of subject matter. This involves clearly delineating the items that are subject to the trust. Much of the rules governing this is contained within case law. Thus, to outline the basic position, the thesis shall turn to the case of *Re Goldcorp Exchange*.⁵²¹ In this case, members of the public had been persuaded to invest in gold bullion that was not in fact in existence. The investors received a certificate which they were told could be presented to the company in order to receive the proportionate amount of bullion according to the size of their investment.

The company ended up insolvent and the investors claimed a beneficial interest in the bulk of bullion. Unfortunately for the investors, the judges in this case ruled that the trust failed due to a lack of certainty of subject matter. This was based on the fact that the certificates were for 'non-allocated bullion' and thus the bullion subject to the trust could not be ascertained with sufficient certainty to declare a trust.⁵²²

Re London Wine Co (Shippers) Ltd (1975) [1986] PCC 121 is a case that has a similar factual matrix. In this case, customers of the company purchased cases of wine which they claim were held on trust for them by the company. These cases were held in bulk in a warehouse and were not segregated according to each customer's order. Thus, the orders were held within the main bulk of the general stock.

⁵²¹ 'Goldcorp Exchange Ltd & Ors v Liggett & Ors [1994] UKPC 3 (25 May 1994)' <<https://www.bailii.org/uk/cases/UKPC/1994/3.html>> accessed 24 August 2021.3

⁵²² Watt (n 427). p. 78

Oliver J gave the ruling in the case and made an important illustration re the separation of assets. He ruled that in order for a valid trust to be declared over an homogenous bulk, it has to be an interest of the whole.⁵²³ He states that, for example, if they had declared a trust over $\frac{1}{4}$ of the whole property, there would have been sufficient certainty.⁵²⁴ This is a somewhat paradoxical conclusion to end at. He states that as $\frac{1}{4}$ is a non-specific term, it could be satisfied out of any of the crates held by the company.⁵²⁵

What can be gleaned from these rulings is that a trust can be declared of a homogenous bulk as long as the items that are subject to the bulk are, or can be considered, fungible. Fungibility ensures that, in such a bulk, one can swap one item for another without a change in the quality and essence of the item.

Watt quotes in his core textbook Charles de Secondat, Baron de Montesquieu, who gives a very erudite explanation of fungibility.⁵²⁶ He states:

“Money is a sign which represents the value of all merchandises... The Athenians, not having the use of metals, made use of oxen, and the Romans of sheep: but one ox is not the same as another ox, in the manner that one piece of metal may be the same as another”⁵²⁷

⁵²³ Ibid

⁵²⁴ Ibid

⁵²⁵ Ibid

⁵²⁶ Watt (n 427). p. 78

⁵²⁷ Charles de Secondat, *The Spirit of Laws* (1751) Book 22 (ii)

<<https://lonang.com/library/reference/montesquieu-spirit-of-laws/>> accessed 24 August 2021.

Fungibility is at the centre of legal certainty regarding creation of valid trusts over securities. Indeed, can securities be considered to be fungible in the manner that a metal coin can? To answer this question, one must look at the seminal case of *Hunter v Moss*.⁵²⁸ In this case, the defendant orally declared a trust of 50 shares of a company in which he was 95% shareholder. The judge of the first instance declared this trust valid and the defendant appealed to the Court of Appeal.

The Court of Appeal upheld the judge of the first instance's ruling. They provided further insight as to why this was the case. They distinguished *Re London Wine Co* and noted that as the shares were identical and therefore fungible, a declaration of trust over 50 shares was indeed valid.⁵²⁹

This ruling has courted considerable controversy. While the ruling was followed in the case of *Re Harvard Securities*, it was done so with reluctance. Neuberger J ruled that *Hunter v Moss* should apply as it concerned intangible property, despite none of the parties being able to clearly identify the shares in question.⁵³⁰

This ruling poses a number of problems. Firstly, as Hudson states, the location of property that is in question is not, in fact, the share but the entry on the company register, thus defying the logic of English trusts law requiring clear identification and segregation of assets.⁵³¹ Secondly, he states that this poses problems in the case of insolvency, where

⁵²⁸ *Hunter v Moss* [1994] 1 WLR 452 (n 489).

⁵²⁹ *ibid.*

⁵³⁰ Alastair Hudson, *Equity and Trusts* (9th edition, Routledge 2016). pp. 89 – 90

⁵³¹ *ibid.* p. 90

identification is important so as not to prefer one creditor to another (equity is equality).

Thirdly, jurisprudentially, it is a moot point as to why there should be a distinction between tangible and intangible property.⁵³²

Taking each point in turn, the thesis shall firstly turn to the location of the property.

5.3.7.2 Certainty of Subject Matter in Intermediated Holdings

As mentioned, the certainty requirement in the case of securities is based around identification of the shares on the company register. However, in intermediated securities questions arise regarding the uncertain nature of the location (or *situs*) of the company register as well as regarding the names actually entered onto the register. To begin with the *situs*, in many companies – particularly international companies – many of the administrative tasks are completed across jurisdictions. Maintenance of the company register is no exception.

In the Explanatory Report on the Hague Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary (the Convention), Goode et al. provides an excellent illustration of this. It states that an intermediated corporation incorporated under the laws of New York agreed that its client's accounts can be maintained in Tokyo as that is where the first account was credited. Meanwhile all client statements are sent to a Dublin office, receives and sends dividends from their Hong Kong office and obtains advice

⁵³² Ibid pp. 90 - 91

on the current account from their office in Singapore. The accounts are backed up simultaneously in New Delhi and San Francisco while employees can access the account anywhere in the world.⁵³³ Evidently, this creates an enormously complex network which crosses multiple jurisdictions. Thus, locating the *situs* of the members register creates many problems.

While the Convention allows the investor and relevant intermediary (or two intermediaries) to agree upon the law applicable in the transaction, it does not make any substantive changes in the law.⁵³⁴ In fact, explanatory report clearly states that the Convention makes no attempt to locate an office, issuer or location of securities.⁵³⁵ Even should it have made an attempt to rectify it, the practical reality is that the Convention is signed by only three parties, the US, Switzerland and Mauritius.⁵³⁶ Thus the Convention is of little use to most securities.

While the rule currently states that the *situs* is the office in which the shares would be registered in the normal course of business (the PRIMA approach), this is not guaranteed. Indeed, this leads to significant legal uncertainty. Without the certainty of subject matter, a valid trust cannot be created without using another legal fiction. However, this is not the only problem. Not only is the *situs* of the securities uncertain, so is the name entered onto the register. The name on the register is usually only the name of the relevant intermediary and not the UBO.

⁵³³ Goode, Roy et al. (n 398). pp. 19 – 20

⁵³⁴ *ibid.*

⁵³⁵ *ibid.*

⁵³⁶ “Signatory Table” available at <https://www.hcch.net/en/instruments/conventions/status-table/?cid=72> last accessed 07 September 2021

Thus, UBOs are left in the uncertain position of not knowing the exact product they are buying. This is because, the actual security is legally owned by the first intermediary and beneficially owned by the next intermediary. By the time a UBO purchases a 'share' it is more often than not an underlying economic interest in the security. This has been discussed in some depth above.

In *Secure Capital SA v Credit Suisse AG*, Lord Justice Richards indicated that market participants, and particularly UBOs, understood that they were not purchasing securities but interests in securities.⁵³⁷ Dixon, indicates that in fact this is often not the case.⁵³⁸ She points to Eva Micheler's argument in Chapter 12 of *Intermediation and Beyond* who, in turn, points to the case of *Eckerle v Wickeder* as has been discussed above.⁵³⁹⁵⁴⁰

Clearly therefore, there is significant uncertainty and considerable risk involved in purchasing intermediated securities based on the trusts model. This risk lies in the possibility of creating an invalid trust due to lack of *situs*. Further, even if a *situs* is identified, the trust still may fail due to the names of the UBO not being entered on the company register.

⁵³⁷ 'Secure Capital SA v Credit Suisse AG [2017] EWCA Civ 1486 (06 October 2017)' <<https://www.bailii.org/ew/cases/EWCA/Civ/2017/1486.html>> accessed 24 August 2021.

⁵³⁸ Dixon (n 336).p. 64

⁵³⁹ *ibid.*

⁵⁴⁰ Eva Micheler, 'Intermediated Securities from the Perspective of Investors: Quick Fixes and Long – Term Solutions', in Louise Gullifer and Jennifer Payne (Eds.) *Intermediation and Beyond* (1st edn, Hart Publishing 2019). p. 240

This risk translates into increased transaction costs due to increased legal expenditure to reduce uncertainty and, investor disenfranchisement creating a reticence to purchase shares. These costs would have to be factored in over and above the price of the share. Once more, the risk and increased transaction cost can be transposed into terms of economic efficiency. There is clear reduction in the wealth maximisation of the investor and, especially where the investors are not aware of the product they are actually buying, a significant reduction in utility. Evidently then, this means that there is a matched reduction in economic efficiency.

5.3.7.3 Identification of Subject Matter in the Case of Insolvency

In the case of insolvency of an intermediary under the trust model, the UBO's assets should be protected. Generally, assets held under trusts are not available for distribution to creditors in the case of insolvency.⁵⁴¹ Of course, there is a stumbling point here. This protection is only valid as long as there is a valid trust and the assets subject to the trust are properly segregated. The thesis has already discussed this point above. Clearly therefore, identifying with certainty the subject matter of a trust in the case of insolvency is of paramount importance.

However, the second issue regarding the availability of protection under a trust is perhaps even more important than the first. Where an intermediary becomes insolvent and there is a securities shortfall, the identification of assets becomes critical. In the case of a shortfall, an intermediary finds itself in possession of too few securities to cover the entitlements

⁵⁴¹ Dixon (n 296). pp. 76 – 77

credited to their client accounts. As Dixon notes, there are two ways shortfalls occur: fraud and administrative error. Fraud is not common, however administrative error is relatively common place (yet another risk of trust and intermediation as has been discussed above).⁵⁴²

In the case of insolvency, there are questions as to how assets should be distributed when there is a shortfall. There are a number of different possibilities as to how securities are distributed which depend upon the individual analyses of the cases – namely whether investors have individual equitable interests or a co-ownership interest in the whole pool of securities in the omnibus account. This thesis shall explore the ‘first in, first out’ rule in *Clayton’s Case* and the *pari passu* rule.

Where investors are considered to have an equitable proprietary right over the securities themselves, the rules of equitable tracing can apply, i.e there can be a line of ownership over the property traced back to the legal possessor. However, if it is deemed that they hold a co-ownership interest in an omnibus account then the rules, as Dixon notes, are more uncertain.⁵⁴³

In *Clayton’s Case*, the ‘first in first out’ rule was developed. In essence, those who became a shareholder first will have priority for return of assets over those who became a shareholder after them. This temporally based mode of restitution seems particularly inequitable.

Further to this, the rapid turnover of shareholders (or holders of share interests) in omnibus

⁵⁴² Ibid

⁵⁴³ Ibid p. 82

accounts can be very high. This means it would be difficult to say with any legal certainty who has priority at any one time. Indeed, the transaction costs for monitoring the investor's position would be disproportionately high.⁵⁴⁴

The second option for ascertaining priority of asset return in the case of insolvent intermediaries is that of the *pari passu* rule. This rule essentially divides any assets left over via a pro rata approach.⁵⁴⁵ For example, if an investor held 30% of the overall share total in an omnibus account, then they would receive 30% of however many shares were left over in the account. Indeed, this rule seems more aligned to equitable principles. After all, equity is equality. However, neither rule is definite in their application. No investor could be certain which rule would be applied in the case of insolvency, if it were to be a choice solely between the two rules at all.

Thus, the uncertainty surrounding prioritisation of rights and division of assets in insolvent intermediaries is high. Significant cost is accruable by the investor to attempt to gain some level of legal certainty. Further, the level of certainty attainable is minimal. There is no substantive legal harmonisation and no definitive rule which is used in order to ascertain priority and an equitable division of assets. As a result, there is significant risk of wealth and utility reduction for the investor, and by extension, a distinct lack of economic efficiency.

⁵⁴⁴ Ibid

⁵⁴⁵ Virgo (n 212). pp. 596 - 599

5.4 General Analysis

On balance therefore, can the use of trust-based intermediation be considered economically efficient in the modern context? This thesis posits that the answer is “no”. Undoubtedly, the use of trust-based intermediation has been historically efficient. As has been shown in chapter 4, intermediation in itself is highly beneficial to the securities system.⁵⁴⁶ Reductions in complexity, obviation of systemic risk and the increased ability to handle a high volume of transactions lends itself to reductions in transaction costs and an increase in economic efficiency. Such efficiencies are similar to those that are attained through the use of agency in contract law.

Returning then to chapter 3, from an historical perspective, the use of trust-based intermediation precipitated net economic efficiencies despite being rooted in trust. The reason for this is that, simply, there was no alternative legal regime. Bailment and agency were unavailable, thus trust was the only recourse.⁵⁴⁷ As is shown, trust, along with contract, has historically been the main contributor to the foundations of corporate law in the UK. The inherent adaptability of trust allowed innovation in securities intermediation to thrive in the early years of its development. It allowed intermediation to expand exponentially, in turn allowing securities as a financial instrument to fund companies grow commensurately.

⁵⁴⁶ See benefits of intermediation in chapter 4.

⁵⁴⁷ See chapter 3, specifically regarding the considerations of property and the effect on bailment and agency.

However, despite its historically beneficial role, the use of trusts, and securities intermediation, now faces the rise of new technologies. As described in chapter 1, the securities market has been significantly changed by the advent and introduction of computer technology. Digitisation and dematerialisation have changed the way in which securities are stored and traded. Technology can completely overturn the current securities paradigm and hail a new security holding and trading modality.⁵⁴⁸

Therefore, the historic efficiencies of trust-based securities intermediation are counterbalanced by the possible remediation of its inefficiencies through the adoption of new technology. These new technologies can allow for, *inter alia*, direct holding by UBOs rectifying many of the issues surrounding the use of trust (particularly those stemming from bifurcated ownership), while still retaining the benefits already inherent in the system. This would present a clear increase in the wealth and utility of the UBO, the main consideration of this thesis, while still allowing companies to raise cheap equity capital (a net increase in wealth and utility for them also.) However, this would require a new legal regime to underpin the system. This shall be discussed in forthcoming chapters.

5.5 Chapter Conclusion

This chapter has outlined the benefits and detriments of the trust-based securities intermediary system. It has outlined that, on balance, trust based intermediation provides significant inefficiencies which are no longer balanced by the efficiencies of the system.

⁵⁴⁸ As was the intent with the imposition of TAURUS. See Wilcock (n 139).

Indeed, this thesis proposes that the use of trusts to underpin securities is now outmoded and should be disposed with in order to increase economic efficiency. The new securities regime should be underpinned by a clear, certain and delineated legal system. Inspiration for this new regime can be found in the modalities currently used by foreign jurisdictions. Therefore, the next chapter shall look at some of these modalities to analyse their relative economic benefits.

Chapter 6: The Impact of Technology on Securities

6.1 – Introduction

As this thesis has addressed, the trust-based securities intermediary modality is no longer efficient. This has been precipitated by the rise of novel technologies, particularly since the mid-1980s. Indeed, the main thrust of this thesis is the hypothesis that the securities system could now be far more economically efficient if the use of trust to underpin securities was replaced by the use of modern technology and a bespoke legal regime to underpin this. This chapter will, therefore, outline how technology has already been integrated into the system, alongside an historical analysis of the imposition of novel technology.

The digitisation of securities and securities frameworks spans areas including dematerialisation, through to electronic trading and settlement systems. Each of these evolutions has attempted to improve the efficiency of the system and bring about greater benefits to all participants. However, the results have been mixed. While in some respects these have indeed addressed historical inefficiencies, it has also generated new inefficiencies which are yet to be remedied.

This Chapter shall begin by discussing the dematerialisation of shares which underpin the electronic securities system. It shall then look at the electronic trade and settlement systems, both as an historical analysis and a current analysis, in Great Britain. It shall not spend much time analysing the systems in other jurisdictions as this shall be conducted in a later Chapter.

6.2 – Dematerialisation

The first step in this analysis is to outline the dematerialisation of securities.

Dematerialisation is the conversion of physical securities into digital securities, eliminating the physical, corporeal element of their being.⁵⁴⁹ As has been shown in preceding chapters, prior to the implementation of dematerialisation, the securities system was still based on paper.⁵⁵⁰ Solutions including immobilisation were considered and, in some jurisdictions,

⁵⁴⁹ SEC, 'Dematerialization' (*SEC Investor Education Portal*, 12 May 2017)

<<https://investor.sec.gov/ng/dematerialization-2/>> accessed 24 August 2021. accessed 15 July 2020

⁵⁵⁰ Micheler, *Property in Securities* (n 5). pp. 62 - 64

implemented in order to remedy the inefficiencies. However, these solutions were still based on physical, paper based securities.

In the UK, this paper system was known as TALISMAN (an acronym for Transfer Accounting, Lodgement for Investors and Stock Management for Market Makers and Dealers). Aside from an aborted attempt at dematerialisation in the late 1980s to early 1990s known as TAURUS (discussed below), this system was in place until 1996.

As has been discussed in previous chapters, on 19 October 1987, the stock markets in Great Britain and across the world crashed with significant and disastrous consequences for the economy. This was known as “Black Monday.”⁵⁵¹ In retrospect, analysts and historians of the financial sector have attributed the crash in great part due to the paper based trading and settlement system prevalent in the UK.⁵⁵² The system was particularly cumbersome, with the physical transfer of large amounts of paper documents causing significant delays in trade and settlement.⁵⁵³ These were often taken advantage of by unscrupulous investors to not pay for the transactions.⁵⁵⁴ For some jurisdictions, the solution was immobilisation.⁵⁵⁵ For Great Britain, the solution was to be the digitalisation or “dematerialisation” of UK securities.⁵⁵⁶

⁵⁵¹ ‘1987: Shares Plunge after Wall Street Crash’ (19 October 1987) <http://news.bbc.co.uk/onthisday/hi/dates/stories/october/19/newsid_3959000/3959713.stm> accessed 24 August 2021.

⁵⁵² Micheler, *Property in Securities* (n 5). p. 64

⁵⁵³ *ibid.* p. 64

⁵⁵⁴ *ibid.* p. 64

⁵⁵⁵ For example, Germany. See Chapter 8.4 of this thesis.

⁵⁵⁶ Micheler, *Property in Securities* (n 5). p. 64

The International Organisation of Security Commissions (IOSCO) published a report in April 2012 called “Principles for Financial Market Infrastructures.” Within the paper, IOSCO suggestion that it was a principle of an efficient market that Central Security Depositories (CSDs) “should maintain securities in an immobilised or dematerialised form for their transfer by book entry.”⁵⁵⁷ Its reasoning for this principle is that, *inter alia*, dematerialisation promotes market efficiencies.⁵⁵⁸

Exactly how are these efficiencies achieved? Consider some of the deficits of paper based modalities mentioned in this, and previous, chapters. Paper based transactions often caused significant delays in the trade and settlement of securities directly caused by the physical transfer of large volumes of documents.⁵⁵⁹ This is inefficient for both investors and companies. For investors and markets who rely on rapid tradability and high liquidity of shares as a form of risk mitigation, this disincentivises investment and can potentially cause financial loss (counter to the efficiencies of wealth and utility maximisation). Clearly this is an inefficiency. The disincentivisation and the possible non-payment or delayed payment of transactions also has a financial impact on companies who could find raising equity capital more challenging and more expensive. This defeats the purpose of securities as easily divestible packs of rights used for raising cheap capital for a company. It is therefore, inefficient.

Dematerialisation then, can remedy these inefficiencies. It does this by eliminating the thing that is burdening the system – paper. In doing this, the time for trade and settlement can be

⁵⁵⁷ Bank for International Settlement (n 372). pp. 72 - 75

⁵⁵⁸ *Ibid.*

⁵⁵⁹ ShareSoc UK, ‘Guaranteed Votes for All Shareholders’ (2014). pp. 7 and 9

significantly reduced, the cost of custody is reduced and risk of loss and damage is also reduced due to the removal of fragile paper certificates. These financial savings can be passed on to the investors through lower market access costs, lower costs for risk mitigation and greater incentives to invest. This is a clear illustration of how technology can serve to replace older modalities to create economic efficiencies.

That is not to say that dematerialisation carries no economic disadvantages. As shall be discussed in greater detail in the coming chapters, there are a number of serious technical and legal problems that arise because of the move into digitisation. For example, risk of loss and damage isn't wholly eliminated by dematerialisation. Where certificates are stored electronically, there can occur corruption, destruction of the server or even accidental deletion.

Additionally, transnational securities trade traditionally uses the *situs* of the shares or share register in order to solve questions of conflict of laws.⁵⁶⁰ However, where shares are digital and held on a server, despite registration and trade on the London Stock Exchange, if the servers are held on a server in, say, New York, New York law would apply under the traditional concepts of *lex situs*.⁵⁶¹ These issues and questions obfuscates legal certainty which can increase risk and cost to the investor in terms of time and money.

Despite these disadvantages, it was thought that the move to digitalisation would provide economic efficiencies that would outweigh the disadvantages. Indeed, in many respects this

⁵⁶⁰ James Rogers, 'Conflict of Laws for Transactions in Securities Held Through Intermediaries' (2006) 39 Cornell International Law Journal.pp. 285 – 286

⁵⁶¹ See Chapter 5 for a more detailed discussion of these issues.

has been so. It is helpful at this point to look at the various incarnations of dematerialisation in Great Britain until the time of writing. This will illustrate the efficiencies and inefficiencies in greater detail.

6.3 – TAURUS

As noted in Chapter 1 section 1.8, TAURUS was the first attempt at dematerialisation in the UK. It is important to note at the outset that TAURUS was aborted in March 1993, the reasons for which shall be discussed later in this section.⁵⁶² The TAURUS project was hugely ambitious. It had multiple objectives including expediting transaction and settlement on the London Stock Exchange, retaining the advantages of the book entry system and, interestingly and importantly for this thesis, to ensure that investors are full legal owners of the share.⁵⁶³

The great advantage of this system was the competitiveness it would bring to the London Stock Exchange. Companies have a choice of where to list, their decisions based on factors such as cost, regulation and speed of settlement.⁵⁶⁴ As Willcock notes, there is nothing stopping companies listing in rival exchanges in New York, Frankfurt or Tokyo.⁵⁶⁵ In

⁵⁶² “The CREST Project” <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/1995/the-crest-project.pdf?la=en&hash=B6B1309F6C2FED094623FF75C358FA700EBC25B9> last accessed 16 July 2020

⁵⁶³ ‘TAURUS: Learning Lessons from Failure’ (*Practical Law*) p. 9

<[http://uk.practicallaw.thomsonreuters.com/1-100-3790?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](http://uk.practicallaw.thomsonreuters.com/1-100-3790?transitionType=Default&contextData=(sc.Default)&firstPage=true)> accessed 24 August 2021.

⁵⁶⁴ Wilcock, John, ‘Tradepoint Learns from the Lessons of TAURUS: The Stock Exchange’s Role Is Vulnerable, Writes John Willcock - The Independent’ (28 March 1993)

<<https://www.independent.co.uk/news/business/tradepoint-learns-from-the-lessons-of-TAURUS-the-stock-exchange-s-role-is-vulnerable-writes-john-willcock-1500717.html>> accessed 24 August 2021.

⁵⁶⁵ *Ibid.*

order to attract companies (and therefore encourage and increase investment and economic strength in the UK), TAURUS sought to reduce costs, improve settlement times and make London the most competitive stock exchange on the globe. In a word, TAURUS was trying to make the UK stock markets more efficient.

Regarding the time for settlement and transfer, under the TALISMAN system, transfer and settlement would occur every other week, with two periods during the year where settlement would take three weeks.⁵⁶⁶ It is evident from these delays how the backlog that contributed to the crash of 1987 appeared. This delay also is inefficient when considering the essential spirit and character of the share, that of liquid, easily and quickly divestible packs of rights. Without the ability to quickly divest the share when the risk of the venture gets too high, an essential aspect of risk mitigation which attracts investors to purchase equity securities is impeded. This can then deter investment, stifling the ability of companies to generate capital and expand, restricting investor wealth generation, and ultimately, preventing society from benefiting from a stronger economy.

TAURUS sought to remedy this. Using electronic systems and dematerialised shares, it was hoped that TAURUS could reduce this time to a three day rolling period, reducing the risks above and other risks such as the risk of insolvency during the two to three week period.⁵⁶⁷ Clearly, this would be economically efficient, encouraging investment through mitigation of risk and reducing costs for investors and companies alike. In particular, the utility of the

⁵⁶⁶ Micheler, *Property in Securities* (n 5).p. 63

⁵⁶⁷ Wilcock (n 139).

share would be increased through the bolstering of a core aspect of their being, quick and easy tradability.

Further to this, TAURUS sought to reduce the transaction costs of listing and trading on the stock exchange. This would come as the corollary to the dematerialisation of shares and the digitalisation of the trading and listing platforms. It was estimated that over the course of 10 years, there would be an overall saving of circa. £230 million.⁵⁶⁸ These costs could then have been passed on to companies, investors and market participants via, *inter alia*, the reduction in market access costs. This would in turn encourage investment from established investors and companies, and also entice companies and investors from around the world to participate in the London Stock Exchange. As Wilcock notes, it would have made London “unassailable.”⁵⁶⁹ These changes may well have been efficient. Investment would have been encouraged and increased, benefiting companies via the increased access to capital, investors by expanding the opportunities for wealth creation and society for building a stronger and more robust economy.

Alas, the success of TAURUS was not meant to be. The project was cancelled in March 1992 as a result of numerous factors. It is said that chief among these was the system’s attempt to please all parties. As Warner notes “*TAURUS attempted to be all things to all men, to accommodate every desire and anomaly, every quirk and way of doing things.*”⁵⁷⁰ This is a case in point of why economic reasoning is important in assessing actions and proposals,

⁵⁶⁸ *ibid.*

⁵⁶⁹ *ibid.*

⁵⁷⁰ Warner, Jeremy, ‘City: Back to Basics after the TAURUS Goring’ (*The Independent*, March 1993) <<https://www.independent.co.uk/news/business/city-back-to-basics-after-the-TAURUS-goring-1497564.html>> accessed 24 August 2021.

particularly at the macro level. As Cheffins suggests, it is rare that policy produces no losers, thus it is key to ensure the net efficiencies outweigh the inefficiencies.⁵⁷¹

There were, of course, other problems that contributed to the downfall of TAURUS. Spiralling costs and overly complex technical systems both negatively impacted the implementation of the system.⁵⁷² The complex technicality is a particularly important concern for the replacement of analogue paper based systems with electronic systems. A key consideration for digitisation is the simplification for a cumbersome and lagging system. If an electronic system cannot provide this, it loses efficiency. With the technology of the 1980s and 1990s, with a fledgling internet and relatively basic computing equipment, it is debatable whether the infrastructure was sufficiently advanced to provide the efficiencies envisioned. Could, for example, the basic computing systems have truly made securities more easily tradable with less risk, thereby increasing utility? As this thesis will show in subsequent chapters, this concern is less pressing with the advent of more advanced technology. Thus, the efficiencies are now more readily accessible.

Importantly, at this point, there was no pressing legal concern by simply implementing a non-intermediated electronic system. In order to facilitate dematerialisation and electronic trade and settlement, the Companies Act was amended to allow securities to be transferred without a written instrument.⁵⁷³ Section 207 (1) said *“The Secretary of State may make provision by regulations for enabling title to securities to be evidenced and transferred*

⁵⁷¹ Brian R Cheffins, *Company Law: Theory, Structure, and Operation* (Oxford University Press 1997). pp. 14 - 16

⁵⁷² Wilcock (n 139).

⁵⁷³ Micheler, *Property in Securities* (n 5). p. 65

*without a written instrument.*⁵⁷⁴ This has been incorporated into the Companies Act 2006 in Part 21, Chapter 2.⁵⁷⁵ In another prescient move, TAURUS actually developed a form of securities entitlement that would have allowed investors to retain the benefits of legal ownership while still holding via an electronic nominee system.⁵⁷⁶ This is something that would not be seen again until the US developed another securities entitlement model with the UCC Art. 8.⁵⁷⁷

Despite the potential efficiencies, the system was never implemented.⁵⁷⁸ However, the idea of dematerialisation was not abandoned. Indeed, it was refined and, in conjunction with the advances in technology and infrastructure over the next five years, was reborn in the form of CREST.

6.4 – CREST

After the failure of TAURUS, the Bank of England created a task force to assess ways forward and possible solutions for the future.⁵⁷⁹ The task force had four main objectives:

⁵⁷⁴ Companies Act 1989 s 207 (1)

⁵⁷⁵ Companies Act 2006 Part 21 Ch. 2

⁵⁷⁶ 'TAURUS: Learning Lessons from Failure' (n 532).

⁵⁷⁷ See Chapter 8.3 for further detail on this.

⁵⁷⁸ 'Taurus: Learning Lessons from Failure' (n 563).

⁵⁷⁹ Bank of England, 'The CREST Project' (1995) <<https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/1995/the-crest-project.pdf?la=en&hash=B6B1309F6C2FED094623FF75C358FA700EBC25B9>>.

“1) to increase the efficiency of settlement by reducing the volume of paper circulating in the course of settlement;

2) to provide opportunities for streamlining and automating settlement processing, so reducing the risk;

3) to provide opportunities for shortening the settlement cycle, so further reducing risk; and

4) to establish a sound and effective delivery versus payment (DVP) system, to minimise the risk that any participant in the securities markets should lose the full value of stock traded.”⁵⁸⁰

Clearly, there was an awareness of the deficiencies of the paper system and a desire to rectify it through the imposition of novel technologies. The result of their efforts was the development and imposition of CREST. Operated by Euroclear, CREST was – and still is – the UK’s electronic settlement system.⁵⁸¹ CREST eventually did successfully implement dematerialisation and electronic transfers and settlement in the UK.⁵⁸² Initially however, CREST did not actually constitute any kind of custody or transfer system in itself. This was due to the wholesale transposition of the original paper regime into the paperless environment without making substantive changes to the underlying bureaucratic process.⁵⁸³ In particular, CREST records did not constitute any kind of share register and served no legal

⁵⁸⁰ *ibid.*

⁵⁸¹ Michael Bridge and others, *THE LAW OF PERSONAL PROPERTY* (Sweet & Maxwell 2017) 6 - 041. 1

⁵⁸² Micheler, *Property in Securities* (n 5).p. 67

⁵⁸³ *ibid.* pp. 73 - 74

function.⁵⁸⁴ Thus, aside from the efficiency of improving communication between participants (an example of utility maximisation), CREST provided little economic efficiency to clients. This is particularly the case where investors had to incur extra cost either to use a “sponsor” (an authorised participant of CREST) or invest in the technology and equipment to become a participant themselves.⁵⁸⁵ This would actually be a decrease to wealth maximisation and economic efficiency.

The economic efficiency of CREST in this form – a pure technological solution with limited to no legal applicability – is questionable. In terms of pure transaction costs, these rise for investors and companies alike. The benefit of occurring them is, in the view of the author, not commensurate to the transaction cost. Certainly, CREST improved communication between participants, however it did not address other market inefficiencies in any substantial form. Without a complementary legal framework, the technological solution provided little value investors and companies and was therefore, arguably, still inefficient.

However, the Uncertificated Securities Regulation 2001 (USR) created a legal change. The USR mandated that CREST records now became *prima facie* evidence of securities ownership.⁵⁸⁶ This is a significant alteration that gives the technological power of CREST significance. As we have already discussed in previous chapters, property rights vest in a purchaser only when title has been transferred.⁵⁸⁷ In the case of securities, title is

⁵⁸⁴ *ibid.* pp. 67 - 68

⁵⁸⁵ *Ibid.* pp. 68

⁵⁸⁶ Micheler, *Property in Securities* (n 5). p. 76

⁵⁸⁷ *ibid.* p. 65

transferred upon novation of the register. Thus, the USR sped up transfer through making the CREST records legally significant and evidence of share entitlement.

Upon implementation of this complementary legal regime, dematerialisation and the use of technology in the UK became more efficient and worthwhile. Consider the delay in transfer of securities. Prior to the implementation of the USR, transfer delay was exacerbated by having to novate issuer registers via the registrar. This cost companies and investors time and money. It increased the risk of loss via issues such as insolvency and did little to encourage investment. However, this inefficiency was eliminated through near instantaneous transfer due to novation of CREST registers providing *prima facie* evidence of ownership.

Additionally, the system successfully implemented dematerialisation and thus helped to promote uncertificated securities in the UK. As has been noted, paper certificates require safe storage in vaults which leads to operational risk (e.g loss and damage).⁵⁸⁸ With the abandonment of fragile paper based securities, the risk of loss, damage and theft was significantly reduced, saving cost and potential cost to both investors and companies.

Thus, CREST, while initially of little substantial impact, became a powerful change to the securities landscape in Great Britain. It implemented important technological and, eventually, legal changes to securities improving the efficiency of market transactions for participants in the securities system. These changes have been well received, though as

⁵⁸⁸ Morales and Mickelthwaite (n 222).

shall be shown in subsequent chapters, there are still important and unanswered question – both legal and practical – that need to be addressed.

From the experience of the UK, what generalities can be gleaned from the implementation of technological solutions into the unintermediated securities framework? Perhaps on a more face-value level, it can be said that implementing technology does bring net benefits and efficiencies to a security system. Looking first at dematerialisation, converting certificated shares into uncertificated shares via digitisation helps to lower transaction costs for the parties involved. Particularly where there is no intermediation, dematerialisation helps to limit risk of loss and damage, while speeding up transaction times by lessening the burden of traditional analogue trade on the securities system. However, such technological change is of limited benefit where there is not a commensurate legal change. Unless the technology is given the legal foundation to operate to full capacity, the full efficiency will not be realised.

6.5 Technology and Intermediation

As this thesis notes, the core of the current securities system is based heavily in the concept of intermediation.⁵⁸⁹ Technology has had – and continues to have – a profound impact on

⁵⁸⁹ Intermediation as a concept will be discussed in greater detail in the next chapter. For the purposes of this chapter, it shall be considered that intermediation – at least in some form – is a good thing. This is not taking into account the significant economic inefficiencies of trust based intermediation that shall be discussed in chapter 6 and which constitutes the core research area of this thesis.

the system of intermediation. This has been both as a facilitator of intermediation and a frustrater.

Considering the facilitation of intermediation, or perhaps cost – effective intermediation, technology has helped intermediaries to reduce operating costs for certain services and obligations. For example, consider traditional intermediation where issuers decide to hold a general meeting. Under the current trust – based system (the necessity of this legal system is to be discussed in further chapters), intermediaries have to pass this information down to the ultimate beneficial owner, sometimes going through various other intermediaries prior to the UBO. In response to this, ultimate beneficial owners (at least those who are not named on the register of shareholders) then have to instruct their intermediaries how to vote.⁵⁹⁰

Technological solutions have helped to streamline this process. Such technological solutions can be as simple as the use of email which allows instantaneous communications, through to more bespoke solutions such as Proxymity.⁵⁹¹ These solutions allow for expedited communications between relevant parties and a reduction in risk for lost or damaged instructions and information. The costs associated for protection against these risks or possible loss are thus passed on to investors via cheaper market access and greater ease of enjoying their rights. This results in an increase of wealth maximisation and utility for

⁵⁹⁰ Jennifer Payne, 'Intermediated Securities and the Right to Vote in the UK' (University of Oxford 2009).p. 12

⁵⁹¹ 'About Us | Proxymity' <<https://proxymity.io/about-us/>> accessed 24 August 2021.– Proxymity and other new technological developments shall be discussed in significant detail in a later chapter.

investors. Similarly, the improvement in the passing of information to relevant parties brings the markets closer in line to Fama's conception of an efficient market.⁵⁹²

However, there are also negative aspects to the implementation of new technological modalities. As has been discussed above, the cost for implementation of these systems has to be borne by someone. Initially, this would be the intermediary. The intermediary would of course have to recoup the cost. It is possible that the costs would be recouped via the incentives for greater investment by individuals. After all, the small increase in premium for a multiplicity of investors could help cover these costs.

Despite this, it seems that the cost is in fact borne heavily by investors. In recent years, investors have seen the cost of their brokerage fees for participation increase exponentially.⁵⁹³ This is especially the case for personal accounts.⁵⁹⁴ The rationale is that personal accounts in particular are onerous to keep and operate by intermediaries. This is problematic, particularly for individual, private investors. The added transaction costs to market participation means that there is a departure from the zero-transaction costs markets that are attempting to be emulated.

In light of this inefficiency, could technology's impact on the intermediated system be seen as efficient? The author argues that it can. For example, the relative security of holding digitalised securities *vis-à-vis* paper securities (e.g. less risk of loss, theft or damage) is a potential efficiency. This decrease in risk can help to encourage investment, increasing the

⁵⁹² Fama (n 44).

⁵⁹³ Perryman (n 293).

⁵⁹⁴ *Ibid.*

number of investors in the market. This in turn increases market liquidity through ensuring there are sufficient amounts of players to buy and sell each other's shares. Thus, there are strong arguments for considering this economically efficient. However, these efficiencies hinge on an important factor. This is that the law changes in lockstep to give effect to the efficiencies. The consideration of how the law could change in order to facilitate a more efficient technological framework shall be discussed in the next chapters.⁵⁹⁵ In short, the thesis postulates that such change could encompass the removal of the use of trust as the default rule and replacement by a bespoke legal regime.

The efficiency of intermediated securities and the technological impact thereon has grown in recent years. New technological developments have expanded upon the efficiencies mentioned in this section. These developments will be discussed in greater detail in a forthcoming chapter.

6.6 Technology and the Essence of Securities

The final question that must be considered for this chapter is whether the use of technology has in fact promoted the essences of securities, that of easily divestible packs of rights. The answer is somewhat complicated. In brief, the answer is "yes". Technology has, in an unintermediated environment, given life to that irreducible core of securities: the ability to easily and quickly divest and sell as is required. Technology has helped investors to divest their shares much faster than in the traditional, analogue paper environment. It has also

⁵⁹⁵ See chapters 7, 8 and 9.

helped to further mitigate risk through dematerialisation that has led to a reduction in risk of loss, damage or theft. The corollary is therefore, securities in an electronic, unintermediated form, are as efficient as they have ever been.

However, obfuscation arises where intermediation occurs. Much as technology has been introduced to make the capital markets and securities systems efficient, intermediation arose out of a desire to create further efficiencies – particularly in a paper based environment.⁵⁹⁶ Where the law has developed to help make this intermediated system historically efficient, it has not yet adapted sufficiently to account for the latest developments in technology. Indeed, Micheler seems to allude to this where she notes that there was no attempt to create a new legal regime to account for technological developments from scratch, merely an adaptation of what was pre-existing.⁵⁹⁷ As a result of this legal pastiche, the securities legal regime is out of sync with the advancement of technology in the arena. The effect of this is that technology, in an intermediated securities environment, does little to create further efficiencies.

What is key for this thesis is that, considering the ability of technology to substantially usurp the traditional role of intermediaries, a bespoke legal system needs to be created. In particular, the argument is that the use of trust to underpin intermediation is now substantially redundant. As has been seen above, the efficiencies which trust facilitated historically can now be facilitated by technology, without the need to bifurcate ownership

⁵⁹⁶ This shall be discussed in the next chapter

⁵⁹⁷ Micheler, correctly notes that this is due in great part to the need for legal certainty and the pressures of financial market players. See Micheler, *Property in Securities* (n 5). Pp. 66 - 67

and leave investors in the disadvantageous position of having limited, or indeed no, ownership rights over their securities.⁵⁹⁸

For example, consider where divesting legal title to intermediaries has traditionally been used in order to capitalise on efficiencies such as rapid-selling and netting. Now, as technology has allowed for almost instantaneous communication and trade, as well as significantly streamlined transaction process, there is little justifiable need to have the default relationship between UBO and intermediary as one categorised by trust.

Instead, as will be showed, the role of the intermediary no longer needs to cover the proprietary aspect of securities. With the imposition of technology, the proprietary benefits historically derived from trust are no longer needed to the level they once were. Thus, a legal change of the relationship between investor and intermediary could move to one of trust. This shall be discussed further in upcoming chapters.

6.7 Technology and Sustainability

Returning to the consideration of non-monetary and ESG preferences, technology could have a profound effect on the maximisation of these preferences. It has been considered at multiple points above how utility maximisation could offset the increased transaction costs of doing business on the market.⁵⁹⁹

⁵⁹⁸ For an explanation of the historical efficiencies of trust, see chapter 3. For an analysis of technology and commensurate legal change see chapters 7, 8 and 9.

⁵⁹⁹ The methodology section in the introductory chapter considers this point in detail. There is considerable emphasis there on investor ESG preferences and the amelioration of transaction costs.

What technology could do however, is to give effect to such preferences *as well as* reduce transaction costs. Consider for example a key issue within effecting ESG preferences, disclosure. The recent Sustainable Finance Disclosure Regulation from the European Commission highlights the increasing need for market participants to include within their prospectuses data relating to sustainability and risk.⁶⁰⁰ Such sustainability risks are defined as “An environmental, social or governance event or condition that, if it occurs, would cause a negative material impact on the value of an investment.”⁶⁰¹

These negative factors that derive from company policy therefore must be found, compiled and disclosed by the company in their prospectuses, or disclosed to investors in another manner.⁶⁰² These are added costs to the company which will increase transaction costs, but also allow investors to invest according to their ESG preferences, heightening their utility.

Where technology could play a considerable role is in the maximisation of such utility through disclosure, while driving down the transaction costs of doing so. Chapter 7 will consider various different technologies, including technologies that can automate back-office processes such as collation of data and information, as well as facilitating easier and cheaper disclosure to market participants.⁶⁰³

⁶⁰⁰ Deloitte, ‘Sustainable Finance Disclosure Regulation - Article 6 Funds’

<file:///C:/Users/slabt2/Downloads/IE_SustainableFinanceDisclosureReg_FINAL.pdf> accessed 28 April 2022.

⁶⁰¹ European Union, ‘Regulation (EU) 2019/2088 on Sustainability-Related Disclosures in the Financial Services Sector’ <<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R2088&from=EN>> accessed 28 April 2022.

⁶⁰² Allen & Overy, ‘New ESG Disclosure Regulation (SFDR)’ <https://www.allenoverly.com/global/-/media/allenoverly/2_documents/news_and_insights/publications/2021/01/new_esg_disclosure_regulation-sfdr-what_private_banks_wealth_managers_and_advisers_need_to_know-updated_feb_2021.pdf> accessed 28 April 2022.

⁶⁰³ See in particular section 7.2 on Proximity and 7.5 on Artificial Intelligence and Machine Learning.

While these are not strictly related to considerations of utilising trust as a legal mode to underpin intermediaries, it is related to the cost of using intermediaries and participating in trade on the markets.

6.8 Conclusion

Can it be said therefore, that technology has had an impact on the financial securities system? Undoubtedly, the answer to this is “yes.” The imposition of technology has brought about efficiencies that have only been made available via advances in technology. For example, dematerialisation has led to efficiencies in trade, settlement and critically, risk. The savings in both time and money lead to lower transaction costs and thus, a more efficient market. Those minority of investors who do lose out in this evolution can be compensated by the wider benefits to investors, the economy and society.

However, technology does also negatively impact the efficiency of the market system. The primary impact is that of the increased market costs due to the imposition of new technology. An often overlooked issue is the initial cost of implementation of technology and from where this cost can be recovered. Part of the cost may well be recoverable in the long term efficiencies, however, as has been shown it is often the investors who bear the burden of increased market access costs.

Despite these inefficiencies, technology by itself, is generally welcome and provides efficiencies. As has been discussed throughout the thesis, any technology which can help

shares and securities fulfil their core purpose of providing easily tradable packs of rights creates efficiencies.

With the implementation of technology in the UK, the ownership structure and trading modality did not change at first. It was still a holdover from the traditional paper days. Historically, as has been seen, this makes sense. Indeed, at the time of CREST it still made sense. The technology to record such a high volume of transactions in real time (or close to real time) was not sufficiently developed. While the system did significantly reduce transaction time and the time it took to update register, it was still counted as trade plus three days (T+3). Further, the infrastructure to record both nominees and UBOs was not present. In fact, the attempts to achieve this led to the downfall of TAURUS.⁶⁰⁴

However, implementing technological solutions does not by itself guarantee efficiencies as was shown by the implementation of CREST. There has to be a legal framework underpinning the developments which gives effect to the efficiencies of technology. In the UK, this has only been partly done. The situation is compounded by the presence of intermediation both in the UK and globally.⁶⁰⁵ The law has not been in lockstep with the advancement in technology in Great Britain and, as such, markets and securities are not as efficient as they could be.

⁶⁰⁴ Supra n11

⁶⁰⁵ This will be discussed in the next chapter.

Chapter 7: New Technologies and their Legal Implications

7.1: Introduction

The previous chapters have provided both a broad overview of the current state of the intermediated securities system in England and Wales (and indeed in similar common law jurisdictions) and has outlined the inefficiencies of using trust to underpin intermediation. The argument running through this thesis is that now technology is sufficiently developed, the bifurcated ownership structure of securities proliferated in the current modality is no longer needed.

To substantiate this claim, it is now necessary that the thesis does two things. The first is to look at the technology now available to the securities industry. In doing so, it shall be highlighted how key inefficiencies of the trust regime can be remedied. The second, is that the thesis should broaden its horizons and look at the implementation of technology and other legal structures around the world. In doing so, inspiration can be taken for the final section of this thesis: looking to the future of the securities landscape in Great Britain.

This chapter looks at the first section outlined: the new technologies available to the securities sector. There shall be a focus on four discrete technologies: Proximity;

Distributed Ledger Technology (DLT); Blockchain, and; Artificial Intelligence (specifically machine learning.) The chapter shall undertake an economic analysis of each technology, assessing its efficacy in the development of efficient markets and securities structures. It shall also look at how the technology fits, or otherwise, the current legal infrastructure in Great Britain and whether it circumvents the need for trust based bifurcated ownership.

7.2 Proximity

Proximity is a novel technological solution developed by Citibank since 2017.⁶⁰⁶ At its heart, Proximity is a communications platform.⁶⁰⁷ The technology is said to link investors to intermediaries and companies in a more streamlined and efficient manner.⁶⁰⁸ It does this via the provision of an integrated communications platform that beneficial owners, intermediaries and companies can access and update in real time, while helping to divest the analogue paper based system still in use in some areas.⁶⁰⁹

In order to achieve this objective, Proximity offers two discreet packages: Proximity PV and Proximity ID. Proximity PV is the core communications offering. Proximity describe this solution as: *“A fully digital proxy voting solution allowing meeting data, votes and more to be sent and received in real time.”*⁶¹⁰ The benefits of such a system are manifold for issuers,

⁶⁰⁶ Finadium Editorial Team, ‘BNY Mellon, J.P. Morgan, State Street among Investors for Citi-Developed Proxy Voting Platform Raising \$20.5mn – Finadium’ <<https://finadium.com/bny-mellon-j-p-morgan-state-street-among-investors-for-citi-developed-proxy-voting-platform-raising-20-5mn/>> accessed 25 August 2021.

⁶⁰⁷ Ruby Hinchcliffe, ‘Citi’s Proximity Lands \$20.5m from HSBC, JP Morgan and Deutsche Bank’ (*FinTech Futures*, 6 May 2020) <<https://www.fintechfutures.com/2020/05/citis-proximity-lands-20-5m-from-hsbc-jp-morgan-and-deutsche-bank/>> accessed 25 August 2021.

⁶⁰⁸ ‘Why Proximity? | Proximity’ <<https://proximity.io/why-proximity/>> accessed 25 August 2021.

⁶⁰⁹ Ibid.

⁶¹⁰ Ibid.

intermediaries and investors. However, they all have at their core the increased efficiency of communication.

For example, consider that an issuer calls a general meeting. Under the traditional intermediated system, the information for the meeting including notification and agenda has to be passed from the issuer all the way through the intermediary chain to the ultimate beneficial owner.⁶¹¹ We have seen that the passing of information is not as smooth as this however. Agendas and information can pass through the chain and arrive in an altered format to the ultimate investor, whereas a voting decision by the ultimate beneficial owner can either not be passed or be passed on incorrectly.⁶¹² Charles Mooney and Thomas Keijser address this in their paper “Intermediated Securities Holding Systems Revisited: A View Through the Prism of Transparency.”⁶¹³ They note, correctly, that this “information gap” is exacerbated where the intermediated system is international in makeup, consisting of intermediaries located in different jurisdictions.⁶¹⁴ Indeed, the UNIDROIT Legislative Guide on Intermediated Securities notes the importance of ensuring a smooth flow of information between all parties.⁶¹⁵

The inefficiency of not having such a smooth system with accurate and timely flows of information is relatively obvious. For example, having discussed shareholder empowerment

⁶¹¹ Ibid.

⁶¹² Ibid.

⁶¹³ Thomas Keijser and Charles W Mooney, ‘Intermediated Securities Holding Systems Revisited: A View Through the Prism of Transparency’ (University of Pennsylvania 2019) Institute for Law and Economics Research Paper ID 3376873 <<https://papers.ssrn.com/abstract=3376873>> accessed 25 August 2021. pp. 5 – 6

⁶¹⁴ Ibid.

⁶¹⁵ UNIDROIT, *Legislative Guide on Intermediated Securities* <<https://www.unidroit.org/instruments/capital-markets/legislative-guide>>., pp. 47 and 50

and good corporate governance in the preceding chapters, without having a sufficient ability to understand and vote accurately erodes shareholder oversight of the company. This can cause loss to shareholders through corporate actions that do not favour them, director misbehaviour and a lack of public confidence.

Similarly, consider the disclosure requirements noted above. Where companies are required to disclose information to investors, particularly retail investors in a comprehensive and timely manner, not having the ability to achieve this efficiently can reduce the overall efficiency of the market.

The general investor disenfranchisement that compounds these issues can also lead to the disinsentivisation of investment, greater difficulties for companies to raise capital and expand, and thus the economy suffers. This is very clearly inefficient as the extra cost diminishes investor wealth maximisation and the disenfranchisement erodes investor utility.

Herein lies the gap Proximity PV seeks to fill. In providing a secure communications base that connects all parties in real time helps to significantly reduce this information gap and the associated risks. For example, Proximity eliminates the need for intermediaries to receive, interpret and disseminate information from issuers and votes from investors. This allows issuers to have “full control” over meeting and agenda items, and investors to have greater confidence that their vote is recorded.⁶¹⁶ This is a significant utility improvement for investors, through the improved ability for investors to enforce the rights in their shares.

⁶¹⁶ ‘Why Proximity? | Proximity’ (n 608).

Another important advantage of Proximity is that it creates temporal efficiencies. Under traditional modalities, issuers, intermediaries and investors have artificial deadlines by which to disseminate information and receive votes that are not dictated by the market.⁶¹⁷ This is a direct result of needing to filter the information to and from the relevant parties in a traditional semi-manual format or internationally.⁶¹⁸⁶¹⁹ As Proximity directly integrates all parties and updates in real-time, market deadlines can be followed instead. This can help each party to maximise the use of their time via, for example, enhanced research by investors to ensure voting that matches their desires and objectives. Again, this is a clear utility efficiency.

Additionally, considering the need for heightened protection, especially via disclosure, for certain classes of investors (especially retail investors), Proximity could help to facilitate such protections. The ability to easily and rapidly disclose information in a timely manner helps to facilitate the investor protection mandated by, *inter alia*, the FCA.⁶²⁰

These enhancements by Proximity helps to improve investor enfranchisement, creating greater efficiency. Enfranchisement allows better corporate governance, a greater willingness by investors to invest and, consequently, easier raising of capital by companies which allows them to expand and the economy to prosper. Importantly, it also gives effect

⁶¹⁷ Ibid.

⁶¹⁸ Ibid.

⁶¹⁹ Keijser and Mooney (n 613).

⁶²⁰ Financial Conduct Authority (n 487).

to the core essence of securities, that of easy divestible packs of rights (in this case, the ability for investors to exercise those rights.)

However, Proxymity also offers an option to enhance the investor identification disclosure process. This is known as Proxymity ID.⁶²¹ This is less widely implementable than Proxymity PV but promotes efficiencies none the less. For example, the more efficient disclosure system allows all parties to decrease risk of fraudulent behaviour and also reduce costs for undertaking disclosure. This in turn improves the efficiency of the system by reducing associated transaction costs and costs of risk. Through reduction of costs and risk, an investor's wealth and utility is maximised. Once more, one can see the economic efficiencies this precipitates.

Another important area to look at for Proxymity (indeed for all technology) is corporate backing and market integration. In 2020, \$20.5 million was secured for Citi to spin off Proxymity as a standalone entity headquartered in London.⁶²² This capital was provided by large financial institutions including HSBC, Deutsche Bank, JP Morgan, Computershare, State Street and, importantly, Clearstream.⁶²³ There are two points that stem from this.

The first point is that Proxymity clearly has financial sector support. This demonstrates that the financial sector has an understanding of the limitations it currently faces alongside a willingness and drive to remedy them. Indeed, a Proxymity press release notes that the investors *"are committed to delivering Proxymity's vision of enhancing the investor*

⁶²¹ 'Why Proxymity? | Proxymity' (n 608).

⁶²² Finadium Editorial Team (n 606).

⁶²³ Hinchcliffe (n 607).

*communications ecosystem and providing significant benefits to the global market.*⁶²⁴

Undoubtedly, this is beneficial to the system. Without market participants showing a willingness to adopt and implement novel solutions, the market could not adapt and remedy the inefficiencies.

Secondly, there is demonstrated an ease of synchronicity and integration of Proxymity into current technology and securities infrastructures. Proxymity has suggested that the technology itself has already been integrated fully into a number of key jurisdictions' frameworks including the UK, Germany and Australia.⁶²⁵ This, in turn, allows for market participants to quickly, easily and cheaply integrate themselves into the Proxymity system.⁶²⁶ This cheap access and integration helps participants to keep transaction and operational costs low, improving the efficiency of the market and increasing the efficiencies gained through using the system.⁶²⁷

Undoubtedly therefore, Proxymity does offer a number of advantages and efficiencies for all market participants. However, Proxymity is limited in two key aspects. The first is that it only addresses voting and proxy voting, and also shareholder disclosure. These are clearly inefficiencies in the current market, born from the bifurcated ownership that trust creates. In particular, these are inefficiencies of utility which causes the entire system to have

⁶²⁴ 'Proxymity Launches Consortium of Financial Industry Leaders and Raises \$20.5 Million in Strategic Round to Become Its Own Entity | Proxymity' <<https://proxymity.io/proxymity-launches-consortium-of-financial-industry-leaders-and-raises-20-5-million-in-strategic-round-to-become-its-own-entity/>> accessed 25 August 2021.

⁶²⁵ Finadium Editorial Team (n 606).

⁶²⁶ Citi, *Introducing Proxymity: Proxy Voting for a Connected World* <<https://www.youtube.com/watch?v=YLINW0ERrP4>> accessed 25 August 2021.

⁶²⁷ Operational cost is the cost to operate something. See Bannock and Baxter (n 29) 'variable costs'. This is ultimately born by the investor through increased cost of access and use of intermediaries.

reduced economic efficiency. Despite this, it is important to remember that while these are very important aspects which are currently inefficient in the market, they are not the only inefficiencies. Thus, the impact of the technology is limited to these areas only, and consequently, does not address the whole spectrum of inefficiencies noted above.

The second issue is that the technology is not addressing the underlying legal problems that plague the securities framework. It is merely plastering over the cracks in an inherently faulty system. For example, and perhaps most relevant for Proximity's particular provision, the legal trust issue with divesting the rights inherent in a share, such as the right to vote, to the ultimate beneficial owner is not addressed or remedied. It is the assertion of the thesis that technology can now outstrip the historic efficiencies of the bifurcated ownership of trust through the elimination of trust's inefficiencies. While Proximity aids the communication, it does not address the underlying issues of bifurcated ownership.

Therefore, Proximity, while certainly creating efficiencies in some areas, is somewhat limited in effect. Efficiencies are made in the areas of proxy voting where participants are able, at least in theory, to relatively seamlessly integrate into the system and exercise real time voting rights. This gives all parties more time to undertake voting research, reduce risk of misinformation and improve corporate good governance. In turn, this increases investor enfranchisement, increases the willingness of investment and provides strength to the economy. These are all improvements to wealth and utility maximisation, and thus economic efficiency.

However, the core problems underlying the securities system, particularly the theoretical, jurisprudential issues are not resolved. Thus, any gains made by the technology merely brush the core issues “under the rug.” This is not to say that technology has no place in the framework, on the contrary, it is crucial that systems such as Proximity are used. The issue is that, as was noted in chapter 5, the implementation of technology has to be accompanied with legal change in order to maximise the efficiency and remedy the underlying problems in the market.

7.3 Distributed Ledger Technology

The next technological development that needs to be discussed is Distributed Ledger Technology (DLT). A market disruptor most often spoken in the same breath as Bitcoin and Blockchain, DLT is distinct from these concepts, though underpins both. DLT is, as the name suggests, a software ledger solution that has the ledgers distributed amongst a number of different servers.⁶²⁸ The system is known as a “peer to peer” (P2P) system as there is no central register, but a series of identical registers in different locations.⁶²⁹ Thus, instead of communicating within a hierarchy (e.g individual participants accessing and amending a single centralised register), participants access and amend a ledger on their peer networks.

⁶²⁸ ‘The Difference Between Blockchain and Distributed Ledger Technology’ (*marcopolonetwork.com*, 30 January 2018) <<https://www.marcopolonetwork.com/articles/distributed-ledger-technology/>> accessed 25 August 2021.

⁶²⁹ *Ibid.*

When a ledger is altered, the alteration is uploaded and authenticated by every other server (known as a “node”) in the P2P network.⁶³⁰ The validation of this work is, in essence, “signed” by an authentication signature (an algorithm).⁶³¹ Providing such an authentication mechanism dispenses with trusted third parties acting as a validation mechanism.⁶³² The applications of this technology in the securities market is profound and has the potential to be highly, though positively, disruptive. Not only could it be positively disruptive, it can help to create and proliferate a number of significant economic efficiencies.

The first use of DLT is in the process of disintermediation. It has been noted that intermediation was created *“to make more efficient value transfer across distance and time in pre-computer times and to take advantage of technology when computing first became available.”*⁶³³ However, technology has advanced considerably, outmoding systems such as intermediation and making many of the participants redundant. DLT facilitates this redundancy.

For example, consider the CSD. Their primary responsibility is the safe keeping and recording of securities and financial instruments.⁶³⁴ This can be through the maintenance of a single central register. However, where a DLT system is in place, the need for a central register becomes obsolete. The reason for this is that, as DLT operates on a distributed P2P

⁶³⁰ Efpraxia D Zamani and George M Giaglis, ‘With a Little Help from the Miners: Distributed Ledger Technology and Market Disintermediation’ (2018) 118 *Industrial Management & Data Systems*. p. 640

⁶³¹ *Ibid.*

⁶³² ‘Blockchain Technology Explained’ (*Bosch Global*) <<https://www.bosch.com/stories/blockchain-technology-explained/>> accessed 25 August 2021.

⁶³³ Clearmatics, ‘Distributed Financial Market Infrastructure and the Disintermediation of Digital Assets’ (*clearmatics*, 10 January 2019) <<https://medium.com/clearmatics/dfmi-and-the-disintermediation-of-digital-assets-6be7a5551870>> accessed 25 August 2021.

⁶³⁴ FCA, ‘Central Securities Depositories’ (*FCA*, 3 May 2016) <<https://www.fca.org.uk/markets/central-securities-depositories>> accessed 25 August 2021.

system, the need for a single, reliable database is obviated. The nature of DLT means that validation occurs when all nodes agree to a transaction. This provides reliability, validity and security. Thus, in terms of efficiency, the use of DLT in this manner significantly reduces transaction costs through the obsolescence of CSDs and other back office systems. The cost of the system is reduced through the elimination of large CSDs, providing a saving to the market participants.⁶³⁵ These savings passed along translate into wealth maximisation for the investors, and thus increased economic efficiency.

Further, disintermediation can occur by replacing – or making redundant – third party intermediary functions. For example, the European Parliament has recently highlighted that third party intermediaries that provide services such as validation, safeguarding/security and transaction preservation, can be replaced via DLT.⁶³⁶ This is once again achieved by the decentralised nature of DLT. As transactions must be verified by each node of the distributed ledger (which is done automatically), the need for an intermediary to independently verify each transaction becomes unnecessary. Again, in terms of efficiency, there are clear improvements for both wealth and utility maximisation. The transaction costs associated with the extra protection are reduced which can then be passed on to the other participants in the chain. It also helps to make the market more efficient in terms of utility via reducing the time needed for transaction, and thus improves the liquidity of the market. As the security checks undertaken by the third party is completed almost instantaneously in a DLT environment, the time to trade can be reduced even further

⁶³⁵ World Bank, 'Distributed Ledger Technology (DLT) and Blockchain'
<<http://documents1.worldbank.org/curated/en/134831513333483951/pdf/WP-PUBLIC-Distributed-Ledger-Technology-and-Blockchain-Fintech-Notes.pdf>>.

⁶³⁶ European Parliament, 'Distributed Ledger Technologies and Blockchain: Building Trust With Disintermediation' (2018) <at https://www.europarl.europa.eu/doceo/document/TA-8-2018-0373_EN.pdf>.

allowing more rapid entry and exit of the market, giving force to the essential efficiency of securities.

The use of DLT to improve efficiency is not solely the preserve of disintermediation. DLT also improves information and dataflow between market participants, reducing the need for intermediaries to pass information between parties. In many respects this is similar in function to Proximity mentioned above. This improvement is one of utility maximisation. By improving dataflow, investors are able to leverage the rights inherent in their securities more easily than previously, as well as benefit from more timely and accurate disclosure. Namely, it obviates the need to run information up and down a chain of intermediaries which can be enormously inefficient.

DLT also promotes transparency in the intermediated system. Whereas historically, participants must access the market and information flows through their relevant intermediary, DLT allows all participants to view data in real time.⁶³⁷ In particular, transparency re the UBO is improved. Traditional dataflows do not allow issuers or intermediaries to identify the UBO unless they are that UBO's relevant intermediary.⁶³⁸ This poses a number of distinct problems. For example, where the issuer decides to arrange a General Meeting, they can only issue the information to the investor on their record (usually the first in a chain of intermediaries.) UBOs are then left to enforce their rights (if they exist in the current trust structure) through their relevant intermediary who then enforces it up

⁶³⁷ 'The Difference Between Blockchain and Distributed Ledger Technology' (n 628).

⁶³⁸ Benjamin (n 384). pp. 3 - 4

the chain.⁶³⁹ This is both costly (in terms of time and money) and also disenfranchises investors, resulting in an economically inefficient system.⁶⁴⁰

DLT has the potential to improve this transparency. It does this via the provision of a decentralised, immutable ledger. This can be divided into what is known as a “permissionless” or “permissioned” system. In a permissionless system, anyone who has access to the internet can access the distributed ledger, make entries and access the history of transactions (known as “mining”).⁶⁴¹ A user can also undertake these activities in a permissioned system, however, they have to be accepted as a user rather than being able to become a user whenever they wish.⁶⁴²

In either case, transparency is improved by users in the network. Each party can see updates in real time, investigate and validate previous transactions, and – due to DLT acting as a trusted immutable ledger – examine the root of the title.⁶⁴³ This is achievable by anyone with the ability to make an account in a permissionless system or anyone approved to act on the network in a permissioned system.

This transparency is beneficial for many reasons. For example, buyers are able to swiftly see whether the product they are buying is legitimate and whether there are enough of the

⁶³⁹ Ibid.

⁶⁴⁰ This, along with more disadvantages and advantages of the system are discussed in Chapter 5 of this thesis. Consult this section for a deeper analysis of the issues.

⁶⁴¹ Daniel Dob, ‘Permissioned vs Permissionless Blockchains: What’s The Difference?’ (*Blockonomi*, 7 January 2020) <<https://blockonomi.com/permissioned-vs-permissionless-blockchains/>> accessed 25 August 2021.

⁶⁴² Ibid.

⁶⁴³ Sarah Green and Ferdisha Snagg., ‘Intermediated Securities and DLT’, in Louise Gullifer and Jennifer Payne (Eds.) *Intermediation and Beyond* (1st edn, Hart Publishing 2019).p. 343

products to purchase (thus preventing issues such as overselling). There are also benefits for investors in terms of enfranchisement. Where a root of title can easily be deduced, the investor can more easily enforce their rights, and an issuer can more easily see who to send any relevant information. Obviously, this is a distinct improvement in utility maximisation for investors. By cutting through the chain of intermediation, there is an obviation of the need for multiple layers of intermediation, thereby reducing transaction costs of sale and purchase. Such a cost reduction helps to make the market closer to zero transaction costs, and therefore more efficient through maximisation of wealth.⁶⁴⁴

Transparency also lends to the next possible benefit of DLT, the de-fungibility of securities. As we have already noted, dematerialised securities are considered fungible.⁶⁴⁵ This leaves investors in the position of not owning an individual, identifiable security but a proportion of the total pool of assets. This causes issues re identification, segregation and ownership.⁶⁴⁶ However, DLT can make dematerialised securities individually identifiable, removing the legal pastiche that has developed to allow securities to become a property.⁶⁴⁷ It can do this via the immediate ascertainability of the root of title, creating a property that, while incorporeal, is attributable to an individual and unique.⁶⁴⁸ This has significant ramifications regarding the essential nature of equity securities. For example, the obfuscation that occurred in cases such as *Hunter* and *Re Harvard Securities* would be side-stepped in favour of a more traditional, chattel based legal system somewhat akin to bearer securities. As DLT allows an owner of a security to be identified via the possession of a unique code or crypto-

⁶⁴⁴ Devlin (n 11). pp. 35 – 36

⁶⁴⁵ See for example *Re Harvard Securities* and *Hunter v Moss*.

⁶⁴⁶ See Chapter 5 for a full analysis.

⁶⁴⁷ Sarah Green and Ferdisha Snagg. (n 504).p. 341

⁶⁴⁸ *Ibid.*

key, anyone who possesses such a key can be considered the owner of the security which, in turn, can be considered a documentary intangible and a chose in possession.⁶⁴⁹

As an owner of a chose in possession, the shareholder under a DLT model can feasibly rely on added protections including, *inter alia*, the tort of conversion. This tort allows misappropriated property to be returned to the rightful owner or converted to an amount of damages.⁶⁵⁰ It is also possible for the owner of a “crypto-security” to be in possession of an asset somewhat similar to a negotiable instrument or bearer security through the concept of negotiability.⁶⁵¹ This helps to improve tradability of securities via transfer through delivery and the purchaser taking free of defects to title. Therefore, these benefits help to improve the efficiency of the securities market through easier and less risky tradability of securities.

Classifying crypto-securities as negotiable and a documentary intangible could allow the assets to be subject to more commercially established principles such as bailment.⁶⁵²⁶⁵³ This is particularly important for securities holding modalities where they could be subject to the law of bailment instead of trust. The efficiencies this could bring about are profound. For example, should an investor wish to entrust the crypto-security to a third party for safekeeping, they do not have to cede any legal ownership to the custodian as they do in a

⁶⁴⁹ Ibid. pp. 345 - 348

⁶⁵⁰ Goode (n 399). p. 65

⁶⁵¹ Such an asset could not be identical to a negotiable instrument as these only mandate repayment. Securities obviously embody other rights and not repayment.

⁶⁵² Sarah Green and Ferdisha. (n 504) p. 345

⁶⁵³ Though, as has been seen, bailment requires a physical *thing* to activate. There would have to be a consideration of what such a *thing* could be in this context. Perhaps it could constitute an identification key that is written on a document, in much the same way the keys operated in the case of *Mendelssohn v Normand Ltd: [1970] 1 QB 177*.

trust modality. Investors retain full legal and beneficial ownership of the asset, and therefore do not have to account for the risks associated with third party custodianship in the current modality.⁶⁵⁴ This is a significant efficiency improvement. Not only do investors not have to run the financial risks of losing legal control of their asset, but they are actively enfranchised, improving areas such as corporate governance and encouraging investment.

Thus, transparency helps to improve the efficiency of securities tradability. Individual identification of assets allows dematerialised securities to become more akin to a documentary intangible which is covered by stronger property rights than pure intangibles. As the essence of securities is that of an easily divestible pack of rights, documentary intangibles that embody negotiability help to give effect to this essence through easier and safer tradability, facilitating smoother entry and exit in the financial markets maximising the investor's wealth and utility.

A further benefit of DLT is risk mitigation. Talked about briefly above, DLT provides a number of opportunities to reduce the risks of trading and holding securities. A general benefit of DLT is that, by virtue of the distributed network, the records of ownership are held and verified over a number of nodes. This mitigates the risk of loss, theft or fraud. DLT is extremely difficult, if not impossible, to hack or tamper with.⁶⁵⁵ This is because if hackers wished to infiltrate and disrupt the system, they would need to control 50% of the whole network to alter any transactions.⁶⁵⁶ Compare this with centralised ledger systems where,

⁶⁵⁴ For an analysis of these deficiencies, please see the previous chapter.

⁶⁵⁵ Volker Brühl, 'Virtual Currencies, Distributed Ledgers and the Future of Financial Services' (2017) 52 *Intereconomics* 370.

⁶⁵⁶ *Ibid.*

even though they may be very well protected, hackers need only access the single server. While difficult, it is not nearly as complex as infiltrating a multiplicity of servers. Thus, securities held in this manner are significantly more secure from tampering, fraud and falsification. This reduces the cost involved in securing against risks of loss and theft, increasing the desirability for individuals to invest.⁶⁵⁷ Indeed, the lack of need to secure assets through alternative risk mitigation provisions helps to save money for investors, reducing transaction costs and fostering a more efficient system.

Further, investors are able to maintain a direct relationship with the issuer. This is of benefit to investors who are able to reduce intermediary risk. For example, there is less risk of their directions for an AGM to be mistranslated by an intermediary or their vote lost. Further, as Green notes, as the securities would become non-fungible and individually identifiable, the likelihood that securities are misused and used to settle someone else's transaction is almost completely eliminated.⁶⁵⁸ Thus, the risk of the loss of securities is significantly reduced.

By virtue of this direct relationship, there is a significant improvement in utility. It has been consistently shown in this thesis that the removal of the direct relationship between issuer and investor, while historically efficient, is now unnecessary and inefficient. That DLT gives the investors the ability to directly interact with the issuer greatly improves the utility via, *inter alia*, easier enforcement of investor rights. This is a clear economic efficiency.

⁶⁵⁷ Other benefits which stem from dematerialisation and digitisation of securities were discussed in Chapters 4, 5 and 6.

⁶⁵⁸ Sarah Green and Ferdisha Snagg. (n 504) pp. 341 - 342

Additionally, DLT can exponentially improve the speed with which securities are settled. As the thesis has previously noted, the current settlement time is a T+2 model.⁶⁵⁹ Under a DLT model, trade could be almost instantaneous. The exchange of securities and cash could be conducted in the same ledger or with an instantaneous connecting protocol, e.g. release of funds from an escrow.⁶⁶⁰ This instantaneous transfer capitalises on the reasons for reducing time to trade in the first place, reducing risk of default or insolvency.⁶⁶¹ DLT can reduce time to trade to almost instantaneous, significantly reducing the above risks (along with associated costs by investor and other market actors to reduce the costs in the current modality). The cost saved allows the investor to retain more of the price of the security, maximising their wealth further. Additionally, the reduction in the time to complete a transaction is an improvement on the utility of the share for the investor. As has been discussed previously, liquidity of securities is a key facet of their being. That DLT facilitates this via a reduction in transaction time is a clear economic efficiency.

A further benefit of the introduction of DLT relates to systemic risk mitigation. In particular, this is via the easy identification of UBOs and reduction in money laundering and terror finance. For example, under the current intermediary regime, the issuer and every intermediary in the chain – except the investor’s relevant intermediary – is not privy to the identity of the ultimate investor. This can give shareholders a veil of anonymity to cloak their intentions and identities, leading to the view that they can be considered a “villain.”⁶⁶²

⁶⁵⁹ See Chapter 4

⁶⁶⁰ Ronnegard and Smith (n 438). § 4.2.1

⁶⁶¹ See Chapter 4

⁶⁶² Keijser and Mooney (n 613). p. 18

While branding all shareholders villains is perhaps hyperbole, there are significant and valid concerns surrounding the use of anonymous securities holdings to launder money and finance terrorism. The International Organisation of Securities Commissions (IOSCO) produced a document outlining principles for client identification and beneficial ownership for the securities industry.⁶⁶³ These principles highlighted the use of anonymous securities holdings to launder money and finance terrorism, and included principles to combat these issues.⁶⁶⁴ One of these suggestions is to ensure that clients are properly identified using reliable methods when engaging in a business relationship.⁶⁶⁵ The International Securities Services Association (ISSA) also has published guidance around money laundering and how securities frameworks can combat “...money laundering, terrorist financing, market abuse, corruption, fraud and the evasion of sanctions.”⁶⁶⁶ Principles 1 and 4 of the framework are particularly pertinent, impressing upon custodians and market actors to undertake sufficient due diligence to identify UBOs.⁶⁶⁷

Undertaking sufficient due diligence is costly and frequently impractical in large securities custody chains. For example, where the custody chain is cross-border in nature, due diligence is exacerbated by other jurisdictions whose laws require less initial transparency and accountability. However, DLT can help to obviate these issues. The nature of the system means that the UBO can be identified and updated in real time. This reduces the risk of money laundering and improves counter-terror finance measures through easy, reliable and

⁶⁶³ IOSCO, ‘PRINCIPLES ON CLIENT IDENTIFICATION AND BENEFICIAL OWNERSHIP FOR THE SECURITIES INDUSTRY’ (2004) <<https://www.iosco.org/library/pubdocs/pdf/IOSCOPD167.pdf>>.

⁶⁶⁴ Ibid.

⁶⁶⁵ Ibid. Principle 1

⁶⁶⁶ ISSA, ‘Financial Crime Compliance Principles for Securities Custody and Settlement’ § 1 (May 2019) <https://www.issanet.org/e/pdf/2019-05-21_ISSA_FCC%20Principles_second_revision.pdf>.

⁶⁶⁷ Ibid, Principles 1 and 4

rapid identification of ultimate owners, thus complying with the principles and best practices mentioned above.

In terms of efficiency, strengthening the market against money laundering and terror finance improves trust in the market and helps the economy prosper. This once again encourages investment. However, in strengthening the market in this manner via the use of DLT makes the Know Your Company and due diligence protocols easier and more streamlined to enact. The costly and time-consuming processes can be replaced with the clear and rapid identification through DLT. This reduces the transaction costs of the market, increasing wealth maximisation and improving efficiency.

Thus, DLT has the potential to revolutionise the intermediated securities system via reduced risk, greater transparency and heightened investor enfranchisement. These all help to increase investment, improve market efficiency and reduce transaction costs. In terms of a wealth maximisation benchmark, both investors' and companies' relative wealth is maximised via the reduced transaction costs and ease of investment.

Importantly, DLT can help to usher in a bespoke legal system that is both comprehensive and efficient. As discussed above, it can help to remove the bifurcation of legal and equitable ownership that the current system relies upon through facilitating a direct ownership between UBO and issuer. This is all the while expanding the number of, and improving the quality of, the efficiencies noted above.

However, DLT does not improve market efficiency for all parties. In particular, the process of disintermediation means that a number of key market players are made, at least in their

current form, redundant. This is not to say that intermediaries will have no place in the system. For example, it is not inconceivable that CSDs outsource DLT provision and maintenance to certain third parties.⁶⁶⁸ Further, Green notes the possibility of intermediaries providing ‘wallet provision[s]’ where crypto-keys are stored with a third party for safe keeping.⁶⁶⁹

A further issue is the legal uncertainty that implementation of DLT brings with it. In particular, this is an issue regarding the *situs* of crypto-securities. The traditional approach for bearer securities (as tangible moveables), and the approach that is still operative, is that the *situs* is wherever the security happens to be.⁶⁷⁰ However, where the securities are dematerialised and intermediated the situation is far more complex. In brief, it is unclear where the *situs* of the security is located, particularly where the share is held through multiple intermediaries in multiple jurisdictions.⁶⁷¹⁶⁷²

Where crypto-securities are not considered akin to bearer securities, then DLT does not aid the situation, in fact it further obfuscates it. The thesis has already mentioned the issue with multi-jurisdictional holding structures, even amongst one intermediary.⁶⁷³ As DLT operates a system where the ledgers are distributed across multiple nodes that could be located in multiple jurisdictions, the question still remains as to where the *situs* would be located. This uncertainty poses enormous risks for all parties in the system. It dissuades investment,

⁶⁶⁸ Sarah Green and Ferdisha Snagg. (n 504).p. 343

⁶⁶⁹ Ibid.

⁶⁷⁰ Goode (n 399). Pp. 1176 - 1177

⁶⁷¹ Guy Morton (n 261). Pp. 39 - 40

⁶⁷² A thorough examination of this is held in chapter 5 of this thesis. Please see section 5.5.3 and chapter 5 more generally.

⁶⁷³ Ibid.

increases cost (and potential cost) of remedying the uncertainty, and makes the markets less efficient.

The pertinent question is whether this inefficiency is precipitated by technology, the underlying legal regime that covers securities or a mixture of the two. It is suggested by this thesis that it is not technology that is causing this obfuscation but the underlying legal regime. Implementing technological innovation alongside the development of the legal regime could exponentially increase the efficiency of securities markets.⁶⁷⁴

A final practical issue that of the effect of non-fungibility on the trade and settlement system. As has already been noted, a benefit of trust-based intermediation is the ability to complete batch transfers of securities using only a single large transfer.⁶⁷⁵ This is facilitated through, firstly, the fungibility of dematerialised securities and, secondly, the ability of intermediaries to hold securities in an omnibus account. The economic benefits to the market, particularly where the system is largely paper based (as in the UK), are profound. Considering the large number of transactions conducting on the markets each day, the ability to transfer and trade in bulk helps to reduce transaction times and transaction costs.⁶⁷⁶

Under a DLT system where crypto-securities are no longer considered fungible, the ability to conduct such trades is prevented. Each crypto-security is unique and will have to be traded individually. However, the thesis postulates that this is actually not an issue as it seems to

⁶⁷⁴ See Chapter 8 for a full discussion of recommendations for improved market efficiency.

⁶⁷⁵ See Chapter 5.

⁶⁷⁶ Ibid.

be *prima facie*. This is due to the ability for DLT to conclude transactions almost instantaneously. As it is done quickly and efficiently as part of the technological provision, the need to conduct batch transfers are reduced, even eliminated. This allows the trade and markets to continue to be efficient, perhaps more so than they were historically.

Therefore, regarding the implementation of DLT, there are enormous benefits and efficiencies to be gained. Increased security, individual ownership and improved investor enfranchisement are all benefits and improved efficiencies for the securities market. This is not to say however that DLT is a panacea, there are some important detriments to the implementation of DLT in the system. Perhaps most glaring of these is the issue regarding *lex situs* of the shares. Quite simply, these issues will not be resolved by the introduction of DLT only, but requires a wholesale implementation of a new legal framework. Some countries have already done this, as shall be explored in the next chapter.

7.4 Blockchain

Often used synonymously with DLT, Blockchain is similar but not equivalent technology to DLT. Blockchain can more correctly be considered a subset of DLT, of the same spirit but different execution.⁶⁷⁷ In many respects, Blockchain is similar to DLT. Firstly, and perhaps most importantly, is a digital, decentralised ledger.⁶⁷⁸ Blockchain operates by recording data as a “block” within the ledger, not destroying the previous input but adding the new

⁶⁷⁷ Daniel T Stabile, Kimberly A Prior and Andrew M Hinkes, *Digital Assets and Blockchain Technology: U.S. Law and Regulation* (Edward Elgar Pub 2020).p. 16

⁶⁷⁸ ‘AMD and Blockchain Technology’ <<https://www.amd.com/en/technologies/blockchain>> accessed 25 August 2021.

transaction as another link in the “chain.”⁶⁷⁹ In this respect blockchain is also “non-destructive” i.e previous transactions are not erased but merely built upon.

Aside from the benefits of a decentralised ledger noted above, the non-destructive nature of blockchain adds an extra element of security for prospective securities purchasers.

Where the ledger is transparent, any possible securities purchaser can view the transaction history to ensure that the seller has good title. This helps to alleviate problems of defective transfer by being able to see the title being passed “hand to hand” from the initial issue.

While such a trade where the seller does not have good title is not fatal to the trade, it is, as Goode notes, a question of whether the transferee’s title takes priority over the original owner.⁶⁸⁰ However, investigating a title takes time and money, reducing the efficiency of the market through the increased monetary and temporal transaction costs required to investigate. In providing a transparent root of title, blockchain obviates the need to do complex and costly due diligence for potential purchasers. This cost is again representative of wealth maximisation for the investor, but the ability to see the passing of the title and ensure that a good title is passed to the investor is also a significant utility maximisation.

Tied to this, is the benefit that blockchain has for establishing (or rebutting as the case may be) the defence of bona fide purchaser without notice. As this thesis has already noted, this powerful defence takes priority over any other equitable claim.⁶⁸¹ Due to the transparent nature of the ledger, a purchase can see whether the seller has good title to sell, avoiding

⁶⁷⁹ AMD, *What Is Blockchain Technology?* <https://www.youtube.com/watch?v=QinwYeZ_4zc> accessed 25 August 2021.

⁶⁸⁰ Goode (n 399). p. 60

⁶⁸¹ Clarke (n 272). pp. 553 - 554

any claims to the contrary from other parties. Again, this allows investors to ensure that they can secure their title (a utility benefit) and continue to reap the financial rewards of the security holding (thus wealth maximisation).

These transparency measures help to make the securities market more efficient through lowering risk. Through lower risk, parties can reduce the transaction costs of compliance and risk mitigation as well as encourage investment. This helps companies to grow via raising cheap capital, investors to increase their wealth via share ownership, and society to profit through a stronger and more competitive economy.

However, risk mitigation through transparency and root of title isn't the only benefit of blockchain. On top of the security that comes as part of the node structure of DLT systems, blockchain adds hash encryption to the individual blocks.⁶⁸² This hash is a secure and unique chain of numbers and letters.⁶⁸³ This acts as a fingerprint or "wax seal" that secures each block in the chain.⁶⁸⁴ As a very basic example, if a block of data is created, say through the first purchase of a single security, then that block can be encoded with a hash that may say "ABC123." When another data block is added, say through the sale and purchase of that share from the first owner to the new owner, the block would be encrypted with a hash that would say something like "ABC123-DEF456." Each block in the chain is encrypted by a hash that begins with the preceding hashes. These are then sent to network participants to

⁶⁸² Adedamola Bada, 'Blockchain vs. Distributed Ledger Technology (DLT)' (*Coinspeaker*) <<https://www.coinspeaker.com/guides/difference-blockchain-distributed-ledger-technology-dlt/>> accessed 25 August 2021.

⁶⁸³ Ameer Rosic, 'What Is Hashing? [Step-by-Step Guide-Under Hood Of Blockchain]' (*Blockgeeks*, 6 August 2017) <<https://blockgeeks.com/guides/what-is-hashing/>> accessed 25 August 2021.

⁶⁸⁴ BBVA "What is the Difference between DLT and Blockchain?" available at <https://www.bbva.com/en/difference-dlt-blockchain/> last accessed 17 August 2020

verify. This makes blockchain ledgers exceptionally difficult – if not impossible – to hack and manipulate without invalidating the chain. If one were trying to do so, the hash would show it has been altered.

This significantly reduces risks of, *inter alia*, mishandling, theft and fraudulent conduct, which in turn allows the network participants to reduce their expenditure on risk mitigation methods. The consequence is therefore, that markets become less expensive in which to participate, maximising investor wealth and becoming more efficient.

Critically for this thesis, the benefits of this technology are not just stemming from the advantages of the technology itself. It also comes from how the technology can more efficiently execute the functions that trust has historically been used for. For example, Blockchain is able to facilitate secure transactions in a very short time, improving market liquidity and maximising investor wealth and utility. As has been noted in previous chapters, trust was historically used to do this at the expense of inefficiencies such as lack of full title for the investor.⁶⁸⁵ Blockchain however promises these benefits with a reduction in the inefficiencies that trust creates.

Despite these benefits, as a form of DLT, it also has the drawbacks inherent in DLT. Blockchain is still a new technology with uncertain ramifications. While it is perhaps the most tested form of DLT due to it being the framework of many cryptocurrencies such as bitcoin, it is still a novel technology and thus, relatively untested. Even during the time

⁶⁸⁵ See Chapter 3.3.3 and Chapter 5

blockchain has been operating, there are some known technological problems that could severely and negatively impact the financial system.

For example, there is a potentially significant issue known as “forking.”⁶⁸⁶ This occurs when one section of the blockchain network wants one action and a second section another, which leads to a “fork” in the democratic blockchain framework. This can be either a “soft” fork where a change is “back-ward compatible” and nodes operating with the old rules can accept new blocks. Such a fork has to be adopted by over half the network in order to be accepted, naturally making the minority, for want of a better term, “losers” in the change.⁶⁸⁷

Alternatively, there is a “hard” fork where every network participant must adopt the new rules and those who do not will not be able to accept new blocks.⁶⁸⁸ In this situation, there may be two parallel blockchains operating where there is no unanimous adoption of the new rules. Naturally, this causes significant disruption to the network and can cause considerable obfuscation. For example, it could cause two competing roots of title to operate in tandem, causing confusion over which is in fact the “legitimate” title. This in turn propagates legal uncertainty alongside the financial and temporal costs needed to clarify such uncertainty prior to a trade. This is counter to blockchain’s benefit of providing a transparent transaction history.

⁶⁸⁶ De Filippi, P and Wright A. *Blockchain and the Law: The Rule of Code* (Harvard University Press, 2018) p. 24

⁶⁸⁷ Qtum, ‘What Is a Blockchain Fork?. If You’ve Had Any Exposure to the World... | by Qtum | Qtum’ <<https://blog.qtum.org/what-is-a-blockchain-fork-16cef86c0ad8>> accessed 25 August 2021.

⁶⁸⁸ Ibid.

An example of such a blockchain “split” can be found in the case of Bitcoin Core and Bitcoin Cash. Underpinned by blockchain, the original Bitcoin Core was “hard” forked in 2017 when, precipitated by a transactional slowdown due to the limitations on block size, a network user created a parallel chain known as Bitcoin Cash allowing larger blocks.⁶⁸⁹ Success of the split is dictated by which stream is used the most. The split has now caused two separate streams to occur in parallel with users using both. In the context of recording securities, having two parallel and co-occurring chains is undesirable for market efficiency and legal certainty, after all which would hold good title? This increases risk for all parties to securities markets which they will have to take steps to mitigate. In turn, costs associated with remedying or mitigating such risks reduces the wealth maximisation of securities and the efficiency of the market.

Therefore, just as trust has created inefficiencies which are remedied by technology, Blockchain could bring about new inefficiencies to replace those of trust. What is critical therefore is that a clear and certain legal regime is created in order to obviate the potential issues the novel technology could create.

Blockchain is unquestionably a market disruptor. It has the benefits of the DLT system plus the additional benefits of increased transparency and hash encryption. These could prove to be highly beneficial to market participants in terms of wealth creation and market efficiency. However, once again we see that technology brings drawbacks. Aside from similar drawbacks to DLT, blockchain also has the unique problem of forking which can lead

⁶⁸⁹ ‘Bitcoin, Blockchain Splits And What It Means For Business’ (*Bernard Marr*, 2 July 2021) <<https://bernardmarr.com/bitcoin-blockchain-splits-and-what-it-means-for-business/>> accessed 25 August 2021.

to a chain split. This could prove disastrous in the area of title identification and market participation.

7.5 Artificial Intelligence and Machine Learning

The final technology this thesis shall discuss is that of Artificial Intelligence (AI) and Machine Learning (ML). A particularly novel technology, AI can be split into four different areas:

- 1) ML
- 2) Robotic Process Automation (RPA)
- 3) Deep Learning (DL)
- 4) Cognitive Analysis (CA)⁶⁹⁰

There have been a number of reports commissioned and published on the implementation of AI in the financial and securities markets which have postulated many areas ripe for introduction.⁶⁹¹ This thesis shall look at a handful of the most pertinent areas to the core subject of the thesis, market efficiency in intermediated holdings.

The first potential efficiency is that of investor communication. As has been noted elsewhere in this thesis, the intermediated securities system is still heavily paper based. AI can begin to help to alleviate the burdens paper places on the securities system through

⁶⁹⁰ Axel Pierron “Artificial Intelligence in Capital Markets: The Next Operational Revolution” (2017) available at <http://www.opimas.com/research/210/detail/> last accessed 18 August 2020

⁶⁹¹ See for example ‘Artificial Intelligence (AI) in the Securities Industry | FINRA.Org’ <<https://www.finra.org/rules-guidance/key-topics/fintech/report/artificial-intelligence-in-the-securities-industry>> accessed 25 August 2021.

increased automation. For example, the FINRA report notes that AI can help to automate analogue paper-based administration such as “processing faxed trade orders, depositing physical checks, and searching, ranking, and retrieving documents.”⁶⁹² In doing this, the processes of trade and settlement are reduced temporally and financially, and the element of human error is reduced.⁶⁹³ This creates efficiencies in the market reducing the transaction and operational costs for investors, intermediaries and other market players.

Developing this efficiency further, it is suggested that natural language processing can further help to clarify and automate investor communication.⁶⁹⁴ Broadridge notes that, to eliminate the time it takes for a human to read, process and synthesise an email instruction from a client, AI creates the possibility that such a process can be conducted by AI where the steps are simple, allowing humans to focus on more complicated tasks.⁶⁹⁵ For example, in a straightforward (though unlikely) situation where there is a single intermediary between issuer and investor, if the investor must vote on whether the company can issue more shares a simple “yes” or “no” vote can be discerned, processed and sent to the issuer via AI. The benefit of this is that efficiencies can be created through streamlining the need for many humans to conduct routine and mundane tasks, reducing intermediary overheads and thus the transaction costs for investors and market players.

A further postulated efficiency is on trade and settlement reconciliation. It is not uncommon for there to be inconsistencies in trades, particularly where there are bulk transfers.

⁶⁹² Ibid p. 10

⁶⁹³ Ibid p. 10

⁶⁹⁴ Martin Seagroatt, ‘What Are the Applications for Artificial Intelligence in Securities Finance and Collateral Management? | Broadridge’ <<https://www.broadridge.com/white-paper/what-are-the-applications-for-artificial-intelligence-in-securities-finance-and-collateral-management>> accessed 25 August 2021.p. 5

⁶⁹⁵ Ibid.

However, this can lead to the need for people to reconcile a failed trade. Broadridge notes that AI can complete such reconciliations in 0.25 seconds as opposed to humans where it can take 5 to 10 minutes.⁶⁹⁶ This is part of the wider benefits of AI eliminating the problem of human error.⁶⁹⁷ Human error, or indeed deliberate fraud and malpractice, does occur as has been discussed previously in this thesis. For example, individual securities can be sold mistakenly or fraudulently, with rectification potentially expensive both financially and temporally. This is a risk of the market and one which players have to mitigate. It of course raises transaction costs due to the extra measures needed to reduce security and reduces market efficiency. AI can help to prevent such actions from taking place. Such AI led preventions could include trade monitoring for fraud or mistaken sales.⁶⁹⁸ Early identification prior to trade helps to improve market efficiency via reducing human error and improving confidence in the security of the market.

The overarching efficiency to which reduction of human error belongs, is that of systemic and non-systemic risk management. AI has the potential to monitor systemic and non-systemic risk “round the clock” without the error and cost of human participation.⁶⁹⁹ For example, FINRA suggest that AI could help to manage risks such as due diligence and Know Your Company procedures.⁷⁰⁰ This could of course help to reduce fraudulent and illegal activities such as, *inter alia*, money laundering and terrorist financing.⁷⁰¹ However, an extension of this could be the management of title risk. For example, if AI can improve

⁶⁹⁶ Martin Seagroatt (n 554).

⁶⁹⁷ LabCTFC, ‘A Primer on Artificial Intelligence in Financial Markets’ 31.

⁶⁹⁸ *ibid.* p. 13

⁶⁹⁹ *ibid.* p. 14

⁷⁰⁰ ‘Artificial Intelligence (AI) in the Securities Industry | FINRA.Org’ (n 691). p. 9

⁷⁰¹ Financial Crimes Enforcement Network (FinCEN), ‘Treasury’s FinCEN and Federal Banking Agencies Issue Joint Statement Encouraging Innovative Industry Approaches to AML Compliance’ <<https://www.fincen.gov/news/news-releases/treasurys-fincen-and-federal-banking-agencies-issue-joint-statement-encouraging>>.last accessed 19 August 2020

transparency via finding the ultimate beneficial owner of a security in order to combat illicit activity, then it is not inconceivable that it could be used in a purely title investigation modality. This could help to quickly and efficiently detect who is the ultimate beneficial owner, reducing risk in security transactions.

These are a selection of the potential benefits and efficiencies that AI could create in the securities markets. It is not however an exhaustive list. The efficiencies that AI could precipitate in the markets are numerous, however, this section has focused solely on those benefits pertinent to intermediated securities.⁷⁰² The additional benefits of AI is thus left to another paper or thesis.

Once again however, the implementation of novel technology also brings with it additional risks. With AI that, in essence, cedes control of certain judgemental and operative functions to computers, there are a number of significant and unanswered technological and legal questions that are unanswered. Some of the most relevant to the subject of this thesis are as follows.

Firstly, as with any technological solution, the system is potentially vulnerable to malicious activity such as hacking and unforeseen operational malfunctions.⁷⁰³ Safeguards need to be developed in order to protect against such unwanted actions and mitigate the risk and damage they could cause to the markets. These take time to develop and also require human oversight to ensure efficient operation. As Broadridge notes, utilisation of AI is more akin to human augmentation than human replacement.⁷⁰⁴ Thus, one of the main attractions

⁷⁰² LabCTFC (n 697). generally.

⁷⁰³ *ibid.* p. 25

⁷⁰⁴ Seagroatt (n 694).p. 10

of utilising AI, the reduction of human overheads and therefore transaction costs, doesn't necessarily ring true. While it may replace many basic functions performed by humans, it requires other humans to monitor, proof the work and repair when necessary.⁷⁰⁵ This is another transaction cost that has to be borne by market players, eventually being passed down to the ultimate beneficial owner. Thus, while AI does reduce costs in some aspects, they are replaced by new transaction costs in other areas, reducing the efficiency of the market.

Secondly, the use of AI and the further adoption of the solution in financial markets necessitates new regulation. This broad term encompasses many areas of AI regulation. For example, consider client personal data. AI, as part of its remit, could collect sensitive and personal data related to clients.⁷⁰⁶ How this information is then stored and processed needs to be controlled and regulated by appropriate rules and guidance. For example, the SEC Regulation S – P, in brief, requires that market participants store private client information securely and protect it from unlawful disclosure.⁷⁰⁷ As part of this, it is required that there must be sufficient safeguards in order to protect client data.⁷⁰⁸ This is all costs time and money to implement which is a transaction cost passable to investors. This, of course reduces the efficiency of the markets. However, it is also illustrative of the wider problem of implementing new legislation to govern the novel areas of technology such as AI, after all data governance is but one area that would require new legislation.⁷⁰⁹

⁷⁰⁵ E.g FINRA rules 3110 and 3120

⁷⁰⁶ 'Artificial Intelligence (AI) in the Securities Industry | FINRA.Org' (n 691). p. 15

⁷⁰⁷ SEC Regulation S – P available at <https://www.sec.gov/rules/final/34-42974.htm> last accessed 19 August 2020

⁷⁰⁸ 'Artificial Intelligence (AI) in the Securities Industry | FINRA.Org' (n 691). p. 15

⁷⁰⁹ See other areas such as, for example, cybersecurity and supervisor control systems in *ibid*.

Implementation of new legislation not only costs time and money to comply with, but also creates new legal uncertainties. As has been discussed above, this could include issues such as data security and privacy. These uncertainties add complexity and obfuscation to the system which requires market participants' complicity. Thus, at least in terms of transaction costs and risk, it makes the markets less efficient.

Finally, while AI itself may precipitate efficiencies from a purely technological viewpoint, it does not rectify the underlying legal problems in the intermediated securities system.

Indeed, it could actively lead to more obfuscation.⁷¹⁰ Problems such as *lex situs*, investor enfranchisement and issues with legal protection are not addressed by the implementation of AI. These issues remain and are compounded by the uncertainty that implementing new technology causes. Thus, the underlying legal inefficiencies of the system remain largely unaddressed.

Therefore, while AI could certainly precipitate novel and beneficial market disruption, it also raises new and difficult legal questions that can create legal uncertainties. This is not an issue exclusive to AI, but an issue shared by the adoption of any new market practice or implementation of new technology. The issue of technological change that is not addressed by commensurate legal change is an important and serious problem that must be addressed.

⁷¹⁰ See issues with regulation of AI above.

7.6 Technology as a Sole Remedy

It is quite clear from the above analysis that technology holds many potential benefits for the securities markets. The question is however, can technology on its own provide sufficient efficiencies to improve the securities market? In short, the thesis argues that the answer to this is “no.” As noted immediately above, implementation of technology without the law following in a regulatory capacity leads to serious and unaddressed inefficiencies. For example, one can look at the problems with dematerialisation in the intermediated securities system and the slow – and in some cases non-existent – addressing by the law in areas such as *lex situs* to see an example of this.⁷¹¹ The ramifications of this can be particularly unadvantageous and costly for the market and its participants, potentially taking long and costly court battles in order to clarify the uncertainty.⁷¹²

In the context of this thesis, consider the technologies discussed above in relation to the problems associated with the bifurcated ownership of securities under the trust system as discussed in the preceding chapters. Can these be remedied utilising novel technologies? The argument of this thesis is that they cannot be remedied completely without commensurate legal change. For example, take the example of the use of Proximity to facilitate issuer – intermediary – investor communication. Proximity, as has been seen, allows investors to access data in real time and directly relay, *inter alia*, voting directives to the issuer. This is clearly beneficial. However, does it remedy the fact that an investor does not actually own their securities completely? Clearly the answer is “no”.

⁷¹¹ A clear example would be the adoption – or lack thereof – of the Hague Securities Convention, a well intentioned but flawed and ultimately found limited adoption. A discussion of this can be found in Chapter 5.

⁷¹² See *Bishopsgate v Macmillan* discussed in Chapter 5.

Similarly, take DLT which allows the ultimate investors to be clearly seen and updated almost instantly after a trade occurs. This allows investors to clearly show their legal entitlement to shares. However, does it remedy the issue of finding *lex situs* in cross border securities transactions? Again, the answer is “no.”

These are but two illustrative examples of the problem with updating technology without a commensurate legal change. Technology can bring about considerable efficiencies in the market but it cannot do this without being supported by a strong, developed and encapsulating legal regime underpinning it.

7.7 Conclusion

This chapter has endeavoured to highlight two points. The first is that of the technology available to improve the efficiencies of the securities markets and, in particular, remedy the particular inefficiencies of trust based intermediation . The second is to begin to highlight that without legal and regulatory change and adaptation, the efficiencies of technology cannot be fully capitalised upon.

Undoubtedly, technology promises to improve the efficiency of the markets in many different arenas. From investor enfranchisement and better corporate governance to automation of analogue processes and direct ownership, technology can significantly improve the market for participants in terms of increased efficiency. However, implementation of new technology also brings with it the inefficiencies of implementation

and new legal challenges. While it may remediate outstanding inefficiencies stemming from trust, it can create new inefficiencies of its own.⁷¹³ Thus, the law must follow the market and create efficient rules and regulations to allow technology to operate at its full potential.

How then can this look in a practical capacity? There are a number of alternative legal regimes operative around the world that the UK could emulate in order to match technological developments with a complementary legal regime. The next chapter shall look at such regimes in Australia, the United States and Germany for inspiration.

Chapter 8 – Implementation of New Legal Regimes to Support Novel Technology in Foreign Jurisdictions

8.1 Introduction

This thesis has so far outlined problems brought about by the bifurcated ownership structure of trust and the lacking of technological developments in the UK securities market. However, there are examples across the globe of how technology and legal change have been implemented extremely successfully. The thesis shall now examine some of those and

⁷¹³ See the initial attempt at digitisation in the UK using TAURUS in Chapter 4

draw parallels and inspirations for the development of trust based securities in the UK and more globally.

While there are a number of successful jurisdictions, this thesis shall examine four. Firstly is Australia where the implementation of CHESS occurs alongside commensurate legal change. Secondly, the US shall be examined putting great analytical emphasis on the UCC Art. 8. Thirdly, for a civil law perspective, Germany shall be analysed. Finally, for a hybrid perspective, Sweden shall be examined. In analysing these jurisdictions, the thesis can begin to suggest comparative change to improve the efficiency of securities markets in the final chapter, Chapter 9.

8.2 Jurisdiction – Australia

Australia was an early adopter of technological advancements in the securities sector. This has been, in particular, regarding the area of electronic registration. This advanced system is known as “CHESS”, an acronym for the Clearing House Electronic Subregister System.⁷¹⁴ CHESS is a Central Securities Depository (CSD) for equity securities in Australia.⁷¹⁵ Operated by the Australian Securities Exchange (ASX), the real benefit of CHESS is in its application of novel technologies to improve investor enfranchisement and market efficiency.

⁷¹⁴ ASX, ‘Settlement’ (*Australian Securities Exchange*)

<<https://www2.asx.com.au/content/asx/home/about/regulation/clearing-and-settlement-of-cash-equities-in-australia/settlement.html>> accessed 25 August 2021.

⁷¹⁵ BIS, “‘Australia’ Payment, Clearing and Settlement Systems in the CPSS Countries - Volume 1’ p. 45 <<https://www.bis.org/cpmi/publ/d97.htm>> accessed 25 August 2021.

In many respects CHESS is similar to CREST in that it allows authorised participants such as stock brokers to trade securities, on their own account or on behalf of clients, while also registering the title of the shares.⁷¹⁶ However, where it differs is in the ease of creating direct ownership of shares for end investors.

8.2.1 CHESS and Direct Ownership of Shares

Prima facie, CHESS may appear to be composed of a single register. However, there are in fact two discreet registers in this system. The first is the CHESS subregister maintained by ASX Settlement and the second is the Issuer Sponsored subregister which is maintained by the issuing company.⁷¹⁷ Investors have a choice – at least in theory – as to which register they wish their securities to be logged. In both cases however, the system, in combination with commensurate legal change under the Corporations Act 2001, records investors as legal and beneficial owners directly. Under s231 Corporations Act 2001 a member of a company (and thus a shareholder) is one that is on the register at initial registration, or agrees to become one post registration and is entered onto the register.⁷¹⁸ Further, the CHESS regulations state that the CHESS register (composed of both the CHESS Sponsored Subregister and Issuer Subregister) is a record of entitlement for listed companies.⁷¹⁹ Therefore, the combination of technology and complimentary legal provision has resulted in a system that allows for direct legal ownership of shares by investors.

⁷¹⁶ ASX, 'ASX - CHESS Brochure' (2011) <https://www.asx.com.au/documents/research/chess_brochure.pdf>. p. 2

⁷¹⁷ *Ibid* p. 3

⁷¹⁸ § 231 Corporations Act 2001

⁷¹⁹ ASX (n 716). n3

Such direct ownership is operative even though intermediaries may be a part of the system. Indeed, CHESS itself is an intermediary and so are the brokers that help to operate the system. However, the relationship between these parties is not subject to trust, but more akin to that of agency. In the first case, there is the relationship between investor, broker and issuer where the investor holds their shares via a CHESS account. In this paradigm an investor has what is known as a “sponsorship agreement” with their broker.⁷²⁰ This agreement sets out the terms and conditions on which the broker may operate the client’s account.⁷²¹ What is crucially important here is the fact that, between investor, sponsor and issuer, there is no bifurcation of share ownership, the investor retains legal title.⁷²² This is counter to the nominee approach to holding and trading shares in other jurisdictions, such as the UK, which was a key feature of CHESS *ab initio*.⁷²³ Thus, the broker is limited to a mere administrative function within the bounds of the sponsorship agreement and does not have a proprietary claim to the shares.

This creates significant efficiencies for the financial markets achieved via removing the bifurcation of ownership in trust based systems. Firstly, and perhaps most obviously are the efficiencies generated through investors actually owning their shares. For example, as investors fully own their shares and are named on the register, they are considered shareholders. This gives them, *inter alia*, the ability and right to receive information directly and vote. In turn, these increase investor enfranchisement, encourages investment and improves corporate governance via then enhanced ability of shareholders to exercise their

⁷²⁰ *ibid.* p. 4

⁷²¹ The observant reader will note the similarity of a sponsorship agreement with an agency contract. This was talked about in detail in Chapter 4 of this thesis.

⁷²² ASX (n 716). p. 4

⁷²³ ShareSoc UK (n 559).

powers. These all improve the conditions of the markets, attracting investors, growing companies via the heightened investment and thus strengthening the economy. This type of investor enfranchisement is clear utility maximisation.

Secondly, there are legal efficiencies – which lead to market efficiencies – that come from a simple, non-bifurcated ownership structure. At the core of these efficiencies is the fact that, under the CHES arrangement, shares aren't held in nominee accounts and so the investor is the shareholder. Consider, the case of *Eckerle v Wickeder* noted in chapter 5. To remind the reader, in brief, the issue was that end investors were unable to exercise the protections under the Company Act 2006 because, due to the holding and ownership structure, they were not considered shareholders due to the definition under the Act.⁷²⁴ This definition only applies to those who are entered onto the company register.⁷²⁵ If CHES had been adopted in the UK, it is conceivable that the claimants in the case would have been shareholders due to CHES's ability to record legal title and therefore be subject to the protections of the Act. While this case is complicated by the fact that the holdings were held via international intermediaries,⁷²⁶ even in domestic intermediated holdings it is unlikely that an investor who holds only a beneficial title will be covered by the protections of the Act. After all, the majority of shareholders in the UK hold via nominee accounts. This is a significant disenfranchisement (and thus a diminishing of utility) for investors caused by the operation of trust that CHES, in combination with legal change, helps to remedy.

⁷²⁴ 'Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)' (n 417).

⁷²⁵ Companies Act 2006 s112 (2)

⁷²⁶ Intermediated holdings and the effect of CHES will be discussed later in this section.

A further legal efficiency is that of remedying issues of identifying the *lex situs* of shares. As the case of *Macmillan v Bishopsgate* has shown, there is no real consensus in case law of where the *lex situs* of shares is located, which is only compounded by international share holdings.⁷²⁷ Indeed, with international attempts at legal harmonisation such as the Hague Convention, the problem of *situs* and the application of trust is still present. As was mentioned in Chapter 5, even with the application of the Hague Convention, international trust based intermediation is highly complex with the possible application of multiple jurisdictions' laws on the same security.⁷²⁸ CHESS' benefit is that it cuts through the dense intermediation with a simple electronic system that actively promotes individual ownership. Alongside this is the legal regime which allows, indeed *mandates*, that companies compile a list of all members of the company, including all those who only hold a beneficial interest. Part 6C.2 of the Corporations Act 2001 allows Australian companies to trace the beneficial owners of shares.⁷²⁹ This allows the issuer to fulfil its legal obligation to "maintain a register of resulting disclosed interests which is available for public inspection."⁷³⁰

In terms of efficiency, remedying the issue of *situs* improves the market through enhanced legal certainty. In knowing the jurisdiction to which the securities will be subject, the investor can account more fully for the risks of buying securities subject to those laws. This reduces investment risk and encourages investment. It also reduces the transaction costs of

⁷²⁷ See chapter 5 of this thesis for an analysis of *Macmillan* and the issues of *lex situs*.

⁷²⁸ *Ibid*

⁷²⁹ *Corporations Act 2001* §6C.2

⁷³⁰ Computershare and Georgeson, 'Transparency of Share Ownership, Shareholder Communications and Voting in Global Capital Markets' (2015)

<https://www.computershare.com/News/TransparencyofShareOwnershipShareholderCommunicationsandVotingGlobalCapitalMarkets_12032014_GCM.pdf>.

purchasing securities via reduced due diligence fees, legal fees and any insurance fees that would be needed to cut through the layers of intermediation.

A further efficiency is that of the conversion of securities from fungibles through to discreet properties. This is effected by the way that individual claims to securities are recorded and evidenced in the CHESS system. As has been noted, where an investor has a sponsorship agreement with an authorised participant, they may register their shares on the CHESS sub register. This agreement details the terms on which the participant can operate the investor's holdings on the system.⁷³¹ When this is complete, the investor is issued with a Holder Identification Number (HIN) which is similar in function to a bank account number.⁷³² If an investor has multiple sponsorship agreements then they will have a commensurate number of HINs. These HINs identify each investor and their holdings within the issue, thus identifying each holders exact shares.

This may seem no different to how trust based securities operate in the current omnibus modality, however, on closer inspection, there is a difference. In an omnibus holding, securities of individual investors become co-mingled in a pool of securities. The record of beneficial ownership is noted by the intermediary, but these are categorised as a percentage ownership of the whole pool. In this paradigm there is no way to point to an individual security and definitively identify it as belonging to an individual investor.

⁷³¹ ASX (n 716).p. 4

⁷³² *ibid.* p. 4

However, in the CHES system, rather than being held in a pooled omnibus account, each shareholding is assigned to the investor and individually identified using the HIN. Thus, when looking at securities, one can definitively say who is the owner via looking at the HIN. Similarly, if an investor does not hold such an agreement then their shares will be registered on the Issuer Sponsored sub register by default. The investor will then be issued with a Securityholder Reference Number (SRN). Unlike the HIN, the SRN does not identify any holding on the CHES sub register and each holding will automatically have a different SRN.⁷³³ However, the effect of removal of fungibility is the same.

The efficiencies generated through this change are both legal and practical in nature. Consider the ruling in *Re Harvard Securities*, particularly the ruling from Lord Neuberger. As he notes, he was unconvinced by the distinction between tangibles and intangible property and the ability of trust to take effect over shares.⁷³⁴ In terms of a legal efficiency, this issue no longer has potency as the shares, rather than being part of a fungible bulk, are now individually identifiable via the HIN (or SRN). As a result, they could be bound by the traditional trust rules, particularly certainty of subject matter. As a result, difficult cases to rule upon such as *Re London Wine* and *Re Goldcorp* are less likely to materialise, reducing the legal risk for investors. Again, this incentivises investment via a clear and certain legal regime.

⁷³³ *ibid.* pp. 4 - 5

⁷³⁴ Para 55 'Re Harvard Securities | [1997] 2 BCLC 369 | England and Wales High Court (Commercial Court) | Judgment | Law | CaseMine' <<https://www.casemine.com/judgement/uk/5a8ff7d860d03e7f57eb26d2>> accessed 24 August 2021.

In a practical capacity, having an individually identifiable security helps to alleviate problems such as securities shortfall and misappropriation or misapplication by legal owners. For example, where an intermediary goes insolvent and does not have the securities to fully credit client accounts, a shortfall occurs.⁷³⁵ This can occur through fraud (thus misappropriation or misapplication) or administrative error.⁷³⁶ In either event, it is clearly detrimental to the end investor. However, in the CHESS system, as each shareholding is clearly and individually identifiable, shortfall is all but eliminated. This is because the intermediary does not hold any shares on behalf of a client, it merely operates as an administrator of the account. This is a risk mitigating measure, incentivising investment via reduced risk and thus, cost of prevention or remediation.

8.2.2 CHESS and Trust

Therefore, the question that must be asked is whether trust has any place at all in the CHESS system? Quite simply, as securities are considered property, trust can still apply to securities in Australia.⁷³⁷ Neither the introduction of CHESS nor the legal regime abolishes trust or prevents its application to securities. Indeed, it is still possible to hold securities in nominee accounts.⁷³⁸ However, the Australian system through CHESS and a bespoke legal regime creates an environment in which the default is that shares will be held individually through non-trust based sponsor accounts.

⁷³⁵ Dixon (n 296). p. 80

⁷³⁶ Ibid.

⁷³⁷ Dixon (n 296).p. 63

⁷³⁸ ASIC, 'Shares' <<https://asic.gov.au/for-business/running-a-company/shares/>> accessed 25 August 2021.

In this respect, the problems that are inherent in trust are not entirely vanquished, particularly in international security holdings. For example, one must consider that in order to participate in CHESS, there needs to be a sponsorship agreement in place with a broker authorised to be a broker. Clearly, this would mean an individual liaising in person with a broker in Australia. This is not dissimilar to opening a sponsor account in the UK.

In both cases, it is also important to remember one of the benefits of intermediation is the ability to contract with one intermediary who can provide access to markets in multiple jurisdictions.⁷³⁹ It is likely that such an intermediary will be a trust-based intermediary, particularly for clients from a common law jurisdiction, with the issues that arise from trust based intermediation. In particular, it could be that the intermediary operates a sponsorship account in CHESS while their clients still only inherit a beneficial interest in the securities held in CHESS via the intermediary.

Therefore, this modality does not improve the efficiency for the ultimate investor in any material way. Thus while CHESS helps to alleviate the problems of trust for those who are able to contact an Australian broker in person, for many international investors without the means to do this, they must still access the Australian markets via another intermediary (quite likely trust based) and so do not gain the market efficiencies of CHESS.

⁷³⁹ See Chapter 4 for a discussion of this point.

8.2.3 The Future of CHESS

Before looking at the complimentary legal regime for securities in Australia, it is pertinent to the thesis to look at the future of CHESS in Australia. It has recently been decided that that the CHESS system is going to be replaced by Distributed Ledger Technology (DLT) in 2021.⁷⁴⁰

This is designed to promote efficiency in the holding and trading of securities. David Campbell, ASX General Manager of Engineering and Architecture has stated how these efficiencies may be made:

*"If I was to buy a BHP share from my friend Rob, there'd actually be 15 people in that chain of transfer and all that's actually happening is I'm giving Rob some money and the name on the title in the CHESS database is changing from Rob's to mine, yet there are 15 organisations in that chain."*⁷⁴¹

He then notes how this will be more efficient in the new system:

*"For us, DLT-based CHESS is the next generation of market infrastructure, moving away from the notion of a central database messaging to distributed database shared with our customers, allowing for real time source of truth to be shared, whilst also preserving privacy and integrity."*⁷⁴²

⁷⁴⁰ Asha Barbaschow, 'ASX's New Blockchain-Based CHESS System: A Marathon Not a Sprint' <<https://www.zdnet.com/article/asxs-new-blockchain-based-chess-system-a-marathon-not-a-sprint/>>. Last accessed 13 September 2021

⁷⁴¹ *ibid.*

⁷⁴² *ibid.*

The key here is that changes to the system will be made in “real time.” This ensures that potential intermediary risks such as non-exchange of information are reduced and updated titles are register in real time. Indeed, consider the benefits of DLT as has been discussed in the previous chapter.⁷⁴³ These benefits will be attributable to the Australian securities market when the technology is fully adopted and integrated. This adoption is a vindication of the benefits of DLT outlined in chapter 7. That the well regarded CHES system is being replaced by a DLT based system for its advantages over CHES is a testament to the potential market efficiencies that DLT can bring to the securities markets.

8.2.4 Complementary Legal Provision for Australian Securities

While this section has so far focused heavily on the implementation of novel technology in the Australian securities market, it is important to look at the legal framework that compliments this. It has been noted that the default position of investors using the CHES system is that of a direct owner of securities, it has also been acknowledged that trust does have some relevance in certain holdings. While trust based owners will have the protections of trust, those who hold through CHES directly, and thus are legal shareholders, have added protections from Australian legislation. Generally, it is thought that shareholder protection in Australia is high, mirroring closely that of England and Wales.⁷⁴⁴ Thus,

⁷⁴³ See Chapter 7 of this thesis.

⁷⁴⁴ Richard Mitchell, Ian Ramsay and Michelle Welsh, ‘SHAREHOLDER PROTECTION IN AUSTRALIA: INSTITUTIONAL CONFIGURATIONS AND REGULATORY EVOLUTION’ (2014) 38 Melbourne University Law Review 51. p. 71

protections include those based under the mode of trust law. However, Australia also possesses added protections on top of this.

Firstly, the Australian Securities and Investments Commission (ASIC) is vested with the power to enforce, *inter alia*, investors rights as found in the Corporations Act 2001.⁷⁴⁵ In particular, this is the Civil Penalty Regime which give investors “enhanced” protections.⁷⁴⁶ One particular feature of this is that of continuous disclosure which is outlined in ASX Listing. Rule 3.1. This mandates that listed entities disclose market sensitive information to the ASX as soon as it becomes aware of it.⁷⁴⁷ This has been noted to be a “protective measure.”⁷⁴⁸

ASIC also enforces compliance with the rule against misleading or deceptive information.⁷⁴⁹ This is based on the notion that the quality of information must be of a sufficiently accurate standard and is protected under §1041H of the Corporations Act 2001.⁷⁵⁰⁷⁵¹

The ASX also has a role to play in enforcement, though with somewhat more curtailed powers when compared with ASIC. While it has no power to impose or enforce a fine, where an investigation has been conducted by the ASX and it is found that an entity is in

⁷⁴⁵ Olivia Dixon and Jennifer G Hill, ‘The Protection of Investors and the Compensation for Their Losses: Australia’ [2018] University of Sydney Law School Research Paper 18/64
<<https://www.ssrn.com/abstract=3264939>> accessed 25 August 2021. pp. 8 - 9

⁷⁴⁶ *ibid.*

⁷⁴⁷ ASX Listing Rule 3.1

⁷⁴⁸ Dixon and Hill (n 745).p. 17

⁷⁴⁹ *ibid.*p. 15

⁷⁵⁰ *ibid.*p. 22

⁷⁵¹ §1041H Corporations Act 2001

breach of its listing rules, the ASX can suspend the entity from trading and send the information to ASIC to investigate.⁷⁵²

Another point to note is that there are also compensatory funds available. The main fund is the National Guarantee Fund (NGF).⁷⁵³ This fund protects investors against losses such as, *inter alia*, the unauthorised transfer of securities.⁷⁵⁴

The Securities Exchanges Guarantees Corporation (SEGC) who run the NGF also offers what they term “subdivision 4.9 claims.”⁷⁵⁵ This provides compensation to an investor should an ASX market participant (as defined by the ASX) become insolvent and cannot meet its obligation to the investor.⁷⁵⁶ These compensatory measures are however capped. The cap stands at AU\$15 million for each head of claim.⁷⁵⁷

A final point to note is that of the ability for shareholders to bring a class action suit. Where a group of shareholders have been wronged, ASIC actively encourages investors to seek private legal redress.⁷⁵⁸ The first such action was *King v AG Australia Holdings Ltd (Formerly GIO Australia Holdings Ltd.)* in 1999. Since then, class actions have become common due to “an accessible class action procedure; statutory causes of action based on misleading or deceptive conduct and breach of continuous disclosure requirements, for which individual

⁷⁵² Dixon and Hill (n 745).p. 14

⁷⁵³ ASX (n 716).p. 8

⁷⁵⁴ *ibid.* p. 8

⁷⁵⁵ Securities Exchanges Guarantee Corporation (SEGC), ‘Who Can Claim?’ <<https://www.segc.com.au/who-can-claim>>. Last accessed 13 September 2021

⁷⁵⁶ *ibid.*

⁷⁵⁷ *ibid.*

⁷⁵⁸ Dixon and Hill (n 745). p. 25

shareholders have standing to pursue monetary damages; increasing numbers of individual and institutional shareholders that are willing to sue; and the acceptance of third party litigation funding as a method for financing litigation, including high-value class actions.”⁷⁵⁹

Therefore, there are a number of protections available to investors to secure and enforce their rights and recover compensation in specific circumstances. This combination of trust based protections and also protections generated from legislation give the Australian markets strong investor protection. In turn, this generates efficiencies for the Australian market. By having the strength of investor protection enshrined in legislation, investment is encouraged through risk mitigation (and thus a greater guarantee of wealth creation) and lower transaction costs. This market efficiency and encouraged investment leads to a stronger economy and greater wealth maximisation of all participants and society as a whole.

8.2.5 Lessons from Australia

Thus, what can be learnt from Australia? Sharesoc indicates that the lesson is that the UK could simply adopt a technology similar to CHESS in order to remedy inefficiencies.⁷⁶⁰ The author does not believe it is a straightforward as this. Indeed, any adoption of new technology has to be approached cautiously, with a careful analysis of whether the costs of implementation are outweighed by the benefits of adoption. It must also be noted that any implementation of novel technology must also be matched with a commensurate legal

⁷⁵⁹ *ibid.* pp. 27 - 28

⁷⁶⁰ ShareSoc UK (n 559). p. 26

system to truly maximise the benefits of the technology. Therefore, it is not so simple as perhaps Sharesoc may think.

However, this is not to say that Sharesoc are wrong in their pointing to Australia as a paragon of securities market efficiency. What can be learnt is that technology can have an enormously positive effect on the efficiency of the market, both practically and legally. But it can also be learnt that such efficiencies must be supported by a robust and matched legal system to maximise efficiency. Australia has done this through the implementation of CHESS (soon to be replaced by DLT) that facilitates direct ownership, while having laws in place that helps to encourage direct ownership via CHESS and solidify the position of shareholders via, *inter alia*, making the CHESS register the register that denotes legal title.

Could the UK follow suit? Quite possibly as this thesis has sought to demonstrate. However, Australia is not the only jurisdiction from which Great Britain can learn. The next jurisdictions will focus less upon the technological aspect (simply as few other jurisdictions have integrated advanced technology as effectively as Australia) and instead look at the theoretical conceptualisation of securities, intermediated securities and securities holdings.

8.3 Jurisdiction – United States

The next jurisdiction that the thesis shall focus upon is the United States. When looking at the US, the vast majority of the analysis will be focused upon the conceptualisations of

securities and security entitlements within the jurisdiction. However, there will be mention of the Direct Registration System (DRS) at the end of this section as a point of novel technology.

8.3.1 How are Securities Classified in the US?

The US has a highly novel mode of classifying securities. Combining elements of both rights *in rem* and rights *in personam*, this mode is known as the “security entitlements model.” As Dixon notes, while it is similar to the trusts model in that it consists of multi-tiered entitlements, it is also strikingly different in that each entitlement in the chain is totally distinct from the entitlement above as opposed to deriving the entitlement from it.⁷⁶¹

The foundation of this structure can be found in the Uniform Commercial Code (UCC) Article 8 §5, as revised in 1994. This notes that the investor and all intermediaries except the first intermediary in the chain immediately after the issuer or CSD, do not hold a legal or beneficial ownership in the issued shares. What they hold is a *sui generis* right (securities entitlement) that represents the entitlement holder’s right to a proportion of the shares.⁷⁶² Indeed, Chun suggests that as these rights can be exerted solely against the relevant intermediary (with very limited exceptions), it is better to think of securities entitlements as a pack of personal rights.⁷⁶³

⁷⁶¹ Dixon (n 296). p. 70

⁷⁶² Changmin Chun, *Cross-Border Transactions of Intermediated Securities: A Comparative Analysis in Substantive Law and Private International Law* (2012th edition, Springer 2012). p. 203

⁷⁶³ *ibid.* p. 217

It should be noted at this point that the subject of the securities entitlement does not have to be a security but a “financial asset” that is defined in §8-102 (9) UCC.⁷⁶⁴ For the purposes of intermediated securities, these entitlements will generally be recorded in a securities account operated by intermediaries on behalf of the intermediary (or indeed investor) below in the chain.⁷⁶⁵

An investor or lower intermediary acquires an entitlement in three ways according to UCC §8-501. These are where a securities intermediary:

(1) indicates by book entry that a financial asset has been credited to the person's securities account;

(2) receives a financial asset from the person or acquires a financial asset for the person and, in either case, accepts it for credit to the person's securities account; or

(3) becomes obligated under other law, regulation, or rule to credit a financial asset to the person's securities account.⁷⁶⁶

Interestingly, §8-501 expands upon the notion of securities entitlements. (c) notes that if one of the above conditions are satisfied, the securities account holder gains a securities

⁷⁶⁴ A financial asset constitutes either: a security; something that is traded on the financial markets, or; any property held by a securities intermediary in a securities account. See UCC §8-102.

⁷⁶⁵ UCC §8-501 (a) outlines the definition of a securities account which is “an account to which a financial asset is or may be credited in accordance with an agreement under which the person maintaining the account undertakes to treat the person for whom the account is maintained as entitled to exercise the rights that comprise the financial asset.”

⁷⁶⁶ UCC §8-501 (b)

entitlement even though the intermediary does not actually hold the financial asset.⁷⁶⁷

Further, where an intermediary holds the asset for another person *and* it's registered in someone else's name, the other person is treated as holding the financial asset directly, as opposed to holding a securities entitlement.⁷⁶⁸ A final point to note is that the issuance of a security does not in itself establish a securities entitlement.⁷⁶⁹

Thus, we can see that the system is particularly novel. It is a multi-layered entitlement system but the entitlements are wholly separate from the entitlement above. However, where the financial asset is held in the name of another *and* registered to another, the asset is considered to be held directly.

As has been alluded to above, the interest that is granted in a securities entitlement is quite unique. It has been described that the securities entitlement is a *pro rata* interest in all the financial assets - of the specific type invested in - that belongs to the intermediaries.⁷⁷⁰ This is a right *vis-à-vis* the intermediary and generated by the relationship between securities account owner and intermediary. It exists solely between these parties and does not reach higher or lower in the chain as it is totally separate from interests in the underlying security itself.

One can compare this to the trust system where there is a right *vis-à-vis* the intermediary but generated by the series of sub trusts created by the first intermediary and issuer/CSD

⁷⁶⁷ UCC §8-501 (c)

⁷⁶⁸ UCC §8-501 (d)

⁷⁶⁹ UCC §8-501 (e)

⁷⁷⁰ Chun (n 762). p. 213

and passed down through the chain. The right is based on the initial trust of the underlying security as opposed to a totally separate pack of rights as is the case in securities entitlements.

The question is however, is this an efficient classification and conceptualisation of securities interests? *Prima facie*, the difference between a securities entitlement and a beneficial interest in securities seems somewhat semantic. In both cases the investor is not a “shareholder” and neither do they own shares in full. Indeed, the intermediated structure is very similar to the trust modality in that it is a “multi – tiered entitlement” model.⁷⁷¹ The disadvantages and inefficiencies of multiple intermediaries and a trust based system have already been belaboured in this thesis.⁷⁷² However, where the securities entitlement model differs is in the legal protection afforded to it by the UCC Art. 8. The unique legal interest of the securities entitlement does go some considerable way to remedying the inefficiencies of trust based security intermediation.

Consider, for example, voting rights. A securities entitlement holder has a number of options available to ensure that they can exercise their votes generated from the underlying security. Firstly, §8-506 provides that an intermediary must exercise the rights inherent in the securities entitlement in concordance with the wishes of the Ultimate Entitlement Holder (UEH).⁷⁷³ Interestingly, where there is an absence of an agreement, (b) provides that the intermediary must exercise the rights with due care or place the UEH in a position to

⁷⁷¹ Dixon (n 296).p. 69

⁷⁷² See Chapters 4 and 5

⁷⁷³ UCC §8-506

exercise the rights themselves.⁷⁷⁴ Thus, rather than rely on the right to vote being passed through chains of beneficial owners, as is the case in a trust based intermediated system, legislation enshrines this right providing enfranchisement, documentary security and risk mitigation for entitlement holders who wish to exercise their vote. This reduces the transaction costs via, *inter alia*, reducing the legal and due diligence costs of ensuring that the trade of securities is drafted in order to transfer the right to vote to the beneficial owner. This encourages investment and good corporate governance, thus increasing the net wealth of society, investor and company.

Further, consider the issue of investor insolvency. As Dixon notes, in theory, trust based intermediation should provide protection to beneficial owners via the equitable proprietary claim that they hold over the securities.⁷⁷⁵ However, as has been discussed already in this thesis, the validity of the trust is by no means guaranteed.⁷⁷⁶ Where no valid trust is found, the beneficial owner loses the protection afforded by trust. This is a great risk and lack of legal certainty. However, in the securities entitlement model such risk is significantly mitigated. The first layer of protection is composed of the rights owed by an intermediary to the entitlement holder. Of note, this includes a requirement to hold and maintain the corresponding number of financial assets to their customers' security entitlements and credit the security accounts as such.⁷⁷⁷ This statutory obligation is intended to help protect against problems such as shortfall. Secondly, §8-504 (b) prohibits the use of the security entitlement from being used as a security interest by the intermediary without the express

⁷⁷⁴ Ibid (b)

⁷⁷⁵ Dixon (n 296). p. 77

⁷⁷⁶ See Chapter 5 and *ibid.* pp. 64 - 65

⁷⁷⁷ UCC §8-504 (a)

consent of the entitlement holder.⁷⁷⁸ These protections are designed to prevent misapplication and misappropriation of security entitlement holder's assets and thus prevent loss.

Despite this, shortfall does sometimes occur without malpractice. The UCC then provides further protection to entitlement holders. It does this via §5 – 11 UCC where in (b) it gives securities entitlement holders priority of title over even secured creditors of the intermediary.⁷⁷⁹

In exceptional circumstances, securities entitlement holders also have UCC §8-503 (d) and (e) available. These provide that the rights over the securities entitlement may be enforced against third party purchaser of the financial asset or interest if the following are satisfied:

(1) insolvency proceedings have been initiated by or against the securities intermediary;

(2) the securities intermediary does not have sufficient interests in the financial asset to satisfy the security entitlements of all of its entitlement holders to that financial asset;

(3) the securities intermediary violated its obligations under Section 8-504 by transferring the financial asset or interest therein to the purchaser; and

(4) the purchaser is not protected under subsection (e).⁷⁸⁰

⁷⁷⁸ UCC §8-504 (b)

⁷⁷⁹ UCC §5-11 (b)

⁷⁸⁰ UCC §8-503 (d)

Section (d) then states:

“The trustee or other liquidator, acting on behalf of all entitlement holders having security entitlements with respect to a particular financial asset, may recover the financial asset, or interest therein, from the purchaser. If the trustee or other liquidator elects not to pursue that right, an entitlement holder whose security entitlement remains unsatisfied has the right to recover its interest in the financial asset from the purchaser.”⁷⁸¹

Section (e) then provides:

“(e) An action based on the entitlement holder's property interest with respect to a particular financial asset under subsection (a), whether framed in conversion, replevin, constructive trust, equitable lien, or other theory, may not be asserted against any purchaser of a financial asset or interest therein who gives value, obtains control, and does not act in collusion with the securities intermediary in violating the securities intermediary's obligations under Section 8-504.”⁷⁸²

These provisions are clearly very limited in scope. Enforcement against third parties can, in essence, only be exercised against an insolvent intermediary who is in shortfall and has transferred entitlements to a third party without consideration. Further, as Chun notes, because these rights can only be exercised where the intermediary has acted counter to its

⁷⁸¹ Ibid.

⁷⁸² Ibid

obligation to maintain sufficient numbers of financial assets, any litigation regarding this breach must be resolved prior to exercising of the rights against the intermediary or third party.⁷⁸³

However, overall the protection of security entitlement holders is strong. There are multi-layered protections that prevent investor loss and mitigate risk. This strengthens incentivisation to invest, thus promoting wealth creation for investors, issuers and society. This is at the cost of greater compliance in respect of the duties of intermediaries.

While these are very important modes of investor protection and enfranchisement that in great part remedy the inefficiencies of trust based intermediated securities systems, it is not a panacea. For example, mere conceptual remediation does not address market inefficiencies of intermediated securities such as poor information flow. This is perhaps a preserve of technology. Therefore, this thesis shall now discuss the Direct Registration System (DRS) in place in the US and how this can further remedy inefficiencies of trust based intermediated securities.

8.3.2 The Direct Registration System (DRS) in the United States

The US also has available the DRS for investors to use. This system allows an entitlement holder to become a *securities holder* instead.⁷⁸⁴ In this system, the investor is entered directly onto the books of the issuer thus becoming a direct securities holder as opposed to

⁷⁸³ Chun (n 762).p. 214

⁷⁸⁴ *ibid.*p. 226

an entitlement holder.⁷⁸⁵ Naturally, because of this direct relationship, the investor is able to exercise all of the rights that come with being a full owner include, *inter alia*, voting rights.⁷⁸⁶ This is economically advantageous in many respects. For example, the enhanced voting rights helps to promote good corporate governance under the shareholder primacy framework common in Anglo-American companies, which in turn promotes a stronger performing business and economy. Similarly, it improves investor enfranchisement through providing rights to the investor vis-à-vis the company, in turn encouraging investment.⁷⁸⁷ Such rights and protections help to encourage investment, improving the wealth of investors and companies, enhancing market liquidity and strengthening the economy.

While the NYSE and NASDAQ have both made changes to their listing rules in order to accommodate the DRS and mandated that all securities should be DRS eligible, it does not mean that the transition is seamless or the system without issues.⁷⁸⁸ In terms of transitioning to the system, there are a number of requirements that need to be satisfied by transfer agents in order to be DRS certified including, *inter alia*, “having an IT interface for electronic communication links with DTC” and “participating in a surety program.”⁷⁸⁹ These are of course costly with which to comply, however, without compliance, there can be no transfer agent and thus the system cannot operate. As has been seen in the previous chapter, in order to implement novel technologies, the costs of implementation must be weighed against the potential economic benefits in order to assess efficiency. Considering

⁷⁸⁵ NASDAQ, ‘Direct Registration System Definition | Nasdaq’ <<https://www.nasdaq.com/glossary/d/direct-registration-system>> accessed 25 August 2021.

‘Direct Registration System (“DRS”)’ (*Continental Stock*) <<https://continentalstock.com/library-forms/shareholder-faqs/direct-registration-system-drs/>> accessed 25 August 2021.

⁷⁸⁷ Twemlow (n 358). p. 86

⁷⁸⁸ Chun (n 762).p. 225

⁷⁸⁹ *ibid.* p. 226

the potential benefits of the DRS system, it is conceivable that the implementation and compliance requirements can be offset by the benefits of introducing the system noted above.

A further difficulty is that of trading in this paradigm. While the share will be held directly through the DRS, when an investor wishes to trade, the DRS holding must be changed into a securities entitlement once again.⁷⁹⁰ While not necessarily laborious, it is another added complication to the system which adds a transaction cost, reducing efficiency. As has been seen in the previous chapter, novel technology can facilitate direct holding, registration and trade, without the need for added conversions.

8.3.3 Lessons from the US

There is one key point to take away from the US' conceptualisation of securities and the system it has in place to govern holding and trade. While it has an interesting and somewhat efficient electronic platform that facilitates direct holding (though admittedly not as advanced as, say, Australia), the US' real lesson is in the bespoke legal system created under UCC Art 8 to govern intermediated securities. Instead of trying to create a system *ad hoc* that is a pastiche of a number of legal regimes, the US started 'from scratch' by creating a bespoke system that promotes investor protection, efficient trade and holding, and stronger markets. Indeed, the UCC Art 8. is hailed as an exemplar of modern, innovative securities

⁷⁹⁰ *ibid.* p. 227

law that perhaps reflects the modern intermediated securities system with greater fidelity and practicality.⁷⁹¹⁷⁹²

Importantly, this section shows us that there is no need to continue to rely on trust to underpin securities in the UK. Indeed, in combination with technology – such as the DRS or other technologies outlined in earlier chapters – a bespoke legal system can create a far more efficient securities framework than is currently used in the UK. However, as noted, this does require thought as to the potential legal alternatives.

8.4 Jurisdiction – Germany

The next jurisdiction to discuss is that of Germany. The German system shall be discussed primarily with regard to its internal, domestic structure. At an international level, the system is built around a system similar to trust. While it will be important to discuss, the domestic structure is of greatest relevance to this thesis as a model of a co-ownership intermediated holdings.

8.4.1 Germany – the Domestic Holding System

In the domestic German framework, securities are held through the “pooled property model.”⁷⁹³ In this model, ultimate beneficial owners (UBOs) hold a share in the pool of

⁷⁹¹ Roy Goode, ‘Intermediated Securities: The Long Haul to a Modern, Comprehensive Legal Structure’, in Jennifer Payne and Louise Gullifer (Eds.) *Intermediation and Beyond* (1st edn, Hart Publishing 2019). pp. 109 - 113

⁷⁹² Dixon (n 296). p. 69

⁷⁹³ Director General for Internal Policies, ‘Cross Border Issues of Securities Law: European Efforts to Support Securities Markets with a Coherent Legal Framework’. p.18

securities issued, with intermediaries holding no, or minimal, ownership rights. These residual rights owned by intermediaries are bare rights akin to the concept of possession.⁷⁹⁴ This possession is described as “factual” merely denoting a control of the securities as opposed to any property right.⁷⁹⁵

In order to understand this system, it is important to begin from the understanding that Germany uses an immobilised securities system as opposed to a dematerialised one.⁷⁹⁶ I.e. physical securities which are the rights of the shares made corporeal are physically held (usually as a global or jumbo certificate) by a Central Securities Depository (CSD) – Clearstream in Germany. There is then an electronic book-entry system which deals with transactions.⁷⁹⁷ Thus at no point does the intermediary or UBO actually take physical possession of any certificate.

How then are these securities, or perhaps more accurately the relationship between investor and security, and also intermediary and security, categorised under German law? An account holder holds a joint co-possessory and co-ownership right in the pooled securities.⁷⁹⁸ Under Article 868 of the BGB (the German Civil Code), intermediaries hold an indirect possessory right over the securities for their account holders. This is based on the ability – legal fiction or otherwise – to trace the rights to the physical global security.⁷⁹⁹ Generally, these interests are based upon a series of legal fictions. For example, the

⁷⁹⁴ *ibid.*

⁷⁹⁵ *ibid.*

⁷⁹⁶ Dixon (n 296). p. 67

⁷⁹⁷ Marek Dubovec, *The Law of Securities, Commodities and Bank Accounts: The Rights of Account Holders* (Edward Elgar Publishing Ltd 2014). p. 61 - 62

⁷⁹⁸ Dixon (n 296). p. 67

⁷⁹⁹ *ibid.*

intangible rights that are embodied by a securities certificate are treated as a tangible right for the purposes of the BGB (the German Civil Code). As a result, these rights become rights *in rem*.⁸⁰⁰ Further to this, the *Depotgesetz* (the German act that deals with securities) uses these property rules to define the relationship between investor, intermediary and issuer. Intermediaries are viewed as “bailee custodians” who have possession of the certificates (as detailed above), whereas UBOs are considered bailors.⁸⁰¹ Therefore, intermediation as a structure of ownership does not arise in German law.

One point to note is how there is a subtle change in the legal nature of securities as the investor deposits their certificates into the intermediary system. Whereas they were sole owners of a single (or series of individual) certificates before, when they deposit them in collective safe custody they become co-owners over a bulk of certificates.⁸⁰² This however, does not change their legal position as owners and possessors.⁸⁰³ Dixon notes how this can cause some legal obfuscation. Consider that as a sole owner of individual securities, the subject of the owner’s ownership is relatively obvious, it is over the securities. However, when securities are given to an intermediary and the investors become co-owners of a ‘pool of securities’ what is the definition of this pool?⁸⁰⁴ Is the pool the securities themselves, or is it the underlying interests in the securities? Where they own the securities themselves, Dixon calls this a “modification of the individual ownership approach” whereas if it was the underlying interests, then this is more akin to the multi-tiered entitlement system.⁸⁰⁵ Both

⁸⁰⁰ Chun (n 762). p. 157

⁸⁰¹ *ibid.* p. 158

⁸⁰² *ibid.* p. 158

⁸⁰³ *ibid.* p. 158

⁸⁰⁴ Dixon (n 296). pp. 67 - 68

⁸⁰⁵ *ibid.* p. 68

of these conceptualisations are different in their analysis and the legal regimes applied to them. This, in turn, reduces legal certainty, increasing the risk for investors. Thus, the markets become less efficient via decreased investor incentivisation.

In theory, due to the direct ownership that investors have under the German regime, investors can exercise their rights *vis-à-vis* issuers and third parties in a personal capacity.⁸⁰⁶ However in many respects, the system is similar to the UK's system in that generally the only way for an account holder to access their rights under this system is through their respective intermediary, what we would term their relevant intermediary.⁸⁰⁷ These rights are often exercised via proxies and financial institutions.⁸⁰⁸ The reason for this can be traced back to the unitary ownership system in the intermediated structure. Issuers in Germany generally do not know who is eligible to vote or exercise rights. As a result, owners of securities – bearer and registered – have to go through their intermediaries in order to vote or exercise rights. This is done via vesting in the intermediaries the power to vote on behalf of the shareholder or, for the case of registered securities, through the intermediaries forwarding the details of shareholders to the issuer.⁸⁰⁹ The way that the exercising of investors' rights is allowed in Germany reflects the presumption in German law that the owner of the security itself is still the investor.⁸¹⁰ This is opposed to the UK trust model where investors are not owners and thus have far more limited rights, as German investors are also owners they can and should be allowed to exercise their rights as owners.

⁸⁰⁶ Chun (n 762). p. 175

⁸⁰⁷ Dixon (n 296). p. 68

⁸⁰⁸ Eva Nase and Stefanie Jahn, 'Germany: Corporate Givernance Laws and Regulation'. Last accessed 13 October 2021

⁸⁰⁹ Chun (n 762). p. 181 - 182

⁸¹⁰ *ibid.* p. 182

There are two main advantages that result from this model of securities intermediation. The first is that of the ability of investors to assert their rights directly vis-à-vis the issuer, and the second being the protections that German law provides the investors as co-owners.

Looking at the first advantage, giving investors exercisable rights directly against the issuer helps to enfranchise the investor base. As has been noted previously in this section, and also this thesis, improving the ability of investors to exercise their rights directly against the issuer and “have a say in the company” is an area that the structure of intermediated securities in the UK often lacks. However, improving this area also creates economic efficiencies. As has been discussed, improving enfranchisement incentivises greater investment and better corporate governance via the shareholder primacy theory. By having the security of enforceable rights and remediations against the company, the directorial board are more inclined to run the company to maximise shareholder wealth, benefitting the shareholders and the economy with stronger businesses. Similarly, the incentivisation to invest helps businesses to grow through the raising of cheap capital, strengthening the economy and the returns to shareholders.

Regarding the second advantage, this is based in the conceptualisation of investors (at least domestically) as co-owners of a pool of securities. Protections for ultimate account holders are found under the *Depotgesetz*, the specific German law for securities.⁸¹¹ The *Depotgesetz* offers numerous protections to ultimate investors which cannot all be described and

⁸¹¹ Micheler, *Property in Securities* (n 5). p. 201

analysed in this section. However, we can analyse how protections are afforded in general. As noted the main fulcrum of protection is based on the orthodox position of securities in Germany, namely that investors are considered co-owners of a fractional proportion of the physical shares thus, as a result, intermediaries are mere bailees and hold no legal title, as common law lawyers would understand the term.⁸¹²

Bailment is of course covered by the bailment contract between the bailee and bailor (at least in contractual bailment).⁸¹³ Thus, the rights, powers and obligations of each party to the contract are enshrined and outlined within the contract itself. As a corollary to this, the legal position of both parties is far more certain than, say, a trust relationship, as there is clear delineations of the rights and obligations owed to each other. Therefore, the legal uncertainty reduced. Undoubtedly this is an economic efficiency as both parties understand the bounds of their power. Therefore, there could not be, for example, use of the securities for lending, shorting or money making by the intermediary without explicit consent of the owner within the contract. This is due to the contractual nature of the relationship which does not confer any right of ownership to the bailor. The risk, and the steps taken to reduce the risk of misappropriation or misapplication (such as enhanced due diligence) are reduced for the investor.

Because the intermediaries are bailees, ultimate account holders are not under great threat from misappropriation or misuse due to intermediaries holding legal title (at least not if the account holder and intermediaries are domestic). The account holders are owners of the

⁸¹² *ibid.*

⁸¹³ Baskind, Osborne and Roach (n 245). pp. 34 - 37

undivided interest. Thus, as owners, their interest and rights are protected and enforceable directly against issuers and third parties under property law.⁸¹⁴

Another area that German law addresses is that of priorities. It should be noted that this rarely happens in practice.⁸¹⁵ Generally, these rules are governed by the principle of “first in time.”⁸¹⁶ One point to note is that innocent acquisition is available under German property law. In essence this is similar to a Bona Fide Purchaser for Value Without Notice. Thus, title may pass where an acquirer has purchased the share without notice of mis-selling or fraudulent behaviour.⁸¹⁷

Further, regarding shortfall and loss sharing, the intermediary where the shortfall occurred is liable for the remediation. Where loss occurs, the co-owners (the investors) share the loss on a *pro-rata* basis. Where it cannot be determined when the loss arose, the time is set to the business day before the loss was discovered.⁸¹⁸ Additionally, as the intermediaries are not owners of the securities (either in a legal or beneficial manner), investors are protected from the insolvency of intermediaries in the chain.⁸¹⁹

Finally, there a small number of ways that an issuer can be sued by investors under German law. These include issues relating to prospectuses and transparency.⁸²⁰ German law has

⁸¹⁴ Micheler, *Property in Securities* (n 5). pp. 200 - 201

⁸¹⁵ Chun (n 762). n86 p. 192

⁸¹⁶ *ibid.* p. 192

⁸¹⁷ *ibid.* p. 189 – 191 for a detailed explanation of the theoretical justifications of this defence.

⁸¹⁸ *ibid.* p. 189 - 191

⁸¹⁹ Alexandra Horváthová, ‘INTERMEDIATED SECURITIES UNIDROIT DRAFT CONVENTION AS A SOLUTION FOR SLOVAKIAN SECURITIES LAW’ (Central European University 2011).

⁸²⁰ Marvin Fechner and Travis Tipton, ‘Securities Regulation in Germany and the U.S.’ [2016] Penn Law 71.

created the Capital Markets Model Procedure Act in order to help investors bring such actions.⁸²¹ It is similar in substance to a class action lawsuit in the US.⁸²² However, the results of this mechanism are currently considered “unconvincing.”⁸²³

Considering therefore the protections afforded to the investors by provision of German law and the classification of shareholders as full holders, one can see how the domestic system could incentivise investment. Strong protections against insolvency, against improper director behaviour and the classification of intermediaries as bailees, give investors an enhanced level of security over that of many other systems such as trust. That investors do not cede any form over ownership over their securities, merely give the intermediary a possessory power over the shares, reduce or eliminate many of the problems associated with bifurcated ownership such as passing rights in the shares down the chain. These all help to create efficiencies within the domestic German system. Lower transaction costs and risk via heightened enfranchisement helps the securities market to become more efficient and investors’ wealth to increase. This in turn incentivises investment, helping businesses to grow and the economy to strengthen. Losers in this situation, such as the companies who are liable to lawsuits by end investors, can be compensated by the net benefits to investors and society who gain from a stronger economy.

However, as has been noted at the beginning of this section, this co-ownership regime only applies in the cases of domestic German intermediated securities holdings. How then does

⁸²¹ *ibid.*

⁸²² *ibid.*

⁸²³ *ibid.*

Germany deal with the case of international intermediated holdings. The next section shall outline the regime which Germany has in place in order to integrate internationally.

8.4.2 Germany – The International Intermediated Securities Regime

Where there is an international element Germany uses a concept similar to trust known as *Treuhand*.⁸²⁴ *Treuhand* is somewhat different to the English conception of Trust however.

Whereas Trust acknowledges a dual proprietary claim – one legal, one beneficial – Germany only recognises one. Thus, a German “beneficiary” only has a contractual claim against the German trustee.⁸²⁵

The system, in an attempt to comply with the variety of conceptualisations in international jurisdictions, has created a method where the German intermediary acquires securities in the foreign jurisdiction in whatever modality that may entail (individual ownership, co-ownership, trust etc.). The intermediary then gives the investor a “WR-Credit.”⁸²⁶ Such a credit is merely a representation of the contractual relationship between investor and intermediary (German law has no concept of beneficial ownership), thus making the investor a creditor vis-à-vis the intermediary.⁸²⁷

Chun notes that there are a number of particularly complex requirements that must be fulfilled to acquire, hold and trade foreign securities as a German investor. For example, the

⁸²⁴ Dixon (n 296). p.69

⁸²⁵ Chun (n 762). p. 159 – see footnote 10

⁸²⁶ *ibid.* pp. 171 - 174

⁸²⁷ *ibid.* p. 171

intermediary who is engaged in the cross – border transaction has to entrust the foreign securities to a custodian in the foreign jurisdiction.⁸²⁸ This has to be accompanied by the “three point declaration” from the foreign custodian which states that:

“(1) The foreign custodian acknowledges that the securities (Werte) credited to the securities account of the German custodian (or CBF) belong to the customers of the German custodian. The securities account is designated as customers’ account.

(2) Security interests, liens, retention and similar rights in relation to the securities can be asserted only as regards claims resulting from purchase, administration or custody of the securities. The German custodian shall be informed without delay, when a third party levies any attachment on or takes any other measures of compulsory enforcement with respect to the securities, or of any other event affecting the securities.

(3) The securities should be kept in a place within the country of the foreign custodian’s domicile, and may not be entrusted for custody to any third party or brought into another country without the consent of the German custodian.”⁸²⁹

Clearly, these are onerous requirements, for both the German intermediary and the foreign custodian, that must be complied with and received. Thus, the economic efficiency of this system is reduced through requiring the compliance of this agreement. The cost of receiving this confirmation and ensuring compliance is a transaction cost, moving the trading

⁸²⁸ *ibid.* p. 173

⁸²⁹ *ibid.* p. 173

environment further away from the zero transaction cost ideal, and thus reducing efficiency. Indeed, from the investor's point of view, the investor could be discouraged from investing due to these requirements, the risk of non-compliance or the conceptualisation of a mere creditor vis-à-vis the intermediary. This means that foreign companies lose a valuable source of capital, and German investors are missing an opportunity to increase their wealth. Thus, the efficiency of the international securities holding system in Germany is questionable.

8.4.3 Lessons from Germany

The German intermediated system is in effect a binary system. On the one hand traditional property rules of direct ownership and possession of the security by the investor is operative, while on the other a multi-tiered intermediary system operates in tandem where each intermediary also has certain (though less extensive) property rights. The *Depotgesetz* attempts to reconcile these differences while clearly outlining the fact that German intermediated securities law is firmly rooted in property law.⁸³⁰ As a result of this system, investors are able to exercise the rights of full owners of the security. This is of course in stark contradiction to the UK's trust system where exercising of rights is highly obfuscated.

In the international holding of securities (i.e not domestic holdings) Germany offers a different system again. These are held via a special, German form of trust where investors

⁸³⁰ Dixon (n 296). p. 194

hold merely a contractual claim *vis-à-vis* the intermediaries, albeit one where their claim is protected against the intermediaries' insolvency.⁸³¹

The German system of intermediated securities (and securities in general) is one that is highly complex and perpetuates a series of legal fictions in order to work.⁸³² This complexity is evident in the above analysis of the system. However, it is not without benefits. The construction of direct ownership by investors is highly desirable and a facet that is currently missing from UK securities law. However, the inefficiencies of the system, particularly in the cross – border trade and holding of securities may not be outweighed by the benefits. Indeed, other modes of conceptualising securities may be more efficient in the long run.

8.5 Jurisdiction – Sweden

Finally, this thesis shall look at the jurisdiction of Sweden. Sweden utilises an individual ownership model of ownership. In this mode, the investor has a direct relationship with the issuer. Any intermediaries in between merely hold an administrative role or a possessory role, not any legal ownership.⁸³³ This paradigm is accomplished via two modes: either a “look through” approach or a direct approach.⁸³⁴

The “look through” approach is accomplished where an ultimate investor can bring a claim directly against the issuer despite the interposition of intermediaries between them. The

⁸³¹ *ibid.* p. 194

⁸³² Chun (n 762). See chapter on Germany, especially page 162

⁸³³ Dixon (n 296). p. 57

⁸³⁴ *ibid.*

“direct” approach is accomplished where there are no intermediaries with any legal ownership interposed between the ultimate investor and issuer, except perhaps a CSD that operates as a book keeper.⁸³⁵

Sweden utilises a “direct” approach to securities holding. In particular, they use what is known as a “transparent – direct” holding modality. In this system, the CSD – as book keeper – keeps the register of investors (who, due to their registration on the books, are of course members) and these investors are known by the issuing company.⁸³⁶ As a result of this structure, the members/investors are the full legal owners of the securities. They own and can exercise all rights that are attached to the securities. However, it is possible that they may need an intermediary’s help to exercise these rights.⁸³⁷ Generally, intermediaries hold a mere administrative function as opposed to any legal ownership over the securities.

8.5.1 Benefits of the Individual Ownership Paradigm

It has been argued by many authors and commentators that the individual ownership of securities is the most advantageous for all market players, but particularly investors.⁸³⁸

Some suggest that individual ownership creates precision and identifiability in legal analysis which could disrupt the legal framework currently in place.⁸³⁹

⁸³⁵ *ibid.*

⁸³⁶ *ibid.* p. 58

⁸³⁷ *ibid.* p. 60

⁸³⁸ *ibid.*

⁸³⁹ France Drummond, ‘Intermediated Securities: Reflections on a New Concept in French Financial Markets Law’ (2007) 1 *Law and Financial Markets Review* 435. p. 440

Certainly, individual ownership has many advantages. For example, considering precision and identifiability, the deficiencies of the bifurcated ownership of trust are obviated in this system. To illustrate, take the example of defining a shareholder. As has been shown in the thesis, defining a shareholder can be difficult and misleading, as shown by, for example, the case of *Eckerle v Wickeder*.⁸⁴⁰ This causes issues within the securities structure, from definitional problems where investors may not realise they are not in fact shareholders, through to serious issues of losing protections afforded to “full” shareholders under statutes. In an individual ownership paradigm, this problem simply does not arise. As an individual owner, they will be members of the company, entered onto the books, and thus a full shareholder. This obviates risks such as definitional deficiencies and lack of protections for investors. In turn, this heightens the efficiency of the market via reducing the transaction costs associated with remediating these legal uncertainties and conducting investigations into the standing of investors. Reducing the transaction costs and remedying the uncertainties encourages investment and thus maximises the wealth of investors, increases the ability of companies to raise cheap capital and strengthens the economy.

A particularly important aspect of the individual holding paradigm involves the exercising of shareholders’ rights. Due to the full ownership of the securities, investors are able to exercise their rights directly vis-à-vis the company. To illustrate, where a company holds a general meeting where members may vote, the board needs a full list of members. A list is produced called a “general meeting register of shareholders” as a “snapshot” of members prior to the meeting.⁸⁴¹ This list is made up of direct shareholders and where shares are held

⁸⁴⁰ This has been discussed in detail earlier in the thesis, particularly chapter 5.

⁸⁴¹ Euroclear Sweden, ‘About Registers of Shareholders’

<<https://www.euroclear.com/sweden/en/aktiebolag/om-aktiebocker.html>> accessed 25 August 2021.

via a nominee account, their nominees are required to give the company the details of the underlying shareholders.⁸⁴² Therefore, due to the direct and transparent relationship between investors and issuers, the rights are relatively easily exercisable. The ability to exercise rights in this manner is a significant enfranchisement of investors. In terms of economic efficiency, this encourages investment through strong investor protection, as well as good corporate governance, particularly where the companies abide by the shareholder primacy model. Greater investment leads to greater wealth maximisation for shareholders and companies, alongside a stronger, more competitive economy.

While such a holding model is undoubtedly beneficial, especially for investors, as ever, it is important that the law follows the market and concretises its innovations. In Sweden, the law has indeed solidified the position of the individual ownership model as the security holding mode of choice in the jurisdiction. For example, such shareholder rights are enshrined in a number of legislative provisions in Sweden. In particular, the Swedish Companies Act (“the Act”) is the main source of these rights.⁸⁴³ The position of shareholders and the exercising of their rights is considered to be strong, with the shareholder meeting considered to be “highest decision making body of the company.”⁸⁴⁴ Importantly, Sweden also has specific provisions protecting minority shareholders. These provisions are located in the Companies Act and include, *inter alia*, equal treatment of all shareholders; stronger majority requirements over and above simple majority for key decisions, and; for shareholders holding over 10%, the ability to demand a general meeting.⁸⁴⁵

⁸⁴² *ibid.*

⁸⁴³ Hans Peterson and Emma Sandberg Thomson, ‘Sweden’, *The Corporate Governance Review* (Law Business Research Ltd 2012), p. 296

⁸⁴⁴ *ibid.* p. 304

⁸⁴⁵ *ibid.* pp. 304 - 305

There is also provision for shareholders to challenge company decisions which are counter to the Companies Act. This challenge is lodged with the courts and they have the power to annul or amend the decision (though use of this procedure is rare).⁸⁴⁶ Shareholders also have the ability to lodge a complaint with the Swedish Securities Council. While they do not have any enforcement rights, they are able to issue a statement of compliance for the company, detailing their level of good practice on the securities market.

In terms of general protection and regulatory structure, there are two primary agencies which hold responsibilities in this area. The Financial Supervision Authority (FSA) or the *Finansinspektionen* holds overall responsibility for the financial markets in Sweden. They are the sole regulator of the securities market.⁸⁴⁷ In addition, they also hold overall responsibility for consumer protection in the markets, publishing a yearly consumer protection report.⁸⁴⁸ The *modus operandi* of the FSA focuses on the enforcement of their regulations and guidelines, and education of market participants.⁸⁴⁹ They undertake supervision in the securities markets and delegate certain aspects of their decision making authority to the Swedish Securities Council.⁸⁵⁰ The FSA (known as the SFSA in the following source) also undertake public enforcement duties which make up the majority of

⁸⁴⁶ *ibid.* pp. 304 - 305

⁸⁴⁷ Clearstream *Market Infrastructure Sweden* available at <https://www.clearstream.com/clearstream-en/products-and-services/market-coverage/europe-non-t2s/sweden/securities-trading-sweden-1280900> last accessed 1 May 2020

⁸⁴⁸ Finansinspektionen, 'Consumer Protection Report 2020 | Finansinspektionen' <<https://www.fi.se/en/published/reports/consumer-protection-on-the-financial-market/consumer-protection-report-2020/>> accessed 25 August 2021.

⁸⁴⁹ Finansinspektionen, 'FI and Consumer Protection | Finansinspektionen' <<https://fi.se/en/consumer-protection/fi-and-consumer-protection/>> accessed 25 August 2021.

⁸⁵⁰ Finansinspektionen, 'Supervision | Finansinspektionen' <<https://fi.se/en/markets/supervision/>> accessed 25 August 2021.

enforcement actions in Sweden.⁸⁵¹ Their powers include request disclosure of documents from market participants, temporary prohibition of professional activity and referring matters for criminal investigation.⁸⁵² The other central authority is the *Sveriges Riksbank* the Swedish Central Bank (SCB). The SCB has as part of its mission the objective to ensure a safe and secure payment system for securities.⁸⁵³

Therefore, it is clear that Sweden has strong protections and rights available to the individual shareholder in the jurisdiction. Investors initially benefit from the individual ownership model which enfranchises investors via provision of protections and rights vis-à-vis the issuer. These are then reinforced by Swedish law and the market structure creating a market that truly empowers the individual investor. Such laws and empowerments creates market efficiency via incentivised investors who are encouraged to invest via strong protections from both the holding structure and the law. This helps companies to find and raise cheap capital, investors to maximise their wealth and economies to thrive through a stronger financial market.

8.5.2 Deficiencies of the Individual Ownership Paradigm

While there are undoubtedly benefits to the system, it is not necessarily perfect. Indeed, such benefits of the system must be taken in context. For example, one of the main

⁸⁵¹ David Acebo and Magnus Andersson, 'The Law Reviews - The Securities Litigation Review' <<https://thelawreviews.co.uk/title/the-securities-litigation-review/sweden>> accessed 25 August 2021.

⁸⁵² *ibid.*

⁸⁵³ Sveriges Riksbank, 'How Should Swedish Securities Be Settled in the Future?' <<https://www.riksbank.se/en-gb/press-and-published/notices-and-press-releases/notices/2019/how-should-swedish-securities-be-settled-in-the-future/>> accessed 25 August 2021.

deficiencies of the ownership structure lies in the very fact companies deal with individual owners. Consider the size of the Swedish market. NASDAQ Nordic, which is the combined stock market for Sweden, Norway, Finland and Iceland, note that the total number of companies listed on the market is around 650.⁸⁵⁴ Contrast this with the London Stock Exchange which alone has almost 2,000 listings.⁸⁵⁵ In comparison therefore, the Swedish market is small, with fewer issuers and thus fewer participants. Thus, an individual ownership model, where individual transactions and individual exercising of ownership rights (such as voting) is perhaps somewhat less onerous for the infrastructure to deal with than a much larger market such as the UK. Indeed, the problems with market size and administrative capabilities have been discussed previously in this thesis, illustrated in particular by the Paper Crash.⁸⁵⁶ This is a considerable issue where the market infrastructure is more traditional or more analogue, with less digitisation and automation.

Therefore, an issue with this modality is that there must be a commensurately developed market in order to facilitate the number of individual investors. Indeed, this is an area where technology has been, and is being, developed to make this process more efficient.⁸⁵⁷ Without such a developed architecture, the legal conceptualisation can lead to practical inefficiencies such as, *inter alia*, backlogs of transaction paperwork (as seen in the Paper Crash), loss of instructions from investors (such as voting directions) and loss of securities themselves (particularly where the securities are still in paper form.) These inefficiencies

⁸⁵⁴ 'Nordic Main Market' <<https://www.nasdaq.com/solutions/nasdaq-nordic-main-market>> accessed 25 August 2021.

⁸⁵⁵ London Stock Exchange, 'Issuer List 2021' (2021) <<https://www.londonstockexchange.com/reports?tab=issuers>>.accessed 28 September 2021

⁸⁵⁶ See Chapter 1

⁸⁵⁷ See for example Proximity and DLT in Chapter 7 of this thesis.

can cause substantial loss to investors and companies, while also dissuading investment in the first place.

In addition to this, some commentators argue that those jurisdictions with an individual ownership model is not sufficiently equipped to address the practical realities of intermediated securities.⁸⁵⁸ For example, they suggest that individual ownership jurisdictions are not sufficiently developed enough to gain the efficiencies, particularly administrative efficiencies, of intermediated securities such as those which stem from holding client assets in an omnibus account (e.g rapid trade via filling only a single copy of the transfer paperwork.)⁸⁵⁹

Of particular concern is the status of ultimate investors in cross border holdings. Indeed, the reality is that, in the current intermediated international securities holding framework, there are tiers of intermediation between the issuer and the ultimate investor.⁸⁶⁰ As a result, the domestic law of the individual ownership based jurisdiction will only acknowledge the intermediary lowest in the chain *in their own domestic jurisdiction* as the ultimate owner, irrespective of the reality that they are merely another intermediary in the chain above the ultimate investor.⁸⁶¹ This is problematic for foreign investors who wish to participate within the stock market, yet may not be adjudged by the jurisdiction as an owner of any form.

⁸⁵⁸ Dixon (n 296). p. 60

⁸⁵⁹ *ibid.* p. 60

⁸⁶⁰ *ibid.* pp. 61 - 62

⁸⁶¹ *ibid.* p. 62

Perhaps more problematic is where the ultimate investor is uncertain of their standing under the jurisdiction's laws. While not being seen as an owner in the jurisdiction is certainly problematic for the investor (it carries significant risk in terms of, *inter alia*, investor protection), not knowing their standing causes greater risk through not being able to properly mitigate the risk and efficiently decide whether investment in the jurisdiction would be beneficial. In order to discover the true nature of their standing, investors would have to conduct enhanced due diligence and research which costs time and money. Even then, the outcome of such research may not be certain. These are costs and risks that make investment inefficient due to heightened transaction costs and risks, thus dissuading investment.

8.5.3 Lessons from Sweden

Sweden has served as an illustrative example of the individual ownership model in practice. Undoubtedly, the system provides very strong protection and enfranchisement for investors in the jurisdiction. There is no question as to who holds the rights of, for example, voting and investors can rely on statutory provisions specifically attributable to shareholders. This makes it highly desirable for investors and efficient.

However, such efficiency may be eroded where the market is large. Indeed, the need to collate and disseminate information and instructions to and from investors and issuers requires an administrative architecture developed commensurately with the size of the market. Thus, should the model be imposed in a market the size of the London Stock Exchange without an administrative apparatus that can handle the volume, the system will

become inefficient and potentially destructive as seen in the Paper Crunch.⁸⁶² Further inefficiencies are attributable to international and cross-border holdings where the investor is outside the jurisdiction and the law is not sufficiently developed to deal with this. As this is far from abnormal in the current global system, this is a great source of inefficiency.

Therefore, the lesson that can be learnt from Sweden is thus: individual ownership is very effective for enfranchising investors in certain circumstances. This is particularly the case where domestic law follows the market and gives efficacy to the modality, just as Sweden has done. However, the modality becomes less efficient as the market grows larger, especially where the infrastructure is not sufficiently equipped to handle the administrative burden.

In any event where the individual ownership legal paradigm is enforced, there must be a sufficiently developed practical framework to facilitate this, especially in larger markets. Again, this highlights the core of this thesis, that just as any technological change requires commensurate legal change, the opposite is also true in that any legal change must be reinforced by a practical framework. Such practical frameworks could be underpinned by the technologies discussed in chapter 7 above.

8.6 General Observations and Analysis

There are a number of key points that this chapter has outlined. Firstly, the chapter has

⁸⁶² Benjamin (n 384).

shown that there are a number of alternative legal conceptualisations for the securities infrastructure. Indeed, many of these conceptualisations can be far more efficient than the current trusts system in the UK. These legal conceptualisations can increase the wealth and utility for investors via, for example, disintermediation (and therefore reduction of cost) or giving ultimate investors an easier way to enforce their rights through technology.

What is clear however, is that the systems with the greatest efficiency combine technological advancement with legal change. The US and Australia are cases in point here. Both have developed effective technological systems that allow investors to have a far greater input into the control and use of their securities, and have matched this with legal change that helps the technology be used to its full effect.

Compare this with the UK. The UK, as has been noted in previous chapters, has not shied away from introducing novel technologies. In many cases, there has been some legal adaptability, such as amendment of the Companies Act 2006. However, there has been reticence to entirely rewrite the law surrounding intermediated securities. In particular the law of trust seems to be steadfastly adhered to, even where new technologies can completely obviate the need to divide ownership as is the case in trust. The US and Australia clearly show this. The question that remains then, is, in light of novel technology, what kind of legal system can be adopted in the UK to give the most efficient security system possible?

8.7 Conclusion

This Chapter has sought to outline intermediated securities infrastructure good practice in foreign jurisdictions and provide inspiration for developing a modern, developed and competitive market infrastructure in the UK. In particular it has sought to show that there are alternatives to the trust system in place in the UK, and which provide efficiencies over and above that which trust provides.

Perhaps most strikingly in this chapter is the variety of legal conceptualisations and administrative structures that are in place globally. Each of the structures discussed provide significant efficiencies, however many also have inefficiencies that can outweigh the efficiencies. It is clear from this analysis that a truly economically efficient intermediated securities system is one that provides the greatest enfranchisement and protection for investors, is legally supported and has a commensurately developed administrative system to give effect to the legal efficiencies.

The final Chapter in this thesis seeks to synthesise these viewpoints. In doing so it is hoped that the thesis will present the reader with an efficient, legally coherent and technologically sound alternative to the current trust based system in use in the UK and other common law jurisdictions.

Chapter 9: Towards a New Modality for the Holding and Trading of Securities in an Intermediated Environment

9.1 Introduction

This thesis has so far conducted an economic analysis of the current intermediated securities structure both domestically in the UK and in foreign jurisdictions. Previous chapters have outlined the essential spirit and purpose of securities, highlighted by the historical analysis. Further chapters have outlined how that spirit has been obfuscated via the use of intermediaries and the impact – indeed, potential impact – of market technology. This chapter attempts to tie these findings together. In doing so, the thesis will postulate the “key ingredients” for an efficient intermediated securities system, and how this could be adopted in the UK.

9.2 Key Facets Conducive to an Efficient Intermediated Securities System

It is perhaps prudent at this point to return to how this thesis defines “efficiency” in the intermediated securities market. In pages 16 to 18, the thesis outlined the two benchmarks by which the thesis measures efficiency, these were wealth maximisation and utility maximisation.⁸⁶³ Wealth is of course considered with pecuniary benefit only, whereas utility as a concept is more akin to “enjoyment.” For the securities system, both of these concepts

⁸⁶³ See the Introduction to the thesis, specifically pages 12 and 13.

are useful. Indeed, the thesis has used both benchmarks throughout, looking at pure wealth maximisation for investors and companies alike, and utility benefits including, *inter alia*, utilisation of the rights inherent in a security.

In addition, taking account of Fama's conceptualisation of an efficient market selling shares at "fair market value", we can also glean an additional requirement.⁸⁶⁴ This is namely that the mechanisms – both legal and practical – of the market must be sufficiently streamlined in order to promote a liquid market.⁸⁶⁵

Thus, when conceptualising an efficient market, it is important to consider mechanisms and frameworks which increase wealth maximisation and promote utility maximisation.

Particularly, for wealth maximisation, this often involves reductions in transaction costs.

Fama notes in his 1991 article that in strong form efficiency tests, transaction costs (which he defines as the cost of reflecting all the information in the price of the share) are 0.⁸⁶⁶ He wisely notes however, that it is rare that costs are 0.⁸⁶⁷ Despite this reducing transaction costs to as close to 0 as possible clearly improves wealth maximisation. Additionally, the result of the measures of reducing transaction costs (such as removal of many intermediary layers and imposition of novel technologies) often has the resulting benefit of improving utility via investor enfranchisement.

⁸⁶⁴ Fama (n 44).

⁸⁶⁵ See the introduction above.

⁸⁶⁶ Eugene F Fama, 'Efficient Capital Markets: II' (1991) 46 *The Journal of Finance*. p. 1575

⁸⁶⁷ *ibid*.

The thesis has examined the English and Welsh securities system, alongside that of other jurisdictions. Through these analyses, the thesis has highlighted, and drawn inspiration from, other jurisdictions' modes of improving both wealth maximisation and utility maximisation. Indeed, in light of these analyses, it is postulated by this thesis that both wealth maximisation and utility maximisation can be improved via two key steps.

The first step is to implement modern and advanced technological solutions that improve investor enfranchisement and reduce the need for multi-layered intermediaries. This process of disintermediation and heightened powers of ultimate investors helps to reduce the transaction costs stemming from inefficient intermediation and improve enfranchisement via, *inter alia*, fostering a direct relationship between ultimate investor and issuer.

The second step is that, as is historically the case, the law follows the market.⁸⁶⁸ The securities market is no different. There must be a commensurately robust and certain legal regime in place that enshrines the inherent essence of securities as freely tradable packs of rights, as well as promoting a safe, certain and efficient holding and trading regime. The ultimate argument of this thesis is that while trust was historically the most efficient means to achieve market efficiency, especially in light of modern technology, this is no longer the case. Therefore, the chapter shall now discuss the technological innovations available to the market, followed by the legal conceptualisation that the law could utilise in lieu of trust.

⁸⁶⁸ See Chapter 1 for an explanation of this.

9.2.1 Technological Innovations in the Securities Markets

The thesis has already noted the plethora of technological options available to the securities market in order to increase efficiency. In looking at these one has to remember that the law follows business. However, somewhat conversely to this adage, technology has developed in order to follow the law and give effect to law's idiosyncrasies. This is particularly the case when looking at technology specifically designed for certain facets of the market such as Proximity. While certainly creating efficiencies, rather than utilise the technology to dictate a new modality on which the law can evolve, it instead tries to bridge gaps in the current legal framework. For example, Proximity attempts to improve investor – issuer communication via creating a technological bridge between the parties.⁸⁶⁹ Of course, this is not unwelcome. However, instead of using this technology to fit in with the existing legal modality of trust, why is technology not being used to override the use of trust through facilitation of a new legal modality?

Such a paradigm shift is not unheard of in the legal landscape. As chapter 6 noted, the UK's move to dematerialised securities was met with commensurate legal change.⁸⁷⁰ Indeed, the Companies Act 2006 was amended so that a securities transfer could take place minus any written instrument.⁸⁷¹ Thus, changing the legal modality to facilitate business and market efficiencies can be done and has been done. Indeed, this thesis postulates that it should be done again, though perhaps on a grander scale. Namely, this is the wholesale replacement

⁸⁶⁹ 'About Us | Proximity' (n 591).

⁸⁷⁰ See Chapter 6.3 - TAURUS

⁸⁷¹ Companies Act 1989 s 207 (1)

of the use of trust to define the relationship between investors, intermediaries and issuers, with a system that facilitates direct ownership, or as close to direct ownership, as possible. This is all the while retaining the administrative efficiencies of intermediaries.

However, such a legal change must be underpinned by a technological system that allows this to take place. As this thesis has shown, there are a number of technological solutions from around the world that can allow such a paradigm shift. However, before proceeding to illustrate which solution is best placed to be utilised in this manner, it is perhaps worth asking why the current CREST system in the UK cannot be used.

CREST, it must be noted, does offer the option for investors to hold securities in a sponsored account, also known as a personal account.⁸⁷² Through this modality, investors can benefit from direct ownership of their shares, retaining a personal link to the company.⁸⁷³ Of course, as direct owner, the investor does count as a shareholder and therefore can also benefit from the rights and protections that stem from being a shareholder. In this paradigm, the intermediary also acts as a form of agent. The intermediary – usually a stockbroker – acts as a “sponsor” who controls the holding and account of the investor.⁸⁷⁴ This, of course, means that the intermediary holds no proprietary claim over the shareholding.⁸⁷⁵

⁸⁷² Euroclear, ‘Private Investor Services - Euroclear UK & Ireland’ <<https://www.euroclear.com/services/en/private-investor-services/private-investor-services-euroclear-uk-and-ireland.html>> accessed 25 August 2021.

⁸⁷³ *ibid.*

⁸⁷⁴ *ibid.*

⁸⁷⁵ *ibid.*

Despite their availability, uptake of this has been limited due to a number of reasons.

Personal CREST accounts must be sponsored, often by a stock broker. However, many market players are reluctant to offer these sponsorships, with individuals often forced to use nominee accounts.⁸⁷⁶ Where investors are able to utilise personal accounts, it is often at a prohibitively expensive price.⁸⁷⁷

Another reason that the model is still underutilised in the UK is due to the integration of market actors into the system. Understandably, for reasons of security, system integrity and systemic risk management, access to the CREST electronic system is limited to those authorised individuals who are appropriately licensed to act within the system.⁸⁷⁸ This will of course preclude the majority of individual retail investors. Sponsorship allows individual investors to directly participate in the securities system through the operation of the account by an appropriately licensed intermediary. However, such operation requires greater attention from the intermediary to individual investors, increasing the overall cost of administration (both temporally and financially from, for example, a greater work force.) This of course leads to the prohibitively expensive costs mentioned above (the transaction costs passed on to the investor), and gave rise to the notion of pooled nominee accounts made operable by the use of trust (discussed below.)

⁸⁷⁶ Derek Pain, 'Time to Make a Stand against Crest Nominee Accounts | The Independent | The Independent' 9 October 2015 <<https://www.independent.co.uk/news/business/analysis-and-features/time-make-stand-against-crest-nominee-accounts-a6688221.html>> accessed 25 August 2021.

⁸⁷⁷ *ibid.*

⁸⁷⁸ Sponsorship is an authorizable activity under FSMA 2000 and the FSA 2012. Thus, the sponsor must have the proper authorisation from the FCA. See the FCA Handbook PERG 4 and 4.2 available at <https://www.handbook.fca.org.uk/handbook/PERG/4/> last accessed 23 September 2020

It is also important to remember the reasons for the existence of pooled nominee accounts. This was primarily due to reasons of efficiency and speed of transaction. This efficiency is particularly the case historically where the use of paper certificates and meant a delay in processing, and where technology was not sufficiently advanced to deal with a multiplicity of voluminous and/or instantaneous transactions.⁸⁷⁹ Pooling shares allowed intermediaries to conduct bulk transactions, thus reducing time to process transactions (via not having to fill in paperwork for each individual client) and cost which is passed onto the investor. This was undoubtedly an efficiency in years gone by.

However, the securities market now has available technological solutions that outmode CREST and outmode the need for nominee accounts. It outmodes them via the elimination of the need for “traditional” intermediaries⁸⁸⁰ and for cost and time efficient transactions, while allowing investors to retain individual, full and direct ownership of their shares. As it stands, CREST is not sufficiently developed to integrate this technology as they still require, *inter alia*, a broker sponsor who, in turn, are usually reticent to operate such a modality and do not have sufficient technological solutions to facilitate cost efficient individual operation.

Therefore, what technology is best placed to serve as the basis of a new, efficient modality? In the opinion of this author, it is DLT. Discussed in Chapter 7, DLT offers an entirely novel modality that comprises registration, holding and evidencing securities entitlement, alongside speed and security of transaction, and facilitating a direct – or close to direct – relationship between investor and issuer.⁸⁸¹ This is over and above the level offered by both

⁸⁷⁹ ShareSoc UK (n 559). p. 4 and pp. 9 – 10

⁸⁸⁰ This definition shall be discussed in coming sections.

⁸⁸¹ See Chapter 7 for how DLT accomplishes these.

the technology's competitors (e.g Proximity) and the current system in place in the UK (CREST).

What is perhaps the most telling of DLT's promise in this area is the adoption of the technology for imposition in the Australian capital markets. As a particularly efficient market favoured by investors (as noted by the Shareholders Society UK) and as a relatively similar market in composition (if not size) to London, their decision to utilise DLT and the reasons behind it should be noted.⁸⁸²

In using DLT, key efficiencies can be created and inefficiencies eradicated or reduced. For example, concerns over safe keeping, security and title deducement are significantly assuaged due to the distributed nature of the ledger, the validation process and the difficulty tampering with records. This helps to ensure that loss, misappropriation and misapplication of securities is mitigated via strong security and a distributed record of entitlement. This in turn reduces risk and thus costs of mitigating the risk and potential loss that would fall on the investor.

Further, the use of DLT can help to cut the numbers of intermediaries in the system and reduce their function to that of account administrators, as opposed to owners of securities. As Micheler correctly notes, there is an abundance of intermediaries within the current system that increase cost and risk for investors.⁸⁸³ This is echoed in both the Lamfalussy

⁸⁸² ShareSoc UK (n 559).

⁸⁸³ Micheler, 'Intermediated Securities and Legal Certainty' (n 409).pp. 3 – 4

Report and the Kay Review 2012.⁸⁸⁴⁸⁸⁵ Strikingly, in the Kay Review it specifically notes how intermediaries must “*earn sufficient to remunerate the employees and reward its own investors.*”⁸⁸⁶ Of course, they must do this via passing significant cost onto their clients, the investors, which increases their overall transaction costs and reducing market efficiency. DLT can operate in a far more stripped down paradigm. As much of the process is automated in DLT (such as validating title and peer – to – peer trades), the need for multiple layers of intermediaries is reduced thus reducing transaction costs for the investors. Indeed, as Bayly notes, DLT has the ability to speed up transactions via, *inter alia*, reducing “*the number, duration and complexity of reconciliations, manual interventions and other data processing steps.*”⁸⁸⁷ Thus, even if sponsors had a larger amount of accounts to administer, the back office processes and other administrative procedures benefit from greater levels of automation, balancing the cost of managing more accounts, and making the direct ownership of securities through sponsored accounts more viable for the intermediary and investor.

Additionally, DLT improves investor enfranchisement via the ability of investors to easily acquire and exercise their rights directly vis-à-vis the issuer. It does this via the ease of participation in the DLT system for the investor and the keeping of an accurate, real time ledger of shareholders. As the system can facilitate real time transactions with the fractional cost of transactions in the current system, the relative efficiency trade off of using pooled

⁸⁸⁴ European Securities Markets Authority (n 410). p. 10

⁸⁸⁵ Kay (n 413)., para 3.7

⁸⁸⁶ *ibid.*

⁸⁸⁷ Stephen Bayly, ‘Distributed Ledger Technology in the Capital Markets: Game Changers - Future Trends in Securities Services’ <<https://www.gbm.hsbc.com/-/media/gbm/reports/insights/distributed-ledger-technology.pdf>>.

nominee accounts (and the loss of ability for the investor to exercise their rights thereof) is no longer the most efficient modality. DLT allows the speed efficiency of the nominee accounts to be accessed while still allowing the investor to exercise their rights directly.

This is not to say however that intermediaries in some fashion will not be needed. Indeed, when looking at that paragon of efficient capital markets, Australia, we can see that they still utilise intermediation, though relegating them to a mere administrative function.⁸⁸⁸ This acts both as a means to help run the stock markets smoothly and also ensuring regulatory compliance. Indeed, one of the great advantages of the single ledger system is the ability for only a single entity to amend and update it (this is of course at the cost of having to reconcile individual holdings via an intermediary or individual with the information on the ledger.)⁸⁸⁹ This is the system that is currently operative in the UK.

However, we can look at the implementation of DLT in the Australian system to understand how DLT can maintain, and in some ways enhance systemic security, while still allowing the benefits of direct ownership. This flows from the concept of a “permissioned system” in DLT which involves individually authorised market actors to amend the system.⁸⁹⁰ This therefore allows the creation of a system where authorised parties such as stockbrokers can operate the system in an administrative capacity, while also allowing investors and issuers to access the holdings for purposes of, *inter alia*, exercising investor rights and shareholder identification. Indeed, this is the system with which the Australian ASX seeks to

⁸⁸⁸ ASX (n 716). p. 4

⁸⁸⁹ Bayly (n 887).

⁸⁹⁰ *ibid.*

implement.⁸⁹¹ Thus, while intermediaries may no longer be needed in their traditional capacity, they will have a stripped back role in the new modality that does not interfere with the exercisable rights of investors and at a reduced increase to transaction costs. This improves the wealth and utility maximisation for investors with which this thesis measures the efficiency of the market.

Finally, consider identification of individual holdings. In the current paradigm, it is almost impossible to actively identify the specific securities owned by an ultimate investor due to A) not being on the company register, and; B) not having a way of attributing specific securities to the owner. This of course can cause a number of legal problems re validation of trusts, as has been discussed and shall be recapitulated upon in the next section. The corollary to this is that the investor, or indeed intermediaries in the chain, must ensure that that the trust (or sub trust) above them is operative, usually via ensuring that there is some form of nominal segregation in the relevant intermediary's client books. However, utilisation of DLT could make this process far more efficient. This is via the ability of DLT to quickly, easily and – critically – accurately show the ultimate investor either via a name entered into the chain or via a Holder Identification Number as is used in Australia.

Thus, in the ideal environment, it is suggested by this thesis that the use of DLT is the most beneficial for market efficiency. It increases investor enfranchisement while reducing their transaction costs, therefore increasing market efficiency. Of particular relevance is that the system would allow a reconceptualization of the legal relationship between market players,

⁸⁹¹ ASX (n 716).

particularly investors, intermediaries and issuers, moving away from concepts of legal ownership into a system more akin to an administrative function. However, without commensurate legal change, the implementation of technology is fruitless. Therefore, the next section analyses the new conceptual legal analysis of securities and the relationships between market players.

9.2.2 Legal Conceptualisation of Intermediated Securities

As stated, the technological innovation that can precipitate legal change is also reliant on the legal change itself to create efficiencies. In this sense the system is somewhat symbiotic. However, it is important to address what the legal conceptions and the ramifications thereof would be in the new system.

The first point to note is whether the underlying conceptualisation of securities as property would change. The answer, quite simply, is no. In a positive analysis, it is well established that securities are property, one need only look to case law such as *Hunter v Moss*, *Re Harvard Securities*, or *Re Goldcorp* to substantiate this. Indeed, in a normative analysis, the author asserts that securities should indeed remain property. As has been discussed in previous chapters, classifying securities as property is the most efficient analysis. It promotes security and, critically for capital markets, easy, fast and cheap tradability.⁸⁹² Indeed, securities conceptualised as property – and not any special or unique form of property – is the most efficient legal conceptualisation.

⁸⁹² See Chapter 2 for an analysis of this.

It is important to note that in this sense, securities are able to be subject to trust as they have always been. As property, securities are able to satisfy the certainty of subject requirement necessary to validate the trust as is noted in cases such as *Hunter v Moss*. Indeed, as Goode notes, even in the current conceptualisation of securities as fungible property, securities are able to satisfy this requirement due to their inherent fungibility.⁸⁹³ The segregation requirements of a traditional trust seem not to apply due to fungibility and their representation of a bulk of issuing or percentage of the total company capital.⁸⁹⁴

However, consider in the postulated new technological modality where securities holdings can be identified through the use of a Holder Identification Number (or similar tool.) In this case, the securities can in fact be, in some sense, segregated under individual numbers from the bulk of the issue. Therefore, the question of trust validity would not arise *ab initio*. This of course, saves potential legal costs over whether the securities have been sufficiently segregated or passed down to the investor.

Where legal change could be implemented is in the conceptualisation of the relationship between issuer, intermediary and investor. As is known, the system in the UK (and indeed similar Commonwealth countries) is characterised by the use of trust and its bifurcated ownership to explain the relationship between the issuer, intermediary and investor. Due to the bifurcation of ownership and alienation of the investor from the legal ownership of the securities, problems arise particularly around the exercise of investor rights, legislative

⁸⁹³ Goode (n 399). p. 63

⁸⁹⁴ *ibid.*

protection and investors understanding what they have purchased. As has been discussed previously in this thesis, these cause real, tangible inefficiencies for all parties. This includes disenfranchisement of investors and an inability of investors to benefit from protection afforded to “full” shareholders.⁸⁹⁵

However, this thesis postulates an alternate modality. In the previous chapter, there have been a number of alternative conceptualisations of securities given, from co-ownership status in Germany, through to a new type of “securities entitlement” in the US. While each of these has merits, this thesis postulates that, due to the availability and implementation of novel technology, securities do not require either co-ownership, nor a new type of securities entitlement. Quite simply, securities are now able to be individually ascribed to different owners, in particular what would now be classed as ultimate investors, in real time without relinquishing any ownership whatsoever to intermediaries. This is therefore direct ownership.

Direct ownership in itself is certainly the superior mode of ownership for the individual investor. In this modality an investor can firstly benefit from relevant protections – legislative or otherwise – that require the status of a shareholder.⁸⁹⁶ This gives the investor far greater protection, thus reducing legal risk and improving market efficiency. They are also able to exercise their rights directly vis-à-vis the issuer. The first benefit of this is again in investor protection, as a shareholder they can of course exercise minority shareholders rights. This increased level of protection helps to incentivise investors to invest, thereby

⁸⁹⁵ ‘Eckerle & Ors v Wickedder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)’ (n 417).

⁸⁹⁶ Again, see for example the factual matrix of *Wickedder*

raising the amount of capital available to companies, allowing them to grow and, in turn, improve the economy. Clearly, this is an efficiency as it maximises both the wealth and utility of the investor, while also providing benefits to companies and society as a whole.

The second efficiency stemming from direct ownership is that of corporate governance. As the thesis has noted in previous chapters, current standards of good corporate governance, particularly in Anglo American companies revolves around the concept of Shareholder Primacy or Stewardship Theory.⁸⁹⁷ In essence, companies are run with the maximisation of shareholder's wealth and utility maximisation in mind, the benefits of which trickle down to management, employees and wider society.⁸⁹⁸ However, in order to ensure that directors do in fact run the company in tandem with the wishes of investors, the investors need to be sufficiently empowered to ensure that their wishes are followed and punish directors where they run the company contrary to investor wishes.⁸⁹⁹ Under the current modality, this is not possible, or extremely difficult, as ultimate investors are not able to exercise their rights directly against the company. This leaves the ultimate investors in the position where their votes or wishes could be misconstrued or lost completely.⁹⁰⁰ However, where an investor has the ability to directly exercise their rights against the company, these problems do not arise, or are significantly ameliorated thanks to increased investor empowerment. They have a direct relationship with the company and can express their wishes and powers

⁸⁹⁷ Tricker (n 223). pp. 65 - 66

⁸⁹⁸ *ibid.*

⁸⁹⁹ *ibid.* pp. 59 - 61

⁹⁰⁰ As the investor has to express their wishes to their relevant intermediary, so too does that intermediary have to interpret and express those to their relevant intermediary. This happens for each intermediary link up to the issuer.

directly against the company. This is a very clear increase in investor utility as investors can utilise the entire spectrum of rights inherent in their security.

Therefore, the utilisation of direct ownership structures to describe the relationship between investor and issuer is undoubtedly the most beneficial for these parties. In terms of legal change, there, in theory doesn't need to be any. This is due to the use of technology substantially eliminating the need for intermediaries to be interposed between issuer and investor. The standard rules for property law would therefore fall between the parties, with the shareholder owning the share in full and having full rights vis-à-vis the company.

However, to say that intermediaries will cease to exist is incorrect. Instead, their roles will be redefined in light of technology as account administrators.⁹⁰¹

Accompanying this role change is the need for a commensurate legal reconceptualization.

There are two particular legal theories that can be discussed to define this relationship. The first is bailment and the second is agency.

9.1.2.1 Bailment

Out of the two, perhaps the most controversial – and indeed less likely conceptualisation – is bailment. As has been discussed earlier in this thesis, bailment is traditionally not applicable to securities as they are not documentary intangibles.⁹⁰²⁹⁰³ Indeed, considering the historic origins of securities and the benefits of trust as a mode for classifying the

⁹⁰¹ See Chapter 8, particularly the conceptualisation of intermediaries in Australia and Sweden who see intermediaries as more akin to agents.

⁹⁰² See Chapter 3.3.1

⁹⁰³ Goode (n 399). pp. 60 - 61

relationship between investor and intermediary, bailment would not be the most efficient form of conceptualising this relationship due to the limited ability of bailees to exercise rights over the property. This includes rights of disposition (unless specifically contracted to do so) which were so valuable to quick and frictionless market transactions in the paper based securities paradigm.

However, the position that the securities market now finds itself in makes the use of trust, or perhaps more specifically the efficiencies of using trust, outmoded in light of the ability of technology to create fast, safe and efficient transactions while still facilitating direct ownership between investor and issuer. Bailment now offers some advantages to conceptualise the relationship. Chief among these is the ability to hold property without claiming a proprietary stake in the assets. When a bailor gives a bailee their property, the bailee holds only a possessory right over the asset, and limited at that.⁹⁰⁴ The bailee holds the property to the bailor's instruction, which in its most usual form, is involved with delivery of goods.⁹⁰⁵

Further, under the terms of bailment, the bailee owes certain duties to the bailor. For example, the bailee owes a duty of reasonable care over the goods in their possession to the bailor of those goods.⁹⁰⁶ In particular, where the bailee is a professional bailee (i.e the bailor charges a fee for their services and isn't gratuitous) then the liability for this duty is

⁹⁰⁴ Baskind, Osborne and Roach (n 245). p. 34

⁹⁰⁵ *ibid.*

⁹⁰⁶ *ibid.* p 35

strict.⁹⁰⁷ This does give the bailor some strong protection against loss and thus a means to mitigate risk.

Transposing this into intermediated securities, bailment could offer a solution other than that offered by trust. In this paradigm, the bailor would be considered the investor who, upon purchasing shares on the capital markets, gives immediate possession to the intermediary who is the bailee. The bailee would hold the shareholding to contract, being responsible for delivery up and safe keeping. Undoubtedly this would help to mitigate risk of loss and misappropriation for the investor. Their shares would be held safely and applied only to the investor's strict instruction.

Thus, *prima facie*, this is a beneficial way of conceptualising the relationship between market players, specifically investor and intermediary. However, on closer inspection, there are still some limitations with using bailment. Firstly there is the question of whether the intermediary would actually *possess* anything. Where the intermediary is a Central Securities Depository whose role is custodianship of securities, then it is feasible that there is some possession there over the securities. Where, though, does this leave intermediaries whose role it is to operate securities accounts? In this case there is debatable possession of any asset. It is not the job of such intermediaries to hold any security asset, it is merely their job to operate the account of their client in an administrative, non-possessory capacity.

⁹⁰⁷ *ibid.* p. 35

Secondly, even if there was possession how could such possession be demonstrated?

Consider the case of *Mendelssohn v Norman Ltd* where the question of control over a car arose and the subsequent bailment of the car by Mendelssohn to Norman Ltd (the owner of the car park). In the case, the car owner gave the car keys to the car park attendant. It was therefore decided that, by relinquishing the keys to the attendant, the owner gave Norman Ltd. control of the asset, thus satisfying the requirements of possession and, in turn, bailment.⁹⁰⁸ What this case demonstrates is the required level of control that needs to be demonstrated and exercised by the bailee in order for bailment to be satisfied. In this case the car keys are critical as, without them, the car does not work and the control of the asset cannot be fully exerted. In the case of intermediated and dematerialised securities, what could be used to demonstrate sufficient control over the securities? Perhaps, as with each investor getting a specific identifier code, giving the administrative intermediary a similar instrument could show sufficient control over the holding?

However, the third issue is perhaps the most prohibitive of the adoption of bailment. The use of bailment requires a chattel, a physical corporeal object or something that embodies it (such as a bill of lading).⁹⁰⁹ Of course, dematerialised securities are not in any way embodied physically and so the question is whether the law could be changed to allow for intangibles, particularly pure intangibles, to be subject to bailment. Such a step change isn't completely unheard of. Consider for example the Law of Property Act 1925. Prior to this act, the law did not recognise the transfer of a debt or the benefit of a contract.⁹¹⁰ However,

⁹⁰⁸ *Mendelssohn v Norman Ltd*: [1970] 1 QB 177 (n 612).

⁹⁰⁹ Baskind, Osborne and Roach (n 245). 34 - 36

⁹¹⁰ *ibid.* p. 41

s136 of the Act overturned this, allowing for the first time in common law (discounting the Court of Chancery) such assignments of things in action.⁹¹¹

Thus, such legal innovation to match market usage is not totally alien. However, the question is whether such a change is ultimately worth it? In the opinion of this author, while bailment is a good candidate it has limitations, particularly around relinquishing sufficient control to demonstrate possession and limitations of actions able to be undertaken by the bailee. A far better candidate in the view of the author is that of defining the relationship in the context of agency. In short, the property can be retained by the investor and so removing the property element. Thus, the relationship between intermediary and investor can be one of facilitating contracts.

9.1.2.2 Agency

This thesis has already elaborated upon the characteristics of agency in a previous chapter.⁹¹² Therefore, this chapter shall focus only upon the reasons that agency is a suitable mode of conceptualising the relationship between investor and intermediary.

One of the great benefits of agency is the ability to define and boundary the relationship via the use of contract. In an agency relationship, the principal delegates authority to the agent, often delineated via a contract.⁹¹³ The main thrust of this is that the principal gives the

⁹¹¹ § 136 LPA 1925

⁹¹² See Chapter 3.3.2 of this thesis.

⁹¹³ Goode (n 399). p. 181

agent the authority to facilitate the entering into legal relations with a third party on behalf of the principal.⁹¹⁴

Transposing this into the arena intermediated securities, agency allows the principal (which would be the investor) to agree with the agent (the intermediary) the bounds of the intermediary's power and role. This includes the intermediary's remit to sell or otherwise deal with the investor's shareholding. Using agency in this manner is more in line with the regimes in Australia and Sweden that operates the direct ownership modality.⁹¹⁵ This is beneficial for the investors as they are able to delineate their expectations for holding and operating their shareholdings while retaining full ownership of the securities. There are a number of advantages that stem from this conceptualisation.

First and foremost is the ability of investors to cede control of their securities without divesting with their legal title. As has been noted, agency revolves around the definition of a relationship through the use of a contract. This contract may include duties and obligations towards particular assets, but this does not necessarily have to be so. Even where it does, the contract will not cede any rights of ownership over the assets. Compare this to trust which defines a relationship over an asset, and has at its core the division of ownership over an asset. In the current paradigm, an investor must – more often than not – cede legal control of the securities to an intermediary.⁹¹⁶ Clearly this is not ideal for the investor. In ceding legal ownership, the investor loses key rights and abilities such as disposition of the

⁹¹⁴ Baskind, Osborne and Roach (n 245). p. 47 - 49

⁹¹⁵ See Chapter 8 of this thesis.

⁹¹⁶ Dixon (n 296). p. 63

asset and, critically, their right to be registered on the company books as a shareholder. As has been shown throughout the thesis, this leads to numerous inefficiencies.⁹¹⁷

Agency on the other hand does not pose these problems. There is no ceding of any legal ownership of an asset, the agent merely operates on behalf of the principal who is the full legal owner of the asset. Thus, using this modality, the principal retains all the rights and obligations of full legal ownership of the security, including the right to be entitled a shareholder. This is the position taken by jurisdictions such as Australia and Sweden. The efficiency of this lies in the ability of investors to retain all legal control, thus improving their enfranchisement and willingness to invest, while capitalising on the administrative efficiencies of using intermediaries, including regulatory compliance and speed of transaction.

Secondly, agency also provides protections to the principal vis-à-vis the agent. This stems from both the common law duties owed by the agent and also by the equitable duties owed by the agent. Such duties are noted in *Armstrong v Miller* where McCardie J states:

*“The position of principal and agent gives rise to particular and onerous duties on the part of the agent, and the high standard of conduct required from him springs from the fiduciary relationship between his employer and himself... Those requirements are superadded to the common law obligations of diligence and skill.”*⁹¹⁸

⁹¹⁷ See chapters 4 and 5 of the thesis.

⁹¹⁸ *Armstrong v Miller* [1917] 1 KB 822

This puts the investor, as principal, in a very strong position. The investor can rely on a defined set of protections and remedies at common law to ensure the agent's compliance with their directions. Indeed, in comparison with trust, the levels of protection could be considered equivalent or even superior. For example, when considering the protections of trust over misapplication or mismanagement of trust subject matter, trustees must ensure the "integrity of the fund" or indeed the items in the trust.⁹¹⁹ The price of this however is the relinquishing of legal title by the beneficiary to the trustees. This means that, at least in theory and unfortunately sometimes in practice, trustees can mismanage or misapply the funds or items – perhaps even innocently – which causes a loss to the beneficiary. Indeed, the trust document may well note the limits of the powers of the trustees, yet in the absence of such notice, there are statutorily implied terms (such as the powers of investment.)⁹²⁰

Where such duties are breached, beneficiaries are able to claim personally against the trustees for remediation.⁹²¹ Undoubtedly, such protections against misapplication and mismanagement are strong. However, it is questionable of whether the trade of legal ownership for such protections is economically efficient considering the deep investor disenfranchisement this creates.

On the other hand, one can consider the protections afforded by agency. These are also composed of fiduciary duties and protections in the same way that trust is, alongside the

⁹¹⁹ Pearce and Barr (n 312). p. 28

⁹²⁰ *ibid.*

⁹²¹ *ibid.*p. 29

protections of, *inter alia*, the agency contract.⁹²² Take for example the fiduciary duty not to profit from the position of agency. Clearly delineated in the case of *Boardman v Phipps* where an agent is deemed in breach where they make pecuniary gain from their position of authority; where the agent uses property of the agent over which he has been given authority to make a profit, or; where they acquire knowledge from the principal from which they profit.⁹²³ In these scenarios, the principal has a number of remedies including recovery of the profit, an injunction or, if constituting a breach of contract, damages.⁹²⁴ Importantly, such a duty arises from the agent's fiduciary position vis-à-vis the principal and shares this paradigm with trustees vis-à-vis beneficiaries.⁹²⁵ There are also other duties owed by the agent to the principal which fulfil analogous functions to those under trust. For example, duties to act with reasonable care and skill.⁹²⁶ The important point to note for this section is the fact that these protections in agency are afforded without relinquishing legal title. Thus, any investor who utilised such a modality would have protections broadly analogous to those available under trust without the disenfranchisement that results from division of title.

However, this is not to say that the use of agency does not have any negative aspects. Of particular note is the fact that in the agency relationship, the principal owes the agent certain obligations. This includes obligations as to remuneration; right to a lien where remuneration does not happen, and the right to reimbursement of expense.⁹²⁷ Compare

⁹²² Baskind, Osborne and Roach (n 245). p. 107 - 109

⁹²³ *Boardman v Phipps* [1967] 2 AC 46– see in particular the judgement of Lord Denning MR

⁹²⁴ Baskind, Osborne and Roach (n 245). P. 127

⁹²⁵ *ibid.* p. 121 - 122

⁹²⁶ *ibid.* pp. 119 - 121

⁹²⁷ *ibid.* pp. 137 - 141

this to trust where the weight of obligations is highly skewed toward the benefit of the beneficiary who does not owe a duty of remuneration to the trustees (with the exception of professional trustees.)⁹²⁸

Prima facie, this may seem like agency is less efficient for wealth maximisation than that of trust. On closer analysis, this is a simplistic view. After all, is this notion of payment for services not what happens now under trust based intermediation? Additionally, obligations such as reimbursements can be contracted out of by the principal and agent.⁹²⁹ Thus, one must note the possible detrimental impact on efficiency. As opposed to trust, principals do owe agents some obligations, including remuneration, which may initially indicate that the principal as owner of the securities, incurs an added cost to market participation, thus raising transaction costs and reducing efficiency. However, as it has been noted this is not dissimilar to the current paradigm. Indeed, considering the similar levels of protection to trust available by agency, the benefits (in terms of wealth and utility) available to the beneficiary from the non – bifurcation of ownership seems to indicate that the switch to agency to define the investor – intermediary relationship efficient.

It is of course imperative to remember that such a change of modality is only going to be widely available and efficient where the correct technological infrastructure is in place. Historically, such technology has not been available, as this thesis has noted, making the benefits of trust and handing legal title to intermediaries more efficient. However, technology can now cope with the level of transactions that caused the Paper Crisis in the

⁹²⁸ Virgo (n 212). p. 382

⁹²⁹ Eric Baskind, Greg Osborne and Lee Roach, *Commercial Law* (2nd edition, OUP Oxford 2016). p. 135

1980s, partly through dematerialisation of securities and partly because of the increased capacity of technology such as DLT. This is clear from the reasons that Australia have now adopted DLT as the basis of their securities infrastructure, as well as the reasoning proffered above.⁹³⁰⁹³¹

9.3 Questions still to consider

9.3.1 Intermediary Monopoly Over the System

The first question that remains is whether such a new modality would be facilitated by intermediaries. The altruists would perhaps say “yes, of course!” However, cynics (this author included) have their reservations. The reason for this is that the UK securities market can be considered too heavily skewed in favour of the wealth (primarily) and utility (obliquely) maximisation of securities intermediaries as opposed to investors. For example, as has been mentioned in the sections above, intermediaries make significant sums from the dividends paid to them as legal owners of the shares, by companies in whom the shares are owned.⁹³² As legal owners of the shares, the intermediaries must be paid the dividends, with these being passed onto the end investor. However, while the dividends are in the accounts of intermediaries, they make significant amounts of money from the interest payable to them by the banks in which they hold the payment accounts.⁹³³ In the new, direct ownership paradigm, intermediaries lose this source of income and thus lose out in

⁹³⁰ ‘About CHES Replacement’ (*Australian Securities Exchange*)
<<https://www2.asx.com.au/content/asx/home/markets/clearing-and-settlement-services/chess-replacement/about-chess-replacement.html>>. last accessed 09 September 2021

⁹³¹ See section 9.2.1.

⁹³² ShareSoc UK (n 559). p. 10

⁹³³ *ibid.* p. 10

terms of wealth maximisation and utility maximisation. It is undeniable that, certainly in the short term, the intermediaries will lose out financially. Whether intermediaries will be willing to shoulder such short term inefficiencies and losses is not particularly certain, even if it could increase efficiencies for all parties in the future.

9.3.2 Direct Ownership and Cross Border Holdings

A further point of consideration is the ability to hold cross-border securities individually and the practicality of this for the retail investor. As has been mentioned in previous chapters, the use of intermediaries in cross border holdings precipitates a number of efficiencies for the investor.⁹³⁴ This is particularly the case where the investor is unsophisticated and wishes to diversify their portfolio with international securities. In the current modality, an investor only has to contract with one intermediary who, due to their legal ownership of shares, is able to contract with international intermediaries in the corresponding markets as they see fit. This offers a level of protection to investors who do not have to concern themselves with the actual purchasing of the international shares and the compliance with the local market regulations. This reduces the financial burden on investors, particularly retail and unsophisticated investors, thus reducing transaction costs and heightening efficiency.

The question remains however as to whether such efficiencies would still be brought about by the switch from trust based intermediation to agency based intermediation. The initial thought may well be “yes.” After all, technology can facilitate ease of entry and exit into the

⁹³⁴ See chapter 4.2.5 for a full, detailed explanation of this.

market, as well as ensuring regulatory compliance. Meanwhile, principals (i.e the investors) can delegate authority and powers to the agent in order to conduct business on their behalf in foreign jurisdictions. However, on closer inspection, this may not be entirely accurate.

As has been noted in previous chapters, cross border trade and holding of securities, more often than not, requires contracting with foreign intermediaries in order to engage in the markets of the respective country. Under the current trust based system, the investor only has to contract with a single intermediary, their relevant intermediary, who then contracts on their own behalf with foreign intermediaries. The investor – the beneficiary – only has to consider the risk vis-à-vis their relevant intermediary. However, in a system where agency is operative to conceptualise the relationship between intermediary and investor, as principal, the investor has to individually contract with the foreign intermediary through their agent.⁹³⁵ This is a significant level of risk to take on for an investor, particularly where the investor is unsophisticated or retail. This in turn can disincentivise investment or cause transaction costs to increase for investors (e.g via extra mitigation for the risks and costs of lawyers to draft operative and effective contracts.) Thus, the efficiency of the market is reduced particularly where the concept of wealth maximisation is used as a bench mark.

9.3.3 Investor Election to Hold Via Nominees

A further practical point to consider is where investors actually want to hold their shares via nominee accounts. This is not an uncommon position to take as an investor, particularly

⁹³⁵ As has been noted above, agents generally do not acquire liability *vis-à-vis* the third party (the issuer or CSD) but act as a proxy for the principal. Therefore, any loss or liability lies with the principal, who would be the UBO. See Andrew Burrows *Principles of English Commercial Law* (OUP, 2015) p. 33

where there is no concern over, for example, company control. While nominee accounts appeared historically due to creation of efficiencies via, *inter alia*, bulk transactions, they have also allowed investors who are solely concerned with wealth creation the ability to divest all of the decision making around, for example, where to invest and simply reap the benefits of increased wealth. This is an efficient mode for some who value the lack of responsibility of this arrangement more than the rights lost. For them, this arrangement is efficient as they value the wealth created in this transaction over the rights lost, whereas the intermediary values the legal ownership thanks to the efficiencies they can make on the administration of the accounts and the interest they make on the dividends paid into their accounts.⁹³⁶ In the agency arrangement, principals (i.e the investors) have to take the initiative as to how they invest (albeit with professional advice, perhaps even from an intermediary) and hold the risk of failed investments. The exception to this is where the agent acts in error or fraudulently. Intermediaries also have to operate each account individually, possibly raising transaction costs (though this is, as the thesis has discussed, mitigated by the new technology.)

However, just because the default way to define the intermediary relationship can now be considered one of agency, it is important to remember that securities are still property and, as such, can still be the subject of a trust. Therefore, there is nothing preventing the election by investors to use nominee accounts, as long as this is efficient for the investor. Thus, it is still a question of how these systems can work side by side. Indeed, it is also a question of

⁹³⁶ Devlin (n 11). p. 32

whether intermediaries themselves will promulgate such an agency modality as the de facto option for investors.

9.4 Conclusion

This chapter has endeavoured to address three points: firstly, provide a blueprint of the most efficient current modality for intermediated securities; secondly, to show how this can be integrated into the UK's legal and practical framework; and finally, to address any outstanding concerns and questions.

Regarding the first point, we have seen that there are a number of potential technological solutions which could be used to precipitate efficiencies in the intermediated securities system. However, on balance it seems that DLT provides the most comprehensive and efficient form of technological base on which to build the new modality. This is due to its high levels of security, integration of participants and ability to directly address questions of direct ownership through ease of attributing title to ultimate investors. Other possible technological solutions, such as Proximity only address certain aspects of the paradigm such as communication between parties. While undoubtedly necessary for an efficient system, it is only a partial answer to the inefficiencies of the system.

In conjunction with this technological change is the change in legal conceptualisation of the relationship between intermediary and investor. As discussed there are two possible conceptualisations of this relationship outside of trust: bailment and agency. At first blush, bailment seems attractive, however, on deeper analysis it is simply not efficient enough for

this modality. There are a number of reasons for this, however the most prohibitive is the legal requirements for the use of bailment, namely the requirement that the property subject to bailment must be chattels. This therefore poses an issue for dematerialised securities which are not considered corporeal chattels and thus are not captured under the law of bailment. Using this would require a significant change to the foundational principles of the law of bailment which, in this author's opinion, is not warranted. This is particularly so when there is availability of the next legal regime – agency.

As has been mentioned above, agency provides the most comprehensive and efficient legal foundation for this new modality. It allows the ultimate investors to retain legal ownership of the shares while capitalising on the efficiencies of intermediation, such as operation of the account. While agency has been a possible conceptualisation in the UK market through the operation of individual sponsored CREST accounts, they have historically been prohibitively expensive and unlikely to be granted by sponsors. However, with the advent of new technology such as DLT that can improve the efficiency of, *inter alia*, back office processes, granting a personal account using this technology can become the norm as opposed to the exception.

However, this leads us to the final point, that of addressing continuing concerns or areas that continue to need further research. There are still questions over, for example, how investors who wish to hold securities via nominee accounts can do so and how the new modality will continue efficiencies with regard to cross border holdings. This thesis has tentatively answered these, though further research could be warranted.

The note on which to end the substantive analysis of this thesis is however thus: the UK securities market now has a chance to become a world leader in efficient, safe and effective capital markets. This can be precipitated via the adoption of advanced technology and efficient legal regimes to govern them. At no other point in history has such a change been so important to this country. Historically, the UK has been at the forefront of innovation in the financial sector and indeed there is still ample opportunity to be such a front runner and attract business from across the globe. However, such a change must be precipitated by wholesale adoption of this new technology, a substantive change in the legal relationship between investor and intermediary, and a willingness from those engaged in the capital markets – particularly intermediaries – to adapt their practices or risk obsolescence and economic stagnation.

Chapter 10: Conclusion

This thesis provided a hypothesis at the very beginning. This hypothesis was that trust – based intermediation no longer created economic efficiencies in the securities market.⁹³⁷ In order to test this hypothesis, the thesis systematically answered four questions:

- 1) What are the historic benefits of trust as a vehicle for intermediation in securities markets?
- 2) Does securities intermediation create economic efficiencies?
- 3) Does trust – based intermediation create economic efficiencies?
- 4) What are the alternatives to the trust – based paradigm?

In order to draw a conclusion on whether the hypothesis has been proven or not, it is beneficial to recapitulate on the conclusions of each individual research question first. This will then feed into the overarching conclusion of whether the hypothesis has been tested to be correct.

10.1 Position of this research

Before the thesis addresses the research questions, it is worth recapitulating upon the position of this research in the wider discourse. As it currently stands, the majority of the

⁹³⁷ Introduction, p. 9

literature is firmly within what could be termed “black letter law.” There is a tendency to positively analyse the system as in what the current state of the system is. However, this thesis takes a different approach, giving a normative analysis of the securities market and infrastructure, suggesting what it *could* be.

The second point of difference is in the economic analysis of the legal and technological aspects of the securities system and how they can work in tandem to create an efficient system. As far as the author is aware, there is no literature which has attempted this, certainly not in the same depth as the thesis. Therefore, in analysing the securities system from a normative and economic standpoint, the thesis offers something truly original to the literature and wider discourse.

Despite this analysis, there are of course areas of further research highlighted by this thesis. For example there are questions regarding the call for investors to hold their shares directly. The thesis has shown that this is both possible and efficient. However, questioning more widely whether there is appetite for this, particularly at the unsophisticated retail shareholder level, is worth investigation.

Further, there may be questions of the feasibility of holding foreign shares directly, again particularly by retail investors. It is perhaps worth further investigation as to whether the level of protection afforded to investors and the ease of transacting in foreign jurisdictions is sufficient to allow direct ownership. This would of course require a very detailed analysis of protections and market accessibility in the foreign jurisdictions vis-à-vis those available to investors under the trust based intermediary regime.

Finally, and perhaps most controversially, the question remains as to whether financial intermediaries hold an unwarranted monopoly over the securities system. We have noted that intermediaries gain significantly from the legal ownership of securities and the interest they receive on payment of dividends into their accounts. Of course, any change to the legal relationship to agency as this thesis suggests, would naturally mean that intermediaries would lose key sources of income. Therefore, whether intermediaries would comply with the legal and technological change, whether there was sufficient incentive to change or indeed whether the intermediaries would allow it, is worth further exploration.

10.2 Research Questions

10.2.1 – Why has trust based intermediation been used historically?

As was noted in chapters 2 and 3, the use of trust to define the relationship between investor and intermediary has been used historically for the prime reason of efficient holding and trading of securities as property.⁹³⁸ In answering this question, the thesis undertook an analysis of the development of companies and securities in chapters 1 and 2 respectively. These analyses were undertaken in order to understand the economic and commercial reasons behind issuing securities for the purpose of business and economic growth. Novel company forms were created to enhance the efficiency of economic ventures

⁹³⁸ See chapter 2 and 3 re an analysis of securities as property and the use of trust in the intermediated security paradigm.

through, among other things, internalising externalities and reducing transaction costs.⁹³⁹

The real benefit of having tradable securities is in their liquidity and relatively risk-free nature. Share liquidity allows shares to be quickly divested where the risk is no longer deemed to be worth the reward or purchased where the reward is worth the risk. This is both wealth and utility maximising for investors. For issuers, the issuing of shares allows capital to be raised without fear of the imminent payback plus investment of personal loans. This reduces risk and cost for issuers, encouraging economic expansion. Again, this is both wealth and utility maximising for issuers.

Beginning with vigour in the 16th Century, after the discovery of the New World in the late 15th Century, economic ventures began to expand to take advantage of the new riches to be found in foreign lands.⁹⁴⁰ The development of joint stock companies and the notion of separate legal personality, gave rise to equity finance, selling tradable packs of rights in the company for capital input.⁹⁴¹ The efficiency and popularity of this mode of finance precipitated the formation of intermediaries in order to capitalise on the efficiencies of securities and reduce transaction costs in order to keep equity financing economically viable and efficient.

As these intermediaries were holding and selling shares on behalf of investors, the law had to define the relationship between investor and intermediary which would allow intermediaries to possess, hold, sell and buy securities on behalf of investors in an economically efficient manner. In defining the relationship, the law also had to take into

⁹³⁹ The seminal paper on this topic is Coase (n 20).

⁹⁴⁰ Fallis (n 49). p. 8

⁹⁴¹ Belovski, Vojo (n 110). p. 28

account other practical factors such as the more geographically diverse ownership base of investors (particularly the distance between investors and the central hub of securities sales in London) and the need for safe keeping of paper certificates.

The second issue that the law had to take into account was the limitations of technologies to facilitate quick investor to intermediary communication (e.g. hindering the speed of buy or sell instructions) or mitigate the risk of loss of paper securities. The speed of communication was a particularly important factor due to the need for share liquidity as a mode of risk mitigation.

Considering these requirements, trust was deemed the most efficient and cost effective legal regime with which to define the investor – intermediary relationship. It allowed intermediaries to hold, trade and possess securities as legal owner in the name of investors as beneficial owner, and do so in a manner that reduced risk (via, for example, fiduciary duties and remedies against the trustee for misapplication or loss of the securities) and capitalised on speed of transaction.

What is perhaps critical is the conceptualisation of securities as properties, and specifically intangible properties.⁹⁴² As a result of this, the relationship between the investor, intermediary and property had to be defined. As an intangible, securities are ineligible to be covered by bailment as they lack the ability to be physically controlled.⁹⁴³ Therefore, trust was the only legal proprietary regime capable of delineating this relationship.

⁹⁴² Micheler, *Property in Securities* (n 5). p. 21

⁹⁴³ Baskind, Osborne and Roach (n 929). pp. 29 – 33

Through understanding the reasons behind using trust based intermediation, one can understand the legal and economic reasoning behind its use. Understanding that the use of trust is based on the precepts of enhanced tradability, low transaction costs and risk mitigation to encourage the use of equity backed financing as a stimulus for economic growth. Extrapolating these key points, we can measure the efficiency of the current regime against them. This segues into the next question: does securities intermediation as a concept create economic efficiencies?

10.2.2 – Does Securities Intermediation Create Economic Efficiencies?

The next question that thesis had to answer to test the hypothesis put forward is whether securities intermediation as a concept creates economic efficiencies, particularly in the modern paradigm. The reasoning for this is to deduce whether intermediation itself is inefficient as opposed to *trust based* intermediation. Chapter 4 undertook an economic analysis of intermediation in order to answer this question.

In summary, the outcome of chapter 4 was that intermediation itself creates and capitalises upon a number of economic efficiencies. For example, intermediation has allowed bulk transactions through the bifurcation of security ownership. This in turn has allowed transaction costs (both temporal and financial) to be reduced vis-a-vis operating individual accounts in a paper based paradigm. Again, going back to theories of efficient markets, one

of the central efficiencies is the limitation of transaction costs to enhance liquidity.⁹⁴⁴

Clearly, intermediation has this effect, albeit at the cost of legal ownership for the investor.

Further, as securities ownership and investment became increasingly globalised, intermediation helped to facilitate easy access to foreign securities markets and risk mitigated cross jurisdictional securities holdings. This was accomplished via allowing the investors, as beneficiaries, to only deal with a single intermediary – their relevant intermediary.⁹⁴⁵ The relevant intermediary would then contract in their own name with other intermediaries in the foreign jurisdiction. From the perspective of the ultimate investor, this limits their risk to only that of the relevant intermediary. The investor has rights and protections against the relevant intermediary who, in turn, have obligations towards the investor. Any loss of security can be remedied by claiming against the relevant intermediary. This saves the investor from having to claim against an intermediary in a foreign jurisdiction and subject to that jurisdiction's laws and legal processes. This significantly mitigates the risk of doing business internationally via the reduction of legal uncertainty and transaction costs through the limitation of dealing (and thus, the contracting with and paying the fees of) a single intermediary.

Indeed, these are just two of the significant benefits of intermediation to the securities markets outlined in chapter 4. However, to say that intermediation is universally positive is too great a leap. As chapter 4 noted, there are also some significant inefficiencies that come with the implementation of intermediation. These inefficiencies are found in the form of

⁹⁴⁴ Consider the need to limit transaction costs in order to allow for efficient transactions as noted by Coase in Coase (n 10).

⁹⁴⁵ Twemlow (n 358). pp. 94 - 95

uncertainty over jurisdictional application, issues regarding the unavailability of upper tier attachment and also of domination of the securities markets through multiple, and unnecessary layers of intermediaries.⁹⁴⁶ These all add cost and reduce efficiency to the securities markets which are principally borne by the investor (through increased cost of market transaction) and the issuer (through reduction of availability capital due to less accessible trading of securities.)

Despite these significant inefficiencies, on balance, intermediation is beneficial for the market. They can, and indeed do, reduce transaction costs, and heighten the maximisation of both wealth and utility for investors and issuers. However, what this thesis has hypothesised is that these efficiencies could be maximised via the implementation of novel technologies to facilitate direct holding in the securities markets and the switch from a trust based system of intermediation, to one principally rooted in agency. Thus, the next research question to answer is whether trust based intermediation is efficient, especially in the modern technological age.

10.2.3 – Does Trust Based Intermediation Create Economic Efficiencies?

This is perhaps the most poignant, and controversial, section of this thesis. It asserts that the main obstacle to truly efficient capital markets is that securities intermediation in England and Wales (and indeed other common law jurisdictions) is based in the law of trust.

⁹⁴⁶ See chapter 4 for an analysis of these points.

However, the counterpoint to this is that, historically, trust has been the most efficient form of conceptualising this relationship. This has been noted under section 10.2.1 above.

Despite this historical efficiency, the thesis postulates that, nowadays with the prevalence of advanced technology, the detriments of using trust are no longer outweighed by the benefits, leading to an economically inefficient outcome. For example, considering the purpose of securities as a tradable pack of rights, using trust actually strips the investor of many of the rights due to moving the beneficial ownership to the intermediary.⁹⁴⁷ This is a definite reduction in the utility of the investor and also, quite possibly, the wealth of the investor.

There is also the question of trust validity through a chain of intermediaries. As we have seen, intermediary chains frequently consist of intermediaries based in foreign jurisdictions. In many of these jurisdictions, the concept of trust is not recognised, or is not well understood. indeed, the thesis has shown how the concept of trust is rarely adopted successfully in foreign jurisdictions, if at all.⁹⁴⁸ Thus, in order for the chain of intermediation to be valid, the concept of trust has to be accepted and applied by foreign jurisdictions. This, in turn, leads to significant risk for investors that results in heightened transaction costs (via, for example, legal fees) and lower utility and wealth maximisation.

Perhaps most striking is the consideration of whether or not an investor is considered a shareholder at all. As the case of *Eckerle v Wickeder* so clearly highlighted, if an investor is

⁹⁴⁷ See chapter 5.3, particularly 5.3.4 and 5.3.5

⁹⁴⁸ See chapter 5.3.3

not considered a shareholder then they lose key protections, particularly under the Companies Act 2006.⁹⁴⁹ This is clearly an enormous disadvantage and risk to investors, many of whom do not realise that this is the case.

On balance therefore, the analysis suggests that trust, while once efficient, is no longer. This is based on the development of technological solutions that outmodes the need for trust. Indeed, the historical efficiency of trust was based on the idea that the detriments of the system to investors was outweighed by the benefits of increased investment, wealth returns and economic strength. However, technology has now reached a stage where the adoption of novel technological solutions can rapidly outmode the detriments to the trust based system. This leads to the final research question: what alternatives are available to this paradigm?

10.2.4 What are the Alternatives to the Trust Based Paradigm?

The final research question to test the hypothesis is: what are the alternatives to the trust based paradigm? Answering this question hinged on two central points: what technological alternatives are there, and; what legal conceptualisations are there that are usable instead of trust? In answering these questions, the thesis looked firstly at the technological solutions available to the market. The thesis analysed various technologies including AI/Machine Learning, Proximity and, importantly, DLT.⁹⁵⁰ The analysis showed that each of

⁹⁴⁹ 'Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013)' (n 417).

⁹⁵⁰ See chapter 7.

these technologies had significant benefits that precipitates economic efficiencies.

However, the most important technology in the view of the author is that of DLT.

The significant benefit of DLT over other forms of technology is that it covers the entirety of the securities system, from holding to trading and communications.⁹⁵¹ Compare this with, for example, Proxymity. While undoubtedly a beneficial technology improving the area of communication, it does not facilitate the wholesale change in the securities market that DLT can.⁹⁵² Implementing a DLT solution into the securities market would not only create significant economic benefits but is also a viable solution to implement. This viability is demonstrated by the implementation of DLT into the Australian securities market.

This leads into the second step in answering this question: how do other jurisdictions implement technological solution in their securities markets. The thesis investigated several different jurisdictions which composed of a mix of common law and civil law jurisdictions. In terms of technology, Australia has proven to have a significant lead over other jurisdictions in terms of the implementation of novel technology. Their CHESS system was widely applauded for its efficiency and indeed, when analysing the technology, the thesis has shown the economic efficiencies of the system.⁹⁵³ To further the lead of Australia, the thesis has analysed their decision to implement a DLT solution to further develop the efficiencies of the technological framework underpinning the securities system.⁹⁵⁴ While the technological developments are important, they are only half an answer. Such a

⁹⁵¹ See Chapter 7.3 for deep consideration of the benefits of DLT, and particularly the technology's broad applicability.

⁹⁵² See Chapter 7.2 for a consideration of Proxymity.

⁹⁵³ See Chapter 8.2

⁹⁵⁴ Ibid.

technological solution must facilitate a new legal relationship between investor and intermediary, and indeed investor and issuer, in order to realise the full potential of the technological innovations.

Again, one can look to Australia for an example of how technology can facilitate a new, efficient relationship between investor, intermediary and issuer. As this thesis has shown, the use of technology can facilitate a direct relationship between investor and issuer, redefining the place of the intermediary as an agent.⁹⁵⁵ Further, Australia's technological framework in the securities market (soon to be enhanced with DLT) allows investors to maintain a direct relationship with the issuer, with the intermediary acting as an agent that operates that account.⁹⁵⁶ There is no bifurcation of ownership (although nominee accounts do exist, they are not the norm as it is in the UK) and thus investors retain full legal rights over the shares, while still operating within the efficient technological system.

As has been noted, the UK's CREST system does allow sponsored accounts, but these are the exception to the norm. Only a select few brokers actually offer this service to clients.⁹⁵⁷ Indeed, even when they do, they can be expensive and prohibitive in the type of share that can be held.⁹⁵⁸ This limitation is echoed in the data where Twemlow notes that the number of CREST personal accounts has dropped from *circa* 50,000 in 2003 to 5,400 in 2018.⁹⁵⁹ The thesis has noted that there is simply no reason that sponsored accounts that are facilitated

⁹⁵⁵ See Chapter 7

⁹⁵⁶ *Ibid.*

⁹⁵⁷ Lawson (n 365).

⁹⁵⁸ Only CREST eligible securities are holdable in a personal account, importantly this excludes foreign stocks. See Perryman (n 383).

⁹⁵⁹ Twemlow (n 358). pp. 86-87 footnote 6

by such advanced technology should be any more expensive than nominee accounts, or at worst, only subject to a minimal fee increase.

As chapter 9 noted, the technology available offsets the increased number of accounts the broker has to administer via enhanced back office efficiencies and facilitation of direct communication and share registration.⁹⁶⁰ In creating such direct ownership through novel technologies, commensurate legal change needs to occur in order to concretise the efficiency. In the analysis of this thesis, agency is the natural legal conceptualisation with which to define the new relationship between investor and intermediary. It allows the investor's accounts to be operated by the intermediary without legal ownership of the shares being divested to the intermediary. This reduces risk and heightens efficiency. Quite simply, the long term efficiencies precipitated by the combination of advanced technology to facilitate cost effective direct ownership and commensurate legal change, outweigh the short term costs to the parties, particularly intermediaries.

10.3 Concluding Remarks

In the author's view, there is simply no reason to suggest that the modality that we currently have in the UK for securities holding and trading via intermediaries, is as efficient as it could be. The thesis has shown this not to be the case. Technology has evolved from the paper based modalities of yore, and indeed even from the limited digitalised solutions available in the 1980s and 1990s. In these historical paradigms, trust was undoubtedly the

⁹⁶⁰ See Chapter 9.2.1

most efficient way to conceptualise the relationship between investors and intermediaries. Even if it was at the expense of the legal ownership and direct relationship between investor and issuer, the use of trust helped to invigorate and expand the economy through quick and safe trading of paper securities and early forms of digitised securities. This provided benefits to investor, issuer, intermediary and indeed all of society via a strong, competitive economy that encouraged business growth.

However, as has been shown, there is now a sufficient level of technology to allow the legal relationship between these parties to be redefined. In redefining this relationship, the relative positions of the issuer and investor (the two main parties to a securities transaction) are economically enhanced. The new position of the intermediary is potentially as economically beneficial as previous, however there is undoubtedly a need for the intermediaries to adapt to the new market environment in light of the technological disruption. Their new role as account administrators with no legal ownership is still very important in the securities system from an efficiency perspective and also a regulatory perspective (particularly in light of the limitation of systemic risk.)

This is the fork in the road the country now finds itself in. Does the nation continue to rely on trust and an outmoded technological infrastructure that is dominated by intermediaries? Or does it instead choose to become innovators in securities infrastructure and capital markets, leading with efficient technology and legal conceptualisations and secure London's position as the pre-eminent financial capital in the world, even if this means securities intermediaries are subject to short term inefficiencies? In the author's view, it is clear that it

is the second option that should be taken, however whether it will be or not is perhaps an altogether different question.

Bibliography

Articles and Journals

Adams GB, 'The Origin of English Equity' (1916) 16 Columbia Law Review

Anand AI, 'IS SYSTEMIC RISK RELEVANT TO SECURITIES REGULATION?' (2010) 60 The University of Toronto Law Journal 941

Balfour A, 'Managing Documentary Risk' The Treasurer (November 1999)

<[50.pdf#:~:text=Documentation%20risk%20can%20be%20divided%20into%20three%20categories%3A,adequately%2C%20or%20at%20all%2C%20a%20situation%20that%20arises.>](https://www.treasurers.org/ACTmedia/TTNov99Balfour49-50.pdf#:~:text=Documentation%20risk%20can%20be%20divided%20into%20three%20categories%3A,adequately%2C%20or%20at%20all%2C%20a%20situation%20that%20arises.></p></div><div data-bbox=)

Bebchuk LA, 'The Case for Increasing Shareholder Power' (2005) 118 Harvard Law Review 833

Belovski, Vojo, 'The Concept of a Joint Stock Company' (2017) 5 Journal of Process Management - New Technologies

Birks P, 'Equity in the Modern Law : An Exercise in Taxonomy.' 26 University of Western Australia Law Review 1

Brühl V, 'Virtual Currencies, Distributed Ledgers and the Future of Financial Services' (2017) 52 Intereconomics 370

Choi SJ (ed), 'A Framework for the Regulation of Securities Market Intermediaries' [2004] Berkeley Business Law Journal

Coase RH, 'The Nature of the Firm' (1937) 4 Economica 386

Coase RH and Virginia U, 'The Problem of Social Cost' (1960) 3 THE JOURNAL OF LAW AND ECONOMICS 44

Davies KG, 'Joint-Stock Investment in the Later Seventeenth Century' (1952) 4 The Economic History Review 283

Drummond F, 'Intermediated Securities: Reflections on a New Concept in French Financial Markets Law' (2007) 1 Law and Financial Markets Review 435

Drummond H, 'Riding a Tiger: Some Lessons of Taurus' (1998) 36 Management Decision 141

'Efficient Capital Markets: II' <<https://www.jstor.org/stable/2328565>> accessed 25 August 2021

Fama E, 'Efficient Capital Markets: A Review of Theory and Empirical Work' (1970) 25 Journal of Finance

Fechner M and Tipton T, 'Securities Regulation in Germany and the U.S.' [2016] Penn Law 71

Fleckner AM, 'Adam Smith on the Joint Stock Company' (Max Planck Institute for Tax Law and Public Finance Working Paper 2016 – 01 2016) Working Paper

Friedman D., 'Law and Economics: What and Why.' (1989) 9 Economic Affairs 25.

Hennart J.F, 'What Is Internalization?' (1986) 122 Weltwirtschaftliches Archiv 791

Hohfeld WN, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (1917) 26 The Yale Law Journal 710

Kahneman D and Tversky A, 'Prospect Theory: An Analysis of Decision under Risk' (1979) 47 Econometrica 263

Kanzaki, K., 'Immobilization of Stock Certificates: The Position of the Beneficial Shareholder' (1981) 3 Journal of Comparative Corporate Law and Securities Regulation

Keijser T and Mooney CW, 'Intermediated Securities Holding Systems Revisited: A View Through the Prism of Transparency' (University of Pennsylvania 2019) Institute for Law and Economics Research Paper ID 3376873 <<https://papers.ssrn.com/abstract=3376873>> accessed 25 August 2021

Kronman A, 'Wealth Maximisation as a Normative Principle' (1980) 9 The Journal of Legal Studies

Kyriazis N and Metaxas T, 'Path Dependence, Change and the Emergence of the First Joint-Stock Companies' (2011) 53 Business History 363

Ledrut E and Upper C, 'The US Paper Crunch, 1967-1970' <https://www.bis.org/publ/qtrpdf/r_qt0712z.htm> accessed 24 August 2021

Lee IB, 'Efficiency and Ethics in the Debate about Shareholder Primacy' (2006) 31 Delaware Journal of Corporate Law 533

Lipton P, 'The Evolution of the Joint Stock Company to 1800: An Institutional Perspective' (Monash University Department of Business Law and Tax 2016) Monash University Department of Business Law and Tax Research Paper No 19 ID 1413502

Mellers B and others, 'Surprise: A Belief or an Emotion?' (2013) 202 Progress in Brain Research 3

Mitchell R, Ramsay I and Welsh M, 'SHAREHOLDER PROTECTION IN AUSTRALIA: INSTITUTIONAL CONFIGURATIONS AND REGULATORY EVOLUTION' (2014) 38 Melbourne University Law Review 51

- Rix MS, 'Company Law: 1844 and To-Day' (1945) 55 *The Economic Journal* 242
- Robertson J and Funnell W, 'The Dutch East-India Company and Accounting for Social Capital at the Dawn of Modern Capitalism 1602–1623' (2012) 37 *Accounting, Organizations and Society* 342
- Rogers J, 'Conflict of Laws for Transactions in Securities Held Through Intermediaries' (2006) 39 *Cornell International Law Journal* 285
- Ronnegard D and Smith NC, 'Shareholder Primacy vs. Stakeholder Theory: The Law as Constraint and Potential Enabler of Stakeholder Concerns' [2018] INSEAD Working Paper 2018/15/ATL/ISIC <<https://www.ssrn.com/abstract=3165992>> accessed 24 August 2021
- Schmitthoff M, 'The Origin of the Joint-Stock Company' (1939) 3 *The University of Toronto Law Journal* 74
- Shavell S, 'Economic Analysis of Property Law' (National Bureau of Economic Research 2003) Working Paper 9695 <<https://www.nber.org/papers/w9695>> accessed 24 August 2021
- Stevens J, 'Restitution or Property? Priority and Title to Shares in the Conflict of Laws' (1996) 59 *The Modern Law Review* 741
- Turner JD, 'The Development of English Company Law before 1900' [2018] *Research Handbook on the History of Corporate and Company Law* <<https://www.elgaronline.com/view/edcoll/9781784717650/9781784717650.00013.xml>> accessed 24 August 2021
- Walker CE, 'The History of the Joint Stock Company' (1931) 6 *The Accounting Review* 97

Zamani ED and Giaglis GM, 'With a Little Help from the Miners: Distributed Ledger Technology and Market Disintermediation' (2018) 118 Industrial Management & Data Systems 637

Reports

ASX, 'ASX - CHESSE Brochure' (2011)

<https://www.asx.com.au/documents/research/chess_brochure.pdf>

Bank for International Settlement, 'Principles for Financial Market Infrastructures' (BIS, April 2012)

Bank of England, 'The CREST Project' (1995) <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/1995/the-crest-project.pdf?la=en&hash=B6B1309F6C2FED094623FF75C358FA700EBC25B9>

Bayly S, 'Distributed Ledger Technology in the Capital Markets: Game Changers - Future Trends in Securities Services' <https://www.gbm.hsbc.com/-/media/gbm/reports/insights/distributed-ledger-technology.pdf>

BIS, 'Payment Systems in the United Kingdom' (2003)

BIS, "'Australia" Payment, Clearing and Settlement Systems in the CPSS Countries - Volume 1' <<https://www.bis.org/cpmi/publ/d97.htm>> accessed 25 August 2021

Computershare and Georgeson, 'Transparency of Share Ownership, Shareholder Communications and Voting in Global Capital Markets' (2015)

https://www.computershare.com/News/TransparencyofShareOwnershipShareholderCommunicationsandVotinginGlobalCapitalMarkets_12032014_GCM.pdf

Cox, Sir George, 'Overcoming Short-Termism within British Business: The Key to Sustained Economic Growth' (2013)

https://www.yourbritain.org.uk/uploads/editor/files/Overcoming_Short-termism.pdf

CREST, 'CREST Reference Manual' (3 July 2019)

Deloitte, 'The New Physics of Financial Services: Understanding How Artificial Intelligence Is Transforming the Financial Services Ecosystem' (2018)

Director General for Internal Policies, 'Cross Border Issues of Securities Law: European Efforts to Support Securities Markets with a Coherent Legal Framework' (European Parliament, 2011)

European Central Bank, 'The Potential Impact of DLTs on Securities Post-Trading Harmonisation and on the Wider EU Financial Market Integration' 134

European Parliament, 'Distributed Ledger Technologies and Blockchain: Building Trust With Disintermediation'" (2018) <at https://www.europarl.europa.eu/doceo/document/TA-8-2018-0373_EN.pdf>

European Securities Markets Authority, 'Lamfalussy Report' (2001)

https://www.esma.europa.eu/sites/default/files/library/2015/11/lamfalussy_report.pdf

Fallis A, 'Evolution of British Business Forms' (ICAEW, 2017)

Financial Reporting Council, 'The UK Stewardship Code 2020'

<<https://www.frc.org.uk/getattachment/5aae591d-d9d3-4cf4-814a->

[d14e156a1d87/Stewardship-Code_Dec-19-Final-Corrected.pdf](https://www.frc.org.uk/getattachment/5aae591d-d9d3-4cf4-814a-d14e156a1d87/Stewardship-Code_Dec-19-Final-Corrected.pdf)> accessed 29 April 2022

Goode, Roy et al., 'HCCH | Explanatory Report on the 2006 HCCH Securities Convention'

(2017) <<https://www.hcch.net/en/publications-and-studies/details4/?pid=2955>> accessed

24 August 2021

IOSCO, 'PRINCIPLES ON CLIENT IDENTIFICATION AND BENEFICIAL OWNERSHIP FOR THE

SECURITIES INDUSTRY' (2004) <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD167.pdf>

ISSA, 'Financial Crime Compliance Principles for Securities Custody and Settlement'" (May

2019) <https://www.issanet.org/e/pdf/2019-05->

[21_ISSA_FCC%20Principles_second_revision.pdf](https://www.issanet.org/e/pdf/2019-05-21_ISSA_FCC%20Principles_second_revision.pdf)

Kay J, 'The Kay Review of UK Equity Markets and Long – Term Decision Making, Final Report'

(Crown Publishing, 2012)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/253454/bis-12-917-kay-review-of-equity-markets-final-report.pdf

Law Commission of England and Wales, 'Intermediated Securities: Who Owns Your Shares?' (2020)

ShareSoc UK, 'Guaranteed Votes for All Shareholders' (2014)

World Bank, 'Distributed Ledger Technology (DLT) and Blockchain' (2017)

<<http://documents1.worldbank.org/curated/en/134831513333483951/pdf/WP-PUBLIC-Distributed-Ledger-Technology-and-Blockchain-Fintech-Notes.pdf>>

Books

Baker J, *Collected Papers on English Legal History* (Cambridge University Press 2013)

<<https://www.cambridge.org/core/books/collected-papers-on-english-legal-history/BE6B5041D5A355233BFDC7D87D079C00>> accessed 24 August 2021

Bannock G and Baxter R, *Penguin Dictionary of Economics* (Penguin 2011)

Baskind E, Osborne G and Roach L, *Commercial Law* (2nd edition, OUP Oxford 2016)

Baskind E, Osborne G and Roach L, *Commercial Law* (3rd edn, Oxford University Press 2019)

Benjamin J, *Interests in Securities: A Proprietary Law Analysis of the International Securities Markets* (Oxford University Press 2000)

Birks P, *Unjust Enrichment* (Second Edition, Oxford University Press 2005)

Bishop B, European Union Law for International Business: An Introduction (Cambridge University Press 2009) <<https://www.cambridge.org/core/books/european-union-law-for-international-business/0B1DF5C38AB277B474E5D14986C8C495>> accessed 24 August 2021

Bix B, Jurisprudence: Theory and Context (7th Revised edition, Sweet & Maxwell 2015)

Bridge M, Personal Property Law (Oxford University Press 2015)

Burrows A, Principles of English Commercial Law (OUP Oxford 2015)

Burrows A, Beatson J and Cartwright J, Anson's Law of Contract (31st edn, Oxford University Press 2020)

Cheffins BR, Company Law: Theory, Structure, and Operation (Oxford University Press 1997)

Chen-Wishart M, Contract Law (Sixth Edition, Oxford University Press 2018)

Chun C, Cross-Border Transactions of Intermediated Securities: A Comparative Analysis in Substantive Law and Private International Law (2012th edition, Springer 2012)

Clarke A, Principles of Property Law (Cambridge University Press 2020)

Cooter, Robert and Ulen, Thomas, Law and Economics: New International Edition (6th edn, 2014)

Davies P, Introduction to Company Law (Oxford University Press 2020)

Davies PS and Virgo G, Equity & Trusts: Text, Cases, and Materials (Oxford University Press) <<https://www.oxfordlawtrove.com/view/10.1093/he/9780198821830.001.0001/he-9780198821830>> accessed 24 August 2021

Davis JP, Corporations: A Study of the Origin and Development of Great Business Combinations and of Their Relation to the Authority of the State (G P Putnam's sons 1905)

de Secondat, Charles, *The Spirit of Laws* (1751)

<<https://lonang.com/library/reference/montesquieu-spirit-of-laws/>> accessed 24 August 2021

Devlin A, *Fundamental Principles of Law and Economics* (1st edition, Routledge 2014)

Dignam A and Lowry J, *Company Law* (Oxford University Press)

<<https://www.oxfordlawtrove.com/view/10.1093/he/9780198811831.001.0001/he-9780198811831>> accessed 24 August 2021

Dixon V, 'The Legal Nature of Intermediated Securities', *Intermediation and Beyond* (1st edn, Hart Publishing 2019)

Dnes AW, *Principles of Law and Economics* (Edward Elgar Publishing 2018)

Dubovec M, *The Law of Securities, Commodities and Bank Accounts: The Rights of Account Holders* (Edward Elgar Publishing Ltd 2014)

Ferrarini G and Ungureanu MC, 'Executive Remuneration', in Gordon JN and Ringe WG (Eds.) *Oxford Handbook on Corporate Law and Governance* (OUP Oxford 2018).

Frankel J, *The Internationalization of Equity Markets* (Illustrated edition, University of Chicago Press 1994)

French D, Mayson, *French & Ryan on Company Law* (Oxford University Press)

<<https://www.oxfordlawtrove.com/view/10.1093/he/9780198841517.001.0001/he-9780198841517>> accessed 24 August 2021

Fridman GHL, *Law of Agency* (7th edition, LexisNexis UK 1996)

Gardner S, *An Introduction to the Law of Trusts* (Oxford University Press 2015)

Georgakopoulos NL, Principles and Methods of Law and Economics: Enhancing Normative Analysis (Cambridge University Press 2005)

<<https://www.cambridge.org/core/books/principles-and-methods-of-law-and-economics/F59BC81986DEE4BADD7512BD82E10F85>> accessed 24 August 2021

Goode R, Goode on Commercial Law: Fifth Edition (UK ed edition, Penguin 2017)

Goode R, 'Intermediated Securities: The Long Haul to a Modern, Comprehensive Legal Structure', Intermediation and Beyond (1st edn, Hart Publishing 2019)

Graziadei M, 'Recognition of Common Law Trusts in Civil Law Jurisdictions Under the Hague Trusts Convention With Particular Regard to the Italian Experience', Re-imagining the Trusts: Trusts in Civil Law (Cambridge University Press 2012)

Green S and Snagg F, 'Intermediated Securities and DLT', Intermediation and Beyond (1st edn, Hart Publishing 2019)

Gullifer L, 'Ownership of Securities', Intermediated Securities: Legal Problems and Practical Issues (Hart Publishing 2010)

Gullifer L, Intermediation and Beyond (Jennifer Payne ed, Illustrated edition, Hart Publishing 2019)

Gullifer L and Benjamin J, 'Stewardship and Collateral: The Advantages and Disadvantages of the No Look Through Principle', Intermediation and Beyond (1st edn, Hart Publishing 2019)

Gullifer L and Payne J, Intermediated Securites: Legal Problems and Practical Issues (Hart Publishing 2010)

Haentjens M, 'Dispossession and Segregation in Regulatory and Private Law', *Intermediation and Beyond* (1st edn, Hart Publishing 2019)

Halloran T, 'A Brief History of the Corporate Form and Why It Matters' (*Fordham Journal of Corporate Law and Finance*, 18 November 2018)

<<https://news.law.fordham.edu/jcfl/2018/11/18/a-brief-history-of-the-corporate-form-and-why-it-matters/>>

'Halsbury's Laws of England', vol 4 (2020)

<<https://www.lexisnexis.com/uk/legal/results/enhdisplayunit.do?level=1&linkValue=0&docViewState=default>>

Hannigan B, *Company Law* (5th edn., OUP Oxford University Press 2018)

Hannigan B, *Company Law* (6th edn., OUP Oxford 2021)

Harris R, *Industrializing English Law: Entrepreneurship and Business Organization, 1720–1844* (Cambridge University Press 2000)

<<https://www.cambridge.org/core/books/industrializing-english-law/B5C603F40CED84E070BFC69DB89CCF73>> accessed 24 August 2021

Hudson A, *The Law of Finance* (Sweet & Maxwell 2013)

Hudson A, *Equity and Trusts* (9th edition, Routledge 2016)

Hunt BC, *The Development of the Business Corporation in England, 1800-1867* (Harvard University Press 1936)

Kindleberger CP, *A Financial History of Western Europe* (Routledge 2006)

Law J and Martin E, '*Lex Loci Situs*'

Macdonald E and Atkins R, Koffman & Macdonald's Law of Contract (Oxford University Press) <<https://www.oxfordlawtrove.com/view/10.1093/he/9780198752844.001.0001/he-9780198752844>> accessed 24 August 2021

Macfarlane B and Stevens R, 'Interests in Securities: Practical Problems and Conceptual Solutions', *Intermediated Securities: Legal Problems and Practical Issues* (Hart Publishing 2010)

Mavrikakis Alexis, *Business Law and Practice 2015/2016* (College of Law 2015)

Mavrikakis, Alexis et al, *Business Law and Practice 2018/2019* (College of Law Publication 2018)

Mercuro N and Medema SG, *Economics and the Law: From Posner to Postmodernism and Beyond - Second Edition* (NED-New edition, Princeton University Press 2006)
<<https://www.jstor.org/stable/j.ctv131bw26>> accessed 24 August 2021

Micheler E, *Property in Securities: A Comparative Study* (Cambridge University Press 2007)
<<https://www.cambridge.org/core/books/property-in-securities/B28548F815D59BE1E9ED2A95EB52E81E>> accessed 24 August 2021

Micheler E, 'Intermediated Securities from the Perspective of Investors: Quick Fixes and Long – Term Solutions', *Intermediation and Beyond* (1st edn, Hart Publishing 2019)

Mishra R, *A Business of State: Commerce, Politics, and the Birth of the East India Company: 188* (Harvard University Press 2018)

Moloney N., 'Regulating the Retail Market', in Moloney N., Ferran E. and Payne J. (Eds.) *The Oxford Handbook of Financial Regulation* (Oxford University Press, 2017) pp. 754 - 755.

Mortimer T, *Every Man His Own Broker; or, A Guide to Exchange-Alley ..* (London : S Hooper 1769) <<http://archive.org/details/everymanhisownbr00mort>> accessed 24 August 2021

Morton G, 'Historical Introduction: The Growth of Intermediation and Development of Legal Analysis of Intermediated Securities', *Intermediation and Beyond* (1st edn, Hart Publishing 2019)

Murphy A, *The Origins of English Financial Markets* (1st edn, Cambridge University Press 2009)

Neal L and Cameron R, *A Concise Economic History of the World: From Paleolithic Times to the Present* (Oxford University Press 2016)

Parthesius R, *Dutch Ships in Tropical Waters : The Development of the Dutch East India Company (VOC) Shipping Network in Asia 1595-1660* (Amsterdam University Press 2010) <<https://library.oapen.org/handle/20.500.12657/34453>> accessed 24 August 2021

Payne J and Gullifer L, *Corporate Finance Law: Principles and Policy* (Hart Publishing 2020)

Pearce R and Barr W, *Pearce & Stevens' Trusts and Equitable Obligations* (7th edn, Oxford University Press 2018)

Peterson H and Thomson ES, 'Sweden', *The Corporate Governance Review* (Law Business Research Ltd 2012)

Posner EA, *Chicago Lectures in Law and Economics* (Foundation Press 2000)

Posner SL in LRA, *Economic Analysis of Law* (9th ed. edition, Wolters Kluwer Law & Business 2014)

Roach L, *Company Law* (Oxford University Press 2019)

Robins N, *The Corporation That Changed the World - Second Edition: How the East India Company Shaped the Modern Multinational* (2nd edition, Pluto Press 2012)

Sheehan D, *The Principles of Personal Property Law* (Bloomsbury Publishing 2017)

Smith A, 'An Inquiry into the Nature and Causes of the Wealth of Nations: Volume One' (London : printed for W Strahan; and T Cadell, 1776 1776)

<<https://era.ed.ac.uk/handle/1842/1455>> accessed 24 August 2021

Stabile DT, Prior KA and Hinkes AM, *Digital Assets and Blockchain Technology: U.S. Law and Regulation* (Edward Elgar Pub 2020)

Taylor R and Taylor D, *Contract Law Directions* (4th edition, OUP Oxford 2013)

Taylor R and Taylor D, *Contract Law Directions* (8th edn, Oxford University Press 2021)

Tricker RI, *Corporate Governance: Principles, Policies, and Practices* (3rd edition, OUP Oxford 2015)

Twemlow C, 'Why Are Securities Held In Intermediated Form?', *Intermediation and Beyond* (1st edn, Hart Publishing 2019)

Virgo G, *The Principles of Equity & Trusts* (4th edition, OUP Oxford 2020)

Watt G, *Equity and Trusts Law Directions* (4th Edition, OUP Oxford 2014)

Watt G, *Equity and Trusts Law Directions* (7th edn, Oxford University Press 2021)

Wilson S, Todd & Wilson's *Textbook on Trusts & Equity* (Oxford University Press)

<<https://www.oxfordlawtrove.com/view/10.1093/he/9780198726258.001.0001/he-9780198726258>> accessed 24 August 2021

Internet Resources

'27 Apr 2003 - HIH Final Report' (Trove)

<<https://webarchive.nla.gov.au/awa/20030426200550/http://www.hihroyalcom.gov.au/financialreport/Front%20Matter,%20critical%20assessment%20and%20summary.HTML>> accessed 24 August 2021

'About CHES Replacement' (Australian Securities Exchange)

<<https://www2.asx.com.au/content/asx/home/markets/clearing-and-settlement-services/chess-replacement/about-chess-replacement.html>> accessed 25 August 2021

'About Us | Proximity' <<https://proximity.io/about-us/>> accessed 24 August 2021

Ackebo D and Andersson M, 'The Law Reviews - The Securities Litigation Review'

<<https://thelawreviews.co.uk/title/the-securities-litigation-review/sweden>> accessed 25 August 2021

Allen & Overy, 'New ESG Disclosure Regulation (SFDR)'

<https://www.allenoverly.com/global/-/media/allenoverly/2_documents/news_and_insights/publications/2021/01/new_esg_disclosure_regulation-sfdr-what_private_banks_wealth_managers_and_advisers_need_to_know_updated_feb_2021.pdf> accessed 28 April 2022.

Alty G, 'Assignment and Novation' (Pinsent Masons)

<<https://www.pinsentmasons.com/out-law/guides/assignment-and-novation>> accessed 24 August 2021

AMD, What Is Blockchain Technology? <https://www.youtube.com/watch?v=QinwYeZ_4zc>
accessed 25 August 2021

'AMD and Blockchain Technology' <<https://www.amd.com/en/technologies/blockchain>>
accessed 25 August 2021

Ameer R, 'What Is Hashing? [Step-by-Step Guide-Under Hood Of Blockchain]' (Blockgeeks, 6 August 2017) <<https://blockgeeks.com/guides/what-is-hashing/>> accessed 25 August 2021

'Artificial Intelligence (AI) in the Securities Industry | FINRA.Org'
<<https://www.finra.org/rules-guidance/key-topics/fintech/report/artificial-intelligence-in-the-securities-industry>> accessed 25 August 2021

ASIC, 'Shares' <<https://asic.gov.au/for-business/running-a-company/shares/>> accessed 25 August 2021

ASX, 'Settlement' (Australian Securities Exchange)
<<https://www2.asx.com.au/content/asx/home/about/regulation/clearing-and-settlement-of-cash-equities-in-australia/settlement.html>> accessed 25 August 2021

'ASX Listing Rules' (Australian Securities Exchange)
<<https://www2.asx.com.au/content/asx/home/about/regulation/rules-guidance-notes-and-waivers/asx-listing-rules-guidance-notes-and-waivers.html>> accessed 25 August 2021

Aviva, 'Environmental, Social and Governance: What Is ESG Investing?'
<<https://www.aviva.co.uk/investments/ethical-investing/what-is-esg-investing/>> accessed 28 April 2022.

Bada A, 'Blockchain vs. Distributed Ledger Technology (DLT)' (Coinspeaker)

<<https://www.coinspeaker.com/guides/difference-blockchain-distributed-ledger-technology-dlt/>> accessed 25 August 2021

Barbaschow A, 'ASX's New Blockchain-Based CHES System: A Marathon Not a Sprint'

<<https://www.zdnet.com/article/asxs-new-blockchain-based-chess-system-a-marathon-not-a-sprint/>>

BBVA, 'What Is the Difference between DLT and Blockchain?' (NEWS BBVA, 25 April 2018)

<<https://www.bbva.com/en/difference-dlt-blockchain/>> accessed 25 August 2021

'Bitcoin, Blockchain Splits And What It Means For Business' (Bernard Marr, 2 July 2021)

<<https://bernardmarr.com/bitcoin-blockchain-splits-and-what-it-means-for-business/>>
accessed 25 August 2021

'Blockchain Technology Explained' (Bosch Global)

<<https://www.bosch.com/stories/blockchain-technology-explained/>> accessed 25 August 2021

Chancery Bar Association, 'English Law, UK Courts and UK Legal Services After Brexit' (2019)

<<https://www.chba.org.uk/news/brexit-memo>>

Chapman J, 'Novation - How and Why to Novate a Contract' (LexisPSL)

<https://www.lexisnexis.com/uk/lexispsl/disputeresolution/document/393750/5CSW-3181-F18B-84TP-00000-00?utm_source=psl_da_mkt&utm_medium=referral&utm_campaign=novation%E2%80%944why-and-how-to-novate-a-contract>

Citi, Introducing Proximity: Proxy Voting for a Connected World

<<https://www.youtube.com/watch?v=YLINW0ERrP4>> accessed 25 August 2021

Clearmatics, 'Distributed Financial Market Infrastructure and the Disintermediation of Digital Assets' (clearmatics, 10 January 2019) <<https://medium.com/clearmatics/dfmi-and-the-disintermediation-of-digital-assets-6be7a5551870>> accessed 25 August 2021

Cockerham R and others, 'Speculation Techniques for Stocks' (Finance - Zacks)

<<https://finance.zacks.com/speculation-techniques-stocks-11562.html>> accessed 24 August 2021

Columbia University: The Centre on Capitalism and Society, 'Theory of Capitalism'

<<https://capitalism.columbia.edu/theory-capitalism>>

'Competition Law' (FCA, 22 March 2016) <<https://www.fca.org.uk/about/promoting-competition/powers>> accessed 24 August 2021

Corporate Finance Institute, 'Economies of Scale'

<https://corporatefinanceinstitute.com/resources/knowledge/economics/economies-of-scale/> accessed 02 May 2022

Corporate Finance Institute, 'Liquidity'

<https://corporatefinanceinstitute.com/resources/knowledge/finance/liquidity/> accessed 02 May 2022

Corporate Finance Institute, 'Step Costs'

<<https://corporatefinanceinstitute.com/resources/knowledge/accounting/step-costs/>>. Accessed 30 April 2022.

Corporate Finance Institute, 'Value of Risk'

<<https://corporatefinanceinstitute.com/resources/knowledge/finance/value-of-risk/>>

accessed 30 April 2022

Deloitte, 'Shareholder Rights and Institutional Investors' <<https://www.iasplus.com/en-gb/standards/corporate-governance/shareholder-rights-and-institutional-investors>>

accessed 24 August 2021

Deloitte, 'Sustainable Finance Disclosure Regulation - Article 6 Funds'

<file:///C:/Users/slabt2/Downloads/IE_SustainableFinanceDisclosureReg_FINAL.pdf>

accessed 28 April 2022

Department for Business, Innovation and Skills, 'Shareholding: The Role of Intermediaries'

(GOV.UK, 2016) <[https://www.gov.uk/government/publications/shareholding-the-role-of-](https://www.gov.uk/government/publications/shareholding-the-role-of-intermediaries)

[intermediaries](https://www.gov.uk/government/publications/shareholding-the-role-of-intermediaries)> accessed 24 August 2021

'Direct Registration System ("DRS")' (Continental Stock)

<[https://continentalstock.com/library-forms/shareholder-faqs/direct-registration-system-](https://continentalstock.com/library-forms/shareholder-faqs/direct-registration-system-drs/)

[drs/](https://continentalstock.com/library-forms/shareholder-faqs/direct-registration-system-drs/)> accessed 25 August 2021

Dob D, 'Permissioned vs Permissionless Blockchains: What's The Difference?' (Blockonomi, 7

January 2020) <<https://blockonomi.com/permissioned-vs-permissionless-blockchains/>>

accessed 25 August 2021

'Enforcement' (FCA, 22 April 2016) <<https://www.fca.org.uk/about/enforcement>> accessed

24 August 2021

Euroclear, 'Our History' (2017) <<https://www.euroclear.com/about/en/history.html>>

Euroclear, 'Key Metrics' <<https://www.euroclear.com/about/en/business/Keymetrics.html>>
accessed 24 August 2021

Euroclear, 'Private Investor Services - Euroclear UK & Ireland'
<<https://www.euroclear.com/services/en/private-investor-services/private-investor-services-euroclear-uk-and-ireland.html>> accessed 25 August 2021

Euroclear Sweden, 'About Registers of Shareholders'
<<https://www.euroclear.com/sweden/en/aktiebolag/om-aktiebocker.html>> accessed 25
August 2021

European Central Bank, 'Securities Exchange Statistics' (ECB, 2019)
<<http://sdw.ecb.europa.eu/servlet/desis?node=1000001579>>

European Securities and Markets Authority, 'Central Counterparties'
<<https://www.esma.europa.eu/policy-rules/post-trading/central-counterparties>> accessed
24 August 2021

Financial Conduct Authority, 'Central Securities Depositories' (FCA, 3 May 2016)
<<https://www.fca.org.uk/markets/central-securities-depositories>> accessed 25 August 2021

Financial Conduct Authority, 'Fair Treatment of Customers'
<https://www.fca.org.uk/firms/fair-treatment-customers> accessed 30 April 2022

Financial Conduct Authority, 'FCA Handbook - FCA Handbook'
<<https://www.handbook.fca.org.uk/handbook/PRIN/1/>> accessed 24 August 2021

Financial Crimes Enforcement Network (FinCEN), 'Treasury's FinCEN and Federal Banking
Agencies Issue Joint Statement Encouraging Innovative Industry Approaches to AML

Compliance' (3 December 2018) <<https://www.fincen.gov/news/news-releases/treasurys-fincen-and-federal-banking-agencies-issue-joint-statement-encouraging>>

Finansinspektionen, 'Consumer Protection Report 2020 | Finansinspektionen'
<<https://www.fi.se/en/published/reports/consumer-protection-on-the-financial-market/consumer-protection-report-2020/>> accessed 25 August 2021

Finansinspektionen, 'FI and Consumer Protection | Finansinspektionen'
<<https://fi.se/en/consumer-protection/fi-and-consumer-protection/>> accessed 25 August 2021

Finansinspektionen, 'Supervision | Finansinspektionen'
<<https://fi.se/en/markets/supervision/>> accessed 25 August 2021

Flynn B, 'Assignment' <<https://www.stevens-bolton.com/cms/document/Assignment.pdf>>

'FTSE 100: Top 20 by Volume' (Hargreaves Lansdown) <<https://www.hl.co.uk/shares/stock-market-summary/ftse-100/top-volume>> accessed 24 August 2021

Gaw K, 'Why You Should Invest in Foreign Shares' (IG)
<<https://www.ig.com/uk/investments/news/share-dealing/2019/03/07/why-you-should-invest-in-foreign-shares>> accessed 24 August 2021

Hillier Hopkins, 'LLP v Limited Company - What's Best?' <<https://hillierhopkins.co.uk/faq/llp-v-limited-company-whats-best/#:~:text=Each%20has%20its%20place%2C%20but%20for%20most%20owner-managers%2C,in%20a%20manner%20almost%20identical%20to%20a%20company.>>
accessed 26 September 2021

Hinchcliffe R, 'Citi's Proximity Lands \$20.5m from HSBC, JP Morgan and Deutsche Bank' (FinTech Futures, 6 May 2020) <<https://www.fintechfutures.com/2020/05/citis-proximity-lands-20-5m-from-hsbc-jp-morgan-and-deutsche-bank/>> accessed 25 August 2021

Hudak S, 'Treasury's FinCEN and Federal Banking Agencies Issue Joint Statement Encouraging Innovative Industry Approaches to AML Compliance | FinCEN.Gov' <<https://www.fincen.gov/news/news-releases/treasurys-fincen-and-federal-banking-agencies-issue-joint-statement-encouraging>> accessed 25 August 2021

ICMA, '27. What Does a Repo CCP Do?' <<https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/27-what-does-a-repo-ccp-do/>> accessed 24 August 2021

'Inflation Calculator' <<https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>> accessed 24 August 2021

'Intermediated Securities Call for Evidence' Intermediated securities 45

Jones D, 'The Era of the Retail Investor Is Here to Stay' (3 March 2017) <<https://www.ftadviser.com/investments/2017/03/06/the-era-of-the-retail-investor-is-here-to-stay/>> accessed 24 August 2021

LabCTFC, 'A Primer on Artificial Intelligence in Financial Markets' 31

Law Commission, 'Law Commission Project on Intermediated Securities' (2006) <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2015/03/Intermediated_security_seminar_2.pdf>

Law Commission, 'Fiduciary Duties of Investment Intermediaries' (2014) <https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2015/03/lc350_fiduciary_duties.pdf>

Lawson R, 'Personal Crest Accounts' (ShareSoc) <<https://www.sharesoc.org/investor-academy/advanced-topics/personal-crest-accounts/>> accessed 24 August 2021

Lipstein K, 'Trusts', International Encyclopedia of Comparative Law Online (Brill 2018) <https://referenceworks.brillonline.com/entries/international-encyclopedia-of-comparative-law-online/detailed-table-of-contents-COM_0323TOC> accessed 24 August 2021

London Stock Exchange, 'Issuer List 2020' (2020) <<https://www.londonstockexchange.com/reports?tab=issuers>>

Morales, Barry and Mickelthwaite, Jim, 'CMI in Focus: Immobilisation/Dematerialisation of Listed Equities' (Thomas Murray, 2013) <<https://thomasmurray.com/sites/default/files/CMI/pdf/20130201%20CMI%20in%20Focus%20-%20Immobilisation%20%26%20Dematerialisation%20of%20Listed%20Equities.pdf>>

Moule J, 'Directors' Fiduciary Duties to Shareholders' (VWV, 11 January 2019) <<https://www.vwv.co.uk/news-and-events/blog/business-corporate-law/directors-fiduciary-duties-shareholders>> accessed 24 August 2021

NASDAQ, 'Direct Registration System Definition | Nasdaq' <<https://www.nasdaq.com/glossary/d/direct-registration-system>> accessed 25 August 2021

Nase E and Jahn S, 'Germany: Corporate Givernance Laws and Regulation' (ICLG, 2021)

Nolden C and Balke M, 'International Comparative Legal Guides' (International Comparative Legal Guides International Business Reports) <<https://iclg.com/practice-areas/corporate-governance-laws-and-regulations/germany>> accessed 25 August 2021

'Nordic Main Market' <<https://www.nasdaq.com/solutions/nasdaq-nordic-main-market>> accessed 25 August 2021

Perryman E, 'Crest Accounts | Shares Magazine' <<https://www.sharesmagazine.co.uk/article/crest-of-a-wave>> accessed 24 August 2021

'Privatising the UK's Nationalised Industries in The 1980s | Centre For Public Impact (CPI)' <<https://www.centreforpublicimpact.org/case-study/privatisation-uk-companies-1970s/>> accessed 24 August 2021

'Proxymity Launches Consortium of Financial Industry Leaders and Raises \$20.5 Million in Strategic Round to Become Its Own Entity | Proxymity' <<https://proxymity.io/proxymity-launches-consortium-of-financial-industry-leaders-and-raises-20-5-million-in-strategic-round-to-become-its-own-entity/>> accessed 25 August 2021

Qtum, 'What Is a Blockchain Fork?. If You've Had Any Exposure to the World... | by Qtum | Qtum' <<https://blog.qtum.org/what-is-a-blockchain-fork-16cef86c0ad8>> accessed 25 August 2021

'Regulation of Markets in Financial Instruments' (FCA, 23 May 2016) <<https://www.fca.org.uk/markets/regulation-markets-financial-instruments>> accessed 24 August 2021

Science LS of E and P, 'Finance' (London School of Economics and Political Science)

<[https://www.lse.ac.uk/study-at-lse/summer-schools/Summer-](https://www.lse.ac.uk/study-at-lse/summer-schools/Summer-School/Courses/Secure/Finance/Home.aspx)

[School/Courses/Secure/Finance/Home.aspx](https://www.lse.ac.uk/study-at-lse/summer-schools/Summer-School/Courses/Secure/Finance/Home.aspx)> accessed 24 August 2021

Seagroatt M, 'What Are the Applications for Artificial Intelligence in Securities Finance and

Collateral Management? | Broadridge' <[https://www.broadridge.com/white-paper/what-](https://www.broadridge.com/white-paper/what-are-the-applications-for-artificial-intelligence-in-securities-finance-and-collateral-management)

[are-the-applications-for-artificial-intelligence-in-securities-finance-and-collateral-](https://www.broadridge.com/white-paper/what-are-the-applications-for-artificial-intelligence-in-securities-finance-and-collateral-management)

[management](https://www.broadridge.com/white-paper/what-are-the-applications-for-artificial-intelligence-in-securities-finance-and-collateral-management)> accessed 25 August 2021

SEC, 'Dematerialization' (SEC Investor Education Portal, 12 May 2017)

<<https://investor.sec.gov/ng/dematerialization-2/>> accessed 24 August 2021

SEC, 'Final Rule: Privacy of Consumer Financial Information (Regulation S-P)'

<<https://www.sec.gov/rules/final/34-42974.htm>> accessed 25 August 2021

'Secondary Market' (Corporate Finance Institute)

<<https://corporatefinanceinstitute.com/resources/knowledge/finance/secondary-market/>>

accessed 24 August 2021

'Securities Exchanges Guarantee Corporation' <<https://www.segc.com.au/who-can-claim>>

accessed 25 August 2021

Securities Exchanges Guarantee Corporation (SEGC), 'Who Can Claim?'

<<https://www.segc.com.au/who-can-claim>>

"Status Table" Hague Convention on the Law Applicable to Certain Rights in Respect of

Securities Held with an Intermediary'

<<https://www.hcch.net/en/instruments/conventions/status-table/?cid=72>> accessed 27

September 2021

Suleman S, 'Summary of Commercial Agency Regulations | Perspectives | Reed Smith LLP'
<<https://www.reedsmith.com:443/en/perspectives/2012/10/summary-of-commercial-agency-regulations>> accessed 24 August 2021

Sveriges Riksbank, 'How Should Swedish Securities Be Settled in the Future?'
<<https://www.riksbank.se/en-gb/press-and-published/notices-and-press-releases/notices/2019/how-should-swedish-securities-be-settled-in-the-future/>> accessed 25 August 2021

Sweet W, 'Jeremy Bethnam' <<https://iep.utm.edu/bentham/>>

'Taurus: Learning Lessons from Failure' (Practical Law)
<[http://uk.practicallaw.thomsonreuters.com/1-100-3790?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](http://uk.practicallaw.thomsonreuters.com/1-100-3790?transitionType=Default&contextData=(sc.Default)&firstPage=true)> accessed 24 August 2021

Team FE, 'BNY Mellon, J.P. Morgan, State Street among Investors for Citi-Developed Proxy Voting Platform Raising \$20.5mn – Finadium' <<https://finadium.com/bny-mellon-j-p-morgan-state-street-among-investors-for-citi-developed-proxy-voting-platform-raising-20-5mn/>> accessed 25 August 2021

'The Difference Between Blockchain and Distributed Ledger Technology'
(marcopolonetwork.com, 30 January 2018)
<<https://www.marcopolonetwork.com/articles/distributed-ledger-technology/>> accessed 25 August 2021

White MJ, 'SEC.Gov | Protecting the Retail Investor' (2014)

<<https://www.sec.gov/news/speech/mjw-speech-032114-protecting-retail-investor>>

accessed 24 August 2021

'Why Proximity? | Proximity' <<https://proximity.io/why-proximity/>> accessed 25 August

2021

News Reports

'1987: Shares Plunge after Wall Street Crash' (19 October 1987)

<http://news.bbc.co.uk/onthisday/hi/dates/stories/october/19/newsid_3959000/3959713.stm> accessed 24 August 2021

Pain D, 'Time to Make a Stand against Crest Nominee Accounts | The Independent | The Independent' 9 October 2015 <<https://www.independent.co.uk/news/business/analysis-and-features/time-make-stand-against-crest-nominee-accounts-a6688221.html>> accessed 25 August 2021

Warner, Jeremy, 'City: Back to Basics after the TAURUS Goring' (The Independent, March 1993) <<https://www.independent.co.uk/news/business/city-back-to-basics-after-the-TAURUS-goring-1497564.html>> accessed 24 August 2021

Wilcock, J., 'The City Comes Unplugged: TAURUS Was to Revolutionise Share Trading by Replacing Huge Volumes of Paper with an Electronic System. But Politics in the Square Mile Doomed It to Failure, Writes John Willcock | The Independent | The Independent' (14 March 1993) <<https://www.independent.co.uk/news/business/the-city-comes-unplugged-TAURUS-was-to-revolutionise-share-trading-by-replacing-huge-volumes-of-paper-with-an-electronic-system-but-politics-in-the-square-mile-doomed-it-to-failure-writes-john-wilcock-1497659.html>> accessed 24 August 2021

Wilcock, John, 'Tradepoint Learns from the Lessons of TAURUS: The Stock Exchange's Role Is Vulnerable, Writes John Willcock - The Independent' (28 March 1993) <<https://www.independent.co.uk/news/business/tradepoint-learns-from-the-lessons-of->

TAURUS-the-stock-exchange-s-role-is-vulnerable-writes-john-willcock-1500717.html>
accessed 24 August 2021

Theses and Dissertations

Horváthová A, 'INTERMEDIATED SECURITIES UNIDROIT DRAFT CONVENTION AS A SOLUTION FOR SLOVAKIAN SECURITIES LAW' (Central European University 2011)

Cases

'AIB Group (UK) PLC (Appellant) v Mark Redler & Co Solicitors (Respondent) - The Supreme Court' <<https://www.supremecourt.uk/cases/uksc-2013-0052.html>> accessed 24 August 2021

Barron v Potter [1914] 1 Ch 89

Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch)

Foster v Foster [1916] 1 Ch 532.

Futter & Anor v HMRC; Pitt & Anor v HMRC [2013] UKSC 26

Goldcorp Exchange Ltd & Ors v Liggett & Ors [1994] UKPC 3

Hunter v Moss [1994] 1 WLR 452

National Westminster Bank Plc and Another v Inland Revenue Commissioners: HL 24 Jun 1994

Perrins v Bellamy (1899) 1 Ch 797

Re Harvard Securities [1997] 2 BCLC 369

Salomon v Salomon & Co Ltd [1896] UKHL 1

Secure Capital SA v Credit Suisse AG [2017] EWCA Civ 1486

The Aberdeen Railway Company v. Messrs. Blaikie Brothers [1854] UKHL 1

Westdeutsche Landesbank Girozentrale v Islington LBC [1996] UKHL 12

Mendelssohn v Normand Ltd: [1970] 1 QB 177

Boardman v Phipps [1967] 2 AC 46

Tribunale de Oristano, 15 March 1956, Foro It, 1956, I, 1019

Your Response Ltd v Datateam Business Media Ltd (EWCA Civ 281)

Legislation

Companies Act 1989 <<https://www.legislation.gov.uk/ukpga/1989/40/contents>> accessed
24 August 2021

Companies Act 2006 <<https://www.legislation.gov.uk/ukpga/2006/46/section/284/2016-03-01>> accessed 24 August 2021

Companies (Model Articles) Regulations 2008 S.I 2008/3229 Art 4

<<https://www.legislation.gov.uk/uksi/2008/3229/contents/made>> accessed 28 April 2022

Convention on the Law Applicable to Trusts and on Their Recognition (1992)

<<https://www.jus.uio.no/english/services/library/treaties/11/11-02/law-trusts-recognition.xml>> accessed 24 August 2021

Convention of 5 July 2006 on the Law Applicable to Certain Rights in Respect of Securities held with an Intermediary <<https://www.hcch.net/en/instruments/conventions/full-text/?cid=72>> accessed 24 August 2021

Directive 2014/95/EU <<https://www.legislation.gov.uk/en/eudr/2014/95/introduction>> accessed 28 April 2022.

Regulation (EU) 2019/2088 on Sustainability-Related Disclosures in the Financial Services Sector <<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R2088&from=EN>> accessed 28 April 2022.

Insolvency Act 1986 <<https://www.legislation.gov.uk/ukpga/1986/45/contents>> accessed 28 April 2022.

Joint Stock Companies Act 1844 (Hansard) <<https://api.parliament.uk/historic-hansard/acts/joint-stock-companies-act-1844>> accessed 24 August 2021

Partnership Act 1890 <<https://www.legislation.gov.uk/ukpga/Vict/53-54/39>> accessed 24 August 2021

Restatement of the Law -- Agency Restatement (Third) of Agency <<https://studylib.net/doc/8168533/restatement-of-the-law---agency-restatement--third--of-a...>> accessed 24 August 2021

The Companies (Model Articles) Regulations 2008

<<https://www.legislation.gov.uk/uksi/2008/3229/made>> accessed 24 August 2021

U.C.C. - ARTICLE 8 - INVESTMENT SECURITIES (1994) (LII / Legal Information Institute)

<<https://www.law.cornell.edu/ucc/8>> accessed 24 August 2021

UNIDROIT, *Legislative Guide on Intermediated Securities*

<<https://www.unidroit.org/instruments/capital-markets/legislative-guide>>

UNIDROIT, *Geneva Convention* <<https://www.unidroit.org/instruments/capital-markets/geneva-convention>> accessed 24 August 2021