University of Reading

# Neither Relational nor Discrete: the ISDA Master Agreement as a Bimodal Contract

A Thesis submitted for the degree of Doctor of Philosophy

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## Declaration

*I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.*

Matthew Armitage

Content from the following published articles has been used in this thesis (the author of this thesis being the sole author of the articles):

- Matthew Armitage, 'Trust, Confidence, and Automation: the ISDA Master Agreement as a Smart Contract' (2022) Vol. 43 Iss. 2 *Business Law Review* 56
- Matthew Armitage, 'Neither relational nor discrete: the ISDA Master Agreement as a bimodal contract' (2022) Vol. 17 Iss. 3 *Capital Markets Law Journal* 317
- Matthew Armitage, 'The ISDA Master Agreement and the Recognition of a Latent Contractual Network' (2023) Vol. 19 No. 1 *European Review of Contract Law* 37

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# Abstract

Relational contract theory could, under English law, be considered simply that: an academic theory, too impractical to implement and too imprecise to fulfil ambitions of legal certainty. However, even in the face of subsequent judicial reluctance,[1] the cases of *Yam Seng*[2] and *Bates v Post Office*[3] have paved the way for this theoretical construct to permeate practical considerations of commercial contract law. The theory posits, inter alia, that there is a spectrum, at one end are *discrete contracts*, which are simple exchanges, and at the other end are *relational contracts,* which depend not only on the contract between the parties but on the relationship underpinning it.[4]

The original contribution offered by this thesis is to offer a new category of contract - the *bimodal contract* - centred around unpacking tangential comments made in the relational contract literature that many contracts will contain both discrete and

[1] *Morley v The Royal Bank of Scotland PLC* [2020] EWHC 88 (Ch); *UTB LLC v Sheffield United Limited* [2019] EWHC 2322 (Ch).

[2] *Yam Seng Pte v International Trade Corp* [2013] EWHC 111, 142.

[3] *Alan Bates and Others v Post Office Limited (No.3: Common Issues)* [2019] EWHC 606 (QB).

[4] Macneil recognised that the discrete/relational spectrum was probably the most recognised aspect of his work but it was only a part of relational contract theory (which he later referred to as 'essential contract theory'): Ian MacNeil, 'Relational Contract Theory: Challenges and Queries' (2000) Vol. 94 No. 3 *Northwestern University Law Review* 877, p.894: 'Probably the most recognized aspect of my work in contract is the use of a spectrum of contractual behavior and norms with poles, labeled relational and discrete, respectively'.

relational terms.[5] By using the ISDA Master Agreement - an international,[6] standard-form agreement - as a case study, we can begin to understand some of the elements which could be utilised as part of a discrete/relational contract spectrum analysis - namely, the composition and intentions of the drafting party, the market in which the agreement is used, and the technological developments being built to complement, facilitate, and, in some cases, supplant traditional contract drafting and negotiation - and how these elements can form part of a macro-level analysis, accompanying any particular interpretative considerations around party or transactional context. From this analysis, the aim is to understand where the ISDA Master Agreement fits on, and to develop a broad framework for how to assess analogous standard-form agreements within the concept of, the discrete/relational contract spectrum.

[5] Hugh Collins, *Regulating Contracts* (Oxford University Press, 1999), p.142: 'My analysis suggests, therefore, that all transactions have both discrete and relational dimensions'; Elizabeth Mertz, 'An Afterword: Tapping the Promise of Relational Contract Theory - "Real" Legal Language and a New Legal Realism' (2000) Vol. 94 No. 3 *Northwestern University Law Review* 914, p.936: 'As Macneil has noted, many modem interactions simultaneously inhabit extremes of discrete and relational characteristics'; Melvin A. Eisenberg, 'Why There Is No Law of Relational Contracts?' (1999) Vol. 94 No. 3 *Northwestern University Law Review* 805, p.814.

[6] *AWB (Geneva) SA v North America Steamships Ltd* [2007] EWCA Civ 739, 37: 'The ISDA Master Agreement is widely used in all types of derivative transactions on the international markets and thus plays an important role in the efficient functioning of the international financial markets and their financial stability.'

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# PART I - INTRODUCTION

## 1. Introduction

### 1.1 Background

The International Swaps and Derivatives Association ('ISDA') Master Agreement (referred to herein as the 'MA' or the 'ISDA MA')[7] has been described as 'probably the most remarkable standard form ever devised'[8] as well as 'possibly the most ubiquitous example of a master netting agreement used throughout the financial world'.[9] It plays a significant role in the Over-the-Counter ('OTC') derivatives market where it forms not only the contractual basis for the parties' relationship but the regulatory structure in lieu of meaningful and consistent regulation.[10] While

[7] When referring to ISDA Master Agreement in this thesis, it is, unless otherwise stated, to the 2002 ISDA Master Agreement as appended to this thesis at Appendix B.

[8] Philip R Wood, *Set-Off and Netting, Derivatives, Clearing Systems* (Sweet & Maxwell, 2019, Third Edition), at 13-003: 'This ISDA Master Agreement is probably the most remarkable standard form ever devised in view of the immense range of transactions that it covers, the gigantic amounts which rest on its provisions, and the width of its use by the market. It is a worldwide standard for international and local deals.'

[9] Kunel Tanna, 'Close-Out Netting' in *Practical Derivatives: A Transactional Approach*, Edmund Parker and Marcin Perzanowski (eds.) (Globe Law and Business, 2017, Third Edition), p.79. For clarification: a master netting agreement is an umbrella contract in which parties agree that sets of transactions with pre-determined characteristics may be netted, i.e. a collection of trades may, once all the profits and losses on those trades are attributed to either party, result in a single sum being payable by one party to the other.

[10] Dan Awrey, 'The FSA, Integrated Regulation, and the Curious Case of OTC Derivatives' (2010) Vol. 13 *University of Pennsylvania Journal of Business Law* 1, p.39; Satyajit Das, *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives* (Financial Times Series, 2012, Third Edition), p.31; Jo Braithwaite, *The Financial Courts: Adjudicating Disputes in Derivatives Markets* (Cambridge University Press, 2020): while '…any suggestion that the OTC derivatives markets were unregulated before the global financial

national regulators have increased their oversight and monitoring,[11] the MA still provides an established, standardised format for cross-border business in the 'elusive'[12] OTC derivatives market.

For many parties using the MA there will be certain relational expectations – some of which stem from their particular national legal systems[13] even if the MA is governed by courts in another jurisdiction. Those expectations, such as *good faith* and different formulations of *commercial reasonableness*, are also expressed

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crisis is patently untrue' (p.25), '…for two decades from the 1980s, the OTC derivatives markets remained opaque and poorly understood by regulators' (p.2); The Federal Reserve Board, Testimony of Chairman Alan Greenspan, The Federal Reserve Board, Testimony of Chairman Alan Greenspan, 'The regulation of OTC derivatives', Before the Committee on Banking and Financial Services, U.S. House of Representatives, (24th July 1998): '…regulation of derivatives transactions that are privately negotiated by professionals is unnecessary'.

[11] Ibid (*Braithwaite*), p.2.

[12] Alfred Steiner, *Derivatives: The Wild Beast of Finance* (John Wiley & Sons, 1998), p.237: '…perhaps the most important explanation is that the playing field is tilted by much less regulation of OTC markets in comparison to the exchanges. One important reason is that exchanges are much more easily regulated than the elusive OTC market'.

[13] Lord Neuberger, 'The impact of pre– and post-contractual conduct on contractual interpretation', The Banking Services and Finance Law Association Conference, Queenstown (11th August 2014), 21: 'In civilian law jurisdictions where judges are used to rolling their sleeves up and getting involved, as juges d'instruction, and where the theory of contract is very different from that of the common law, imposing what the court thinks is a fair solution in a contractual dispute, may well be appropriate. But in a common law system, where the judge is a detached impartial umpire, and party autonomy is accorded great importance, we should be concentrating on the contractual provisions which the parties have agreed when deciding on their rights and obligations. And the international commercial world votes with its feet, by opting for the common law when it comes to the resolution of their disputes. Long may this remain, and we should think long and hard before doing anything which undermines this.'

throughout the MA[14] and operate concurrently with the established idea that contracts will often fail to contain all the terms required to cover the parties' current and future relationship.[15] It is the general idea, as described by Clayton Gillette that, given the incompleteness of contracts,[16] there will be risks which are not expressly allocated and which 'will necessarily require interpretation to determine the specific conduct required of at least one of the parties when a contingency that has not been explicitly provided for materialises'.[17]

[14] 'Good faith' is referred to twelve times in the 2002 MA; 'Commercially reasonable procedures' and 'commercially reasonable' together are referred to eleven times in the 2002 MA, respectively.

[15] David Frydlinger, Kate Vitasek, Jim Bergman, and Tim Cummins, *Contracting in the New Economy: Using Relational Contracts to Boost Trust and Collaboration in Strategic Business Relationships* (Palgrave Macmillan, 2021), p.57: '…all contracting parties will face the problem that their contract will be incomplete…First the contract may be silent on many points…Second, the contracting parties may have written their intentions about how they should act, but they may have failed to communicate their intent'.

[16] 'Incomplete' here refers to contracts which are in place between the parties but which are, however sophisticated, not able to plainly cover every possible scenario which arises between the parties; Remus Valsan, 'The Law and Economics of Contract Interpretation'. in *Interpretation of Commercial Contracts in European Private Law*, J Baaji, D Cabrelli & L Macgregor (eds) (Common Core of European Private Law. Intersentia, 2020), p.54: 'Contracts typically do not provide for all variables and contingencies that are of potential relevance to performance. Incompleteness is a central, rather than tangential, feature of commercial contracts and a key theme in the economic literature on contract interpretation. When performance unfolds over time, parties cannot foresee and bargain ex ante over every relevant contingency'.

[17] Clayton P. Gillette, 'Contractual Networks, Contract Design, and Contract Interpretation: The Case of Credit Cards' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law)*, Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.) (Routledge, 2013, First Edition), p.87.

Relational contract theory, as contemplated by Ian Macneil, considers contracts on a spectrum, between those referred to as *discrete contracts* which formalise one-off transactions, and those referred to as *relational contracts* which form the foundation of an ongoing relationship between the parties.[18] Although definitions vary, for proponents of relational contract theory – judges as well as academics - the MA contains some common components of a relational contract: its users are often transacting on a long-term basis[19] and expect, as evinced by some of the express terms in the MA, certain behavioural standards from their counterparties.[20] However, it could equally be argued that the MA is paradigmatic of a discrete contract between two parties utilising a professionally drafted agreement and often engaged in an arm's length, zero-sum game.[21]

This thesis proposes that the MA could be viewed as neither relational nor discrete,[22] creating a new category of contract. The contention is whether categorising contracts

[18] Ian Macneil, 'The Many Futures of Contract' (1974) Vol. 47 *Southern California Law Review* 691.

[19] As stated, definitions do vary. While some cases point to the length of the contract as a possible indicator of a relational contract (for example, *Acer Investment Management Ltd v Mansion Group Ltd* [2014] EWHC 3011, 107: 'The sorts of obligations and commitments that would be expected in a relational contract are absent. It was not a long-term relationship: either party could end it by giving a relatively short period of notice'), there are others, such as *Monde Petroleum v Westernzagros [2017] 1 All ER (Comm) 100,* 250, which have stated that duties of good faith (so closely associated with the application of relational contracts) will not necessarily be implied simply because the contract is long-term.

[20] Jeffrey Golden, 'Interpreting ISDA terms: when market practice is relevant, as of when is it relevant?' (2014) Vol. 9 No. 3 *Capital Markets Law Journal* 299, p.299.

[21] A zero-sum game is one in which the sum won by one party is equal to the sum lost by another party.

[22] Or, depending on perspective, as both relational and discrete.

as either relational or discrete leads us to omit those contracts which fall somewhere in-between. On that basis, this thesis posits the following question:

> *Where does the English law governed ISDA Master Agreement fit on the discrete/relational contract spectrum*?

The proposal is that the MA is combined of both discrete and relational terms, culminating in what this thesis refers to as a *bimodal contract*.[23] This argument is based on three observations which will be explored further in this thesis and which oscillate between the different ends of the discrete/relational contract spectrum:

(1) the ubiquity of the MA in a global market and the geographical distribution of ISDA members should form part of the analysis of how this influential contract is treated as well as the broader purposes behind trading derivatives and the MA which also presents a dichotomy between the inherent characteristic of a relational contract which is held as preserving the relationship of the parties[24] and the primary objective of the MA which is to provide, in the words of Alastair Hudson, 'escape hatches through which financial institutions can escape derivatives contracts with third parties'.[25] On this basis, we should consider the

[23] *Bimodal contract* is the term used here to define a contract with two modes, in this case both discrete and relational. The idea that contracts contain both discrete and relational terms has been highlighted by scholars (n 5), however, this thesis investigates this issue in further depth with a focus on some of the particular issues which lead to this assertion in relation to ISDA and its MA.

[24] Donald Robertson, 'Symposium Paper: Long-Term Relational Contracts and the UNIDROIT Principles of International Commercial Contracts' (2010) No. 17 *Australian International Law Journal* 185, p.187; Richard Austen-Baker, 'Comprehensive Contract Theory: A Four Norm Model of Contract Relations' (2009) Vol. 25 *Journal of Contract Law* 216, p.221.

[25] Alastair Hudson, *The Law of Finance* (Sweet & Maxwell, 2013, Second Edition), p.1224.

membership base of ISDA, as the drafting party of the MA, as well as the broader purposes for which the MA is used;

(2) the idea that relational contracts give effect to certain expectations of the parties is devalued in relation to the MA if, as many commentators advocate, we should interpret the MA not as a contract but as a statute or a treaty.[26] Furthermore, the intentions of the parties may be supplanted by the interests of the network of MA users rather than the parties to each particular contract. In this regard, this thesis will analyse the proposition that the intentions of the parties to standard-form agreements, like the MA, should be displaced by either the intentions of the drafting party or the MA network of users; and

(3) the proposal by ISDA to introduce a smart contract version of its MA has highlighted that there are some terms in the MA, referred to by ISDA as 'operational clauses,'[27] which are highly discrete, acontextual functions which can be automated while recognising that there are also 'non-operational clauses'[28] which may refer to behavioural standards such as good faith and commercial reasonableness. This development raises questions around traditional contracts and contract law in a world where certain contractual functions are self-executing and ex-post adjudication is potentially reduced. This technological innovation, along with other innovations implemented by ISDA,

[26] See, for example, Stephen Choi & Mitu Gulati, 'Contract as Statute' (2006) Vol. 104 Iss. 5 *Michigan Law Review* 1129; Jeffrey Golden, 'Judges and Systematic Risk in the Financial Markets' (2012) Vol. 18 *Fordham Journal of Corporate and Financial Law* 327, p.333 (2012).

[27] ISDA, Linklaters, 'Whitepaper Smart Contracts and Distributed Ledger – A Legal Perspective' (2017), p.10. < https://www.isda.org/a/6EKDE/smart-contracts-and > accessed 14 July 2020.

[28] Ibid, p.11

form the third observational basis from which the ISDA Master Agreement will be assessed as a *bimodal contract*.

## 1.2 Research Issues

To an extent, relational contract theory mirrors developments in behavioural economics, with both concepts criticising the more classical, rigid approach – whether it be *classical contract law* or *rational choice theory*[29] – and instead focusing on the mercurial and social nature of humans when interacting with each other.[30] There are also connections with the concept of *incomplete contracts* in which it is deduced that contracts cannot cover every eventuality because the parties cannot prognosticate on all possible future events and the costs of endeavouring to do so would be prohibitive, often exceeding the potential utility of the deal.[31]

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[29] 'Classical contract law' has been described as 'notably freedom of contract and the restriction of judicial activism' (Catherine Mitchell, *Interpretation of Contracts* (Routledge-Cavendish, 2018, Second Edition, Kindle Edition), Loc. 371), while 'rational choice theory' has been described as having a 'reliance on the idea that individuals have unitary definable interests' (Paul Schiff Berman, *Global Legal Pluralism: A Jurisprudence of Law beyond Borders* (Cambridge University Press, 2012, Kindle Edition), p.99); in sum: Catherine Mitchell, *Contract Law and Contract Practice Bridging the Gap between Legal Reasoning and Commercial Expectation* (Hart Publishing, 2013), p.15: 'Static market-individualism broadly reflects the concerns of classical contract law—the imposition of bright-line ground rules for trading that are generally known by the participants and that effectively constitute the market'.

[30] Moreover, on classical contract law, see: Melvin Eisenberg, 'The Emergence of Dynamic Contract Law' (2001) Vol. 2 No. 1 *Theoretical Inquiries in Law 2.1* 1, p.77; on rational choice theory, see: Catherine Herfeld, 'Revisiting the criticisms of rational choice theories' (2021) Vol. 17 Iss. 1 *Philosophy Compass* 1.

[31] Robert E. Scott, 'The Case for Formalism in Relational Contract' (2000) Vol. 94 *Northwestern University Law Review* 847, p.24-25; George Leggatt, 'Making sense of contracts: the rational choice theory' (2015) Vol.

David Frydlinger, Oliver Hart, and Kate Vitasek have advocated that, in recognition of the aforementioned concepts, what emerges between the parties is a move away from trying to catalogue each potential scenario, repudiating the self-serving, corporate rapacity which otherwise creates tension at the planning stage of every potential business relationship.[32] Any initial, and often continuing, friction can produce what Oliver Hart and John Moore have described as *shading* – the idea that if a party feels aggrieved it will adjust its performance, even if only subtly, to the detriment of the relationship.[33]

Traditional social science concepts that modelled the actions of people and groups on rationality[34] have begun to be supplanted by models evidencing entropy; individuals are prone to irrational biases which makes predicting their behaviour much more problematic than rational models would suggest.[35] With such

131 Law Quarterly Review 454, p.462: 'However well drafted a contractual document may be and however much care is taken to try to make its language clear and comprehensive, it is impossible to foresee or pre-empt all the issues which may arise with regard to its application'.

[32] *Frydlinger et al.* (n 15).

[33] David Frydlinger, Oliver Hart, and Kate Vitasek, 'A New Approach to Contracts: How to build better long-term strategic partnerships' (2019) *Harvard Business Review*; *Frydlinger et al.* (n 15): in response to the 'shading' problem, Frydlinger, Hart, and Vitasek put forward the concept of 'formal relational contracts' which, simply put, are written contracts with a more flexible framework based on pre-defined principles and objectives which overlay the more specific operational terms.

[34] Rory Sutherland, *Alchemy: The Surprising Power of Ideas That Don't Make Sense* (Penguin, 2019), p.54: 'standard economic theory, which doesn't ask people what they do and doesn't even observe what they do. Instead it assumes a narrow and overly 'rationalistic' view of human motivation, by focusing on a theoretical, one dimensional conception of what it believes humans are trying to do.'

[35] Daniel Kahneman and Amos Tversky, 'Prospect theory: An analysis of decision under risk' (1979) Vol. 47 No. 2 *Econometrica* 263.

developments, traditional ideas around individual and group solipsism have been questioned. Rather than viewing parties as perfectly rational and self-serving, it has been consistently shown that decisions are made under conditions of bounded rationality[36] and cooperation.[37]

The prisoners' dilemma provides an example of the dichotomy between selfishness and cooperation whereby a hypothetical situation is proposed of two prisoners (Prisoner A and Prisoner B) being arrested for a crime and suspected of committing another.[38] Their options are to either remain silent (cooperate with the other prisoner) or accuse the other party (betray the other prisoner). The optimal decision for both Prisoner A and Prisoner B, under conditions where they do not know the decision of the other prisoner, is to betray the other. However, applying this same logic to financial market participants, this optimality is only present in one-off or finite transactions. Where there are repeated transactions between parties with an

[36] Bounded rationality refers to the idea that individuals do not make optimal decisions. Rather they will often make decisions based on partial information and limited cognitive function; *Valsan* (n 16), p.41: 'Uncertainty in contractual relations arises due to the limits of the human capacity to receive, store, retrieve and process information without error, as well as due to the limitations of language to convey meaning. These limits of the human cognition and language, referred to as bounded rationality, affect the way in which economic agents structure their transactions'.

[37] Charles Haward Soper, 'Commercial expectations and cooperation in symbiotic contracts: An empirical and legal analysis' (2021) Vol. 5 Iss. 3 *Journal of Strategic Contracting and Negotiation* 115, p.115; *Sutherland* (n 34), p.174: 'Unlike short-term expediency, long-term self-interest, as the evolutionary biologist Robert Trivers has shown, often leads to behaviours that are indistinguishable from mutually beneficial cooperation.'

[38] Martin Peterson, *The Prisoner's Dilemma* (Cambridge University Press, 2015).

indefinite time horizon, it has been shown that cooperation is the most optimal strategy.[39]

These ideas, inter alia, feed into approaches adopted by certain factions of the English judiciary when analysing contracts. Whether directly or indirectly, ideas that contracting parties are fallible and may not always enumerate their requirements or articulate them in a coherent manner, started to permeate legal thinking on contractual interpretation.[40] The notion of contextualism promulgated by certain English law judges – in a judicial or extrajudicial capacity – promoted the idea that, for example and in the words of Lord Hoffmann, '[t]he meaning of words is a matter of dictionaries and grammars; the meaning of the document is what the parties using those words against the relevant background would reasonably have been understood to mean'.[41] Lord Sumption described this process of opening contractual interpretation up to more than the words of the contract as 'an ambitious attempt to free the construction of contracts from the shackles of language and replace them with some broader notion of intention'.[42]

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[39] Robert Axelrod, *The Evolution of Co-operation*, (Penguin, 1990): in the experiment run by Axelrod, betrayal was more optimal under conditions of one-time interactions as well as finite interactions but for those indeterminate interactions (those which so often characterise financial market participant interactions), the optimal strategy was tit-for-tat (i.e. I do to you what you do to me). Over time, given repeated transactions, cooperation was the optimal strategy. This led Axelrod to say that the prisoners have 'a short-run incentive to defect, but can do better in the long run by developing a pattern of mutual cooperation with the other' (p.109).

[40] For example, *Investors Compensation Scheme Ltd v West Bromwich Building Society* [1998] 1 W.L.R. 896.

[41] Ibid.

[42] Lord Sumption, 'A Question of Taste: The Supreme Court and the Interpretation of Contracts', Harris Society Annual Lecture, Keble College, Oxford (8th May 2017), 2.

The idea of intention was to be coupled with 'giving effect to the understanding of a reasonable person rather than a pedantic lawyer,'[43] and formed the basis of moving away from a strictly textualist[44] analysis of the contract, extending what Lord Steyn explained as a thread running 'through our contract law that effect must be given to the reasonable expectations of honest men.'[45] This can be broadened to understanding the relationship between the parties - by putting the words of the contract under a judicial microscope, we will generally play into the hands of clever lawyers without coming any closer to understanding the relationship of the contracting parties and the contractual terms aimed at reflecting their arrangement.

The notion that contracts must be viewed within the context in which they are situated, otherwise referred to as the 'matrix of facts',[46] is developed further by relational contract theory into which there are certain expectations of, for example, cooperation and good faith incumbent upon the parties which may not be expressly

[43] *Mitchell* (n 29), Loc. 2340.

[44] The term 'textualist' is used interchangeably with 'formalism' in this thesis. Textualism and contextualism can be summarised as follows: 'the textualist (or formalist) interpretation, which emphasises the primacy of ex ante contract design, and the contextualist (or purposive) interpretation, which focuses on ex post adjudication by courts' (*Valsan* (n 16) p.33).

[45] Johan Steyn, 'Contract law: fulfilling the reasonable expectations of honest men' (1997) Vol. 113 *Law Quarterly Review* 433, 433.

[46] *Prenn v Simmonds* [1971] 1 WLR 1381 (HL), 1383 and 1384; *Reardon Smith Line Ltd v Yngvar Hansen-Tangen* [1976] 1 WLR 989, 997; The Business and Property Courts of England & Wales, 'The Commercial Court Guide (incorporating The Admiralty Court Guide)', Edited by the Judges of the Commercial Court of England & Wales (2022, 11th Edition) ('*The Commercial Court Guide')*, C1.3(h): 'The "factual matrix" means the background knowledge which would reasonably have been available to the parties in the situation in which they found themselves at the time of the contract/document.'

set out in the legal agreement between them. It is the idea that, as in the prisoners' dilemma, we should consider not just the conditions under which parties will act in their own self-interest but those conditions under which parties often act cooperatively even if their agreement may not perfectly reflect that arrangement.

Relational contract theory has been built, inter alia, on the idea that contracts fit on a spectrum, with 'transactional' or 'discrete' contracts at one end and 'relational' contracts at the other.[47] The two concepts have eluded definitional clarity but can generally be described as follows:

(a) 'Discrete transactions are characterized by careful measurement of what is exchanged, specification of time and manner of performance, comprehensive planning regarding the allocation of burdens and benefits, and little expectation of cooperation outside the scope of the exchange'.[48]

(b) Relational contracts 'involve continuing exchange and interaction between the parties. The open-ended nature of contractual relations prevents detailed planning and necessitates cooperation and compromise regarding the incidence of contractual burdens and benefits'.[49]

This spectrum has been argued to slant heavily towards the relational end, with even ostensibly discrete transactions, such as one-off purchases, being described as

[47] *Macneil* (n 18).

[48] Michigan Law Review, 'The New Social Contract: An Inquiry into Modern Contractual Relations by Ian Macneil', (1981) Vol. 79 No. 4 *Michigan Law Review* 827, 827.

[49] Ibid, p.828.

relational.[50] This thesis does not apply such a broad definition of the term 'relational contracts' because it is the author's opinion that such broad strokes essentially discredit the vital role that the discrete/relational contract spectrum can provide in the categorisation of contracts, despite some judicial incredulity[51] and the belief by some commentators that discerning between two ends of such a scale is 'too simplistic'[52] an exercise.

While the distinction between discrete and relational contracts has gathered pace, particularly with the recognition of relational contracts in the English courts,[53] this thesis investigates the dichotomy *within* particular contracts as well as *between* them. The idea that contracts contain both discrete and relational terms has been observed by scholars such as Hugh Collins, Melvin Eisenberg, and Elizabeth Mertz.[54] This concept questions the infallibility of proclaiming one contract to be

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[50] Richard Austen-Baker and Qi Zhou, *Contract in Context*, (Routledge, 2015), p.79: referencing Ian Macneil, (n 18).

[51] For a recent example, see *Quantum Advisory Ltd v Quantum Actuarial LLP* [2023] EWCA Civ 12, 46: '…there is no special rule that allows a different approach to interpretation to be applied to relational contracts'; *Candey v Bosheh* [2022] EWCA Civ 1103, 32: 'it might be said that the elusive concept of good faith should not be used to avoid orthodox and clear principles of English contract law'; *Re Compound Photonics Group Ltd* [2022] EWCA Civ 1371, 205: '…although judges have, on occasions, used the expression "the spirit of the contract" in the context of a good faith clause, I do not read that as an open invitation to the court to interpret a good faith clause as imposing additional substantive obligations (or restrictions on action) outside the other terms of the contract. That must especially be so where (as in the instant case) the contract in question is professionally and comprehensively drafted, and contains an entire agreement clause.'

[52] Catherine Mitchell, 'Behavioural standards in contracts and English contract law' (2016) Vol. 33 *Journal of Contract Law* 234, p.16.

[53] *Alan Bates* (n 3); *Yam Seng* (n 2).

[54] *Collins* (n 5); *Eisenberg* (n 5); *Mertz* (n 5).

discrete and another to be relational or, as Macneil argued, that all contracts are relational.[55] While this thesis does not seek to undermine the original theory on relational contracts, it does seek to reframe it. In addition to considering a contract to be categorised as discrete or relational in the macro-sense, the theory can be applied on a micro-level to the very terms of one particular contract which creates a dichotomy *between the terms of a contract* rather than *between contracts* more widely. This micro-level analysis can then generate a new macro-label which acknowledges the synthesis of discrete and relational terms within contracts: the *bimodal contract*.

This thesis uses the ISDA MA as a case study for investigating this insight more specifically. This standard-form agreement presents an interesting, internal polarity of underlying discrete transactions which, taken together, often form the basis of a valuable commercial relationship. A single trade between parties can be seen as discrete but the accumulation of multiple trades between those same parties begets cooperation and trust. The binary, transactional nature of a single trade transforms, when forming part of a collection of trades, into something more relational in much the same way as a single interaction under conditions of the prisoners' dilemma may cause both sides to act in their self-interest whereas multiple interactions will often cause them to consider cooperation. In this sense, the *bimodal contract* is, in the context of this thesis, the individually discrete within the collectively relational.

[55] David Campbell, 'Good Faith and the Ubiquity of the 'Relational' Contract' (2014) Vol. 77 No.3 *Modern Law Review* 475, p.482.

## 1.3 Research Question

The research question posited in this thesis is:

> *Where does the English law governed ISDA Master Agreement fit on the discrete/relational contract spectrum?*

Given the proposition set out in the section above that some contracts may contain both discrete and relational terms, this question may present a supposition that the MA sits at the centre of such a spectrum. This idea will be explored in this thesis and the observations which derive from the research question fluctuate between buttressing both categorisations which, ex hypothesi, feeds into discussions around the discrete/relational demarcation between contractual terms within agreements. It is important to note here that by 'relational terms', any incompleteness is also included which a court may find necessary to address. In this sense, 'relational terms', in this thesis, include clauses which require an understanding of the relationship as well as any omissions from the contract which may need to be filled by a court.

The ideas behind this research have derived from a combination of phenomena developing simultaneously: (i) the recognition of relational contracts under English law,[56] (ii) the ostensibly discrete nature of financial contracts along with the possibility of automation offered under smart contracts,[57] and (iii) the acceptance that English law can accommodate smart contracts under the existing legal

[56] For example, *Yam Seng* (n 2).

[57] See chapter 9 of this thesis.

framework.[58] The MA encapsulates these diverse ideas – a financial contract possessing characteristics amenable to automation while referencing good faith and being described as incomplete[59] – the realisation of which started to develop ideas around contracts which contain both discrete and relational terms.

The approach taken in this thesis is to drill down into this particular standard-form agreement to understand: (i) the financial instruments it covers and why parties trade them, (ii) the organisation behind the MA and its composition, (iii) the structure of the MA along with the intentions of ISDA as the drafting party, (iv) the contractual network created by the MA, and (v) the development of a smart contract version of the MA. From this analysis, the aim is to be able to better comprehend where the English law governed MA fits on the discrete/relational contract spectrum as part of a broader aim to understand relational contract theory as it pertains to standard-form financial agreements and the practical matter of interpretation.

The approach to answering the research question of this thesis can be visualised as a cascading analysis, from assessing ISDA and the OTC derivatives market, down through the terms of the MA – along with the intentions of the parties and ISDA to the network created around it – and, finally, to looking at future technological

[58] U.K. Jurisdiction Taskforce, 'Legal Statement on Cryptoassets and Smart Contracts' (2019) *The LawTech Delivery Panel;* The U.K. Law Commission, 'Smart Legal Contracts: Advice to Government' (2021) CP 563, Law Com No.401.

[59] *Golden* (n 20), p.299; *Choi & Gulati* (n 26), p.1152: '…boilerplate terms, made incomplete with the vagaries of time'; *Lehman Brothers International (Europe) v Lehman Brothers Finance SA* [2013] EWCA Civ 188, 10: [in relation to a change in wording in the 2002 version from the 1992 version] 'The fact that it had to be expressly stated suggests that the drafting had not always met commercial expectations in the past, and that ISDA wanted a new approach to be adopted'.

developments and a potential smart contract version of the MA. Fig.1 is designed to visually represent this cascading analysis.

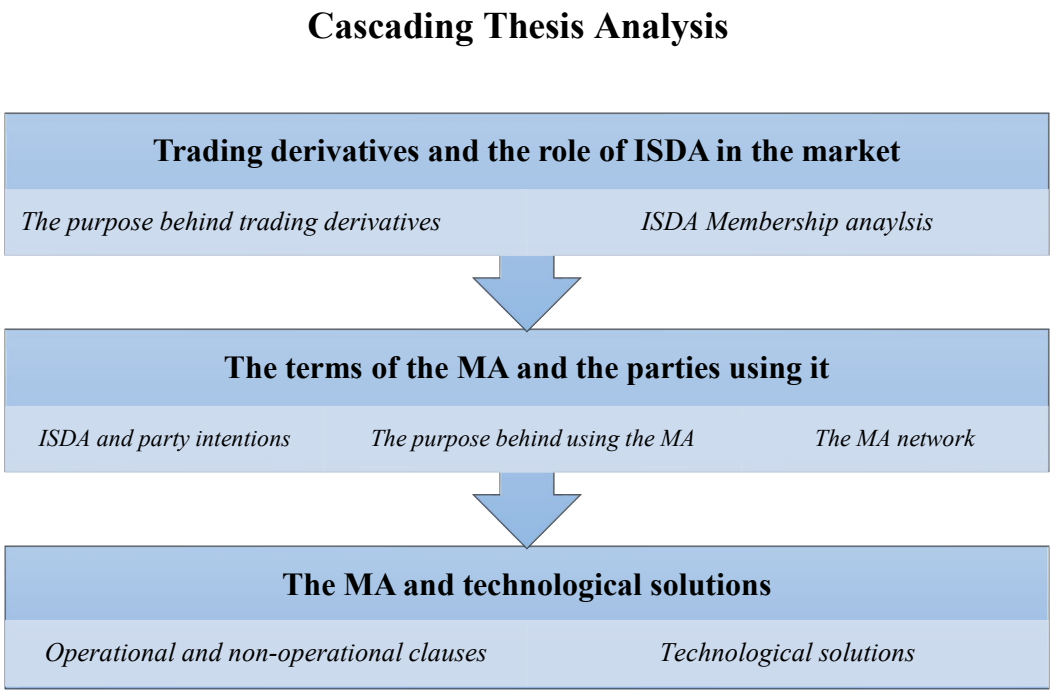


*Fig.1 A visual representation of the three levels of analysis carried out in this thesis to assess the MA as a bimodal contract. Beginning with ISDA Membership and the purposes behind the MA and trading thereunder, moving to the terms of the MA and intentions of ISDA as well as the network of parties using the MA, and finally to the proposed introduction of a smart contract version of the MA.*

The broad aim of this thesis, using the MA as a case study, is to build upon the existing literature and case law on relational contracts and the perhaps more peripheral comments that contracts often contain both discrete and relational terms[60] in order to reify the idea of bimodal contracts. This insight is further enhanced by technological developments in how contracts are being developed and how some of their terms may be automated, commonly referred to as 'operational' and 'non-

[60] *Collins* (n 5); *Eisenberg* (n 5); *Mertz* (n 5).

operational clauses'[61] which, this thesis contends and which will be explained in more detail, holds a mirror up to the idea that contracts, such as the MA, are bimodal.

## 1.4 Research Methodology

This thesis utilises, as primary methodologies: sociological jurisprudence, data analysis, and doctrinal (and contractual) analysis. Secondary methodologies and theories are used to frame some of the arguments made in this project and include: legal pluralism, political economy, economic theories,[62] and the limited use of comparative law. On the latter method, while this thesis is based upon English law and the 2002 ISDA Master Agreement as governed by English law, there are references to other jurisdictional approaches where it can provide context and potential insight into the propositions being explored.

This thesis provides ideas for how we can think of contracts, such as the MA, as transnational, privately made instruments but which are often anchored to national legal systems. In this thesis, such anchoring is to the MA as governed by English law and so the ideas discussed in this thesis are framed by that legal system. English law is used for the following reasons: (i) English law was one of two governing law jurisdictions first utilised by ISDA in its MA (the other being New York) and it is still used widely today,[63] (ii) English law has, relatively recently, started to recognise

[61] *ISDA, Linklaters* (n 27), pp.10-11.

[62] Namely, behavioural economics and incomplete contracts.

[63] *Braithwaite* (n 10), p.7: '…the traditional preferences for English law and English courts, for the time being, remain strong'; Michael Joachim Bonell, 'International Uniform Law in Practice - Or Where the Real Trouble Begins' (1990) Vol. 38 No. 4 *American Journal of Comparative Law* 865, p.885: 'Since London is still one of

relational contracts in a practical sense,[64] (iii) notwithstanding the aforementioned recognition of relational contracts, English law could be seen, unlike many other countries, to have a somewhat 'hostile' approach to good faith,[65] a concept which has become the cornerstone of the burgeoning law on relational contracts,[66] and (iv) the U.K. Jurisdiction Taskforce and the U.K. Law Commission have recently written extensively on English law's extant amenability to smart contract technology.[67] Given its importance as an ISDA MA governing law jurisdiction, the dichotomy between the development of relational contracts and a historical, and perhaps continuing, disinclination towards implied terms of good faith,[68] as well as confirmation that smart contracts fit within the existing legal framework,[69] makes English law a compelling case study in how the MA can be viewed as discrete, relational, or bimodal.

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the most important international financial centers, businessmen from all over the world, when concluding their transactions there, are normally prepared to accept the application of English law; whereas the same preference for the local law is not to be found when similar contracts are concluded in other parts of the world'; *Lomas (Together the Joint Administrators of Lehman Brothers International (Europe)) v JFB Firth Rixson Inc* [2010] EWHC 3372 (Ch), 53: 'English law is one of the two systems of law most commonly chosen for the interpretation of the Master Agreement, the other being New York law.'

[64] *Yam Seng* (n 2).

[65] Mr Justice Leggatt, 'Contractual duties of good faith', Lecture to the Commercial Bar Association (18th October 2016), 2.

[66] *Portobello Productions Ltd v Sunnymarch Ltd* [2022] EWHC 3014 (Ch), 50: '…whether the contract is properly regarded as being 'relational' with the consequence that an implied term as to good faith could be incorporated'.

[67] *UKJT* (n 58); *The U.K. Law Commission* (n 58).

[68] *Leggatt* (n 65), 2.

[69] *UKJT* (n 58); *The U.K. Law Commission* (n 58).

The MA has been chosen because: (i) ISDA, as an organisation, plays an important role in the global financial markets,[70] (ii) the 'high status of ISDA Master Agreements in the financial world',[71] and (iii) as one of the two main jurisdictions for the MA, there has been a 'significant and diverse OTC derivatives related caseload before the English courts over the last two decades or so'.[72] Prima facie, the MA - as an important, sophisticated, standard-form financial contract - may seem incompatible with the idea of relational contracts and, before the 2007-2008 global financial crisis (GFC), there were few cases brought before the English courts.[73] However, following the GFC, especially the litigation which followed the collapse of Lehman Brothers, disputes concerning the standard-form MA have increased.[74] Moreover, ISDA has, relatively recently, proposed the introduction of a smart contract version of the MA which feeds into the U.K. Jurisdiction Taskforce's and

[70] Sean M. Flanagan, 'The Rise of a Trade Association: Group Interactions within the International Swaps and Derivatives Association' (2001) Vol. 6 *Harvard Negotiation Law Review* 211, 253.

[71] *Lehman Brothers International (Europe) v Lehman Brothers Finance SA* (n 59), 87.

[72] Jo Braithwaite, 'Standard Form Contracts as Transnational Law: Evidence from the Derivatives Markets' (2012) Vol. 75 Iss. 5 *The Modern Law Review* 779, p.790.

[73] Ibid, p.790: 'Overall, the data suggests that prior to 2009…trials involving the ISDA documentation occurred no more than once a year in the English courts, and other types of decisions were also almost entirely confined to one a year, or none at all'.

[74] For example, see: *Lehman Brothers Finance AG v Klaus Tschira Stiftung GmbH* [2019] EWHC 379 (Ch); *Fondazione Enasarco v Lehman Brothers Finance SA* [2015] EWHC 1307 (Ch); *Lehman Brothers Finance SA v Sal. Oppenheim Jr. & CIE. KGAA* [2014] EWHC 2627; *Lehman Brothers* (n 59); *Anthracite Rated Investments (Jersey) Ltd v Lehman Brothers Finance SA* [2011] EWHC 1822 (Ch); in terms of the increased frequency of disputes, see: *Braithwaite* (n 72).

U.K. Law Commission's comments on smart contracts and, in terms of this thesis, the nature of operational and non-operational clauses.[75]

Given that this thesis utilises a socio-legal concept - relational contract theory – this thesis endeavours to address the issues set out here using an interdisciplinary approach. Relational contract theory draws on law and sociology to move away from the attempt by some legal scholars, such as Christopher Langdell, to categorise law as a science[76] and, more specifically, away from the classical theory of contract law which advocated for textualism in that each party is free to choose to enter a transaction and so should be bound by the terms as written, using, as Richard Stone and James Devenney describe, 'as part of its paradigmatic contract, a 'one-off' transaction that is discrete and self-contained'.[77]

Sociological jurisprudence, a method which, in the words of Hugh Collins, aims to 'combine an understanding of the phenomenon of networks drawn from a broad range of social sciences together with a sophisticated appreciation of how the legal system comprehends and regulates social and economic activity'[78] provides insights first developed in systems theory, advanced by Niklas Luhmann[79] and Gunther

[75] *UKJT* (n 58); *The U.K. Law Commission* (n 58); *ISDA, Linklaters* (n 27).

[76] Edward Rubin, 'What's Wrong with Langdell's Method, and What to Do About It' (2019) Vol. 60 *Vanderbilt Law Review* 609.

[77] Richard Stone and James Devenney, *The Modern Law of Contract*, Routledge (Routledge, 2022, 14th Edition), p.13.

[78] Gunther Teubner, *Networks as Connected Contracts: Edited with an Introduction by Hugh Collins* (Hart Publishing, 2011), p.1.

[79] Niklas Luhmann, *Social Systems*, (Stanford University Press, 1996).

Teubner,[80] respectively. This approach can help to explain how ISDA's MA has become a tool of regulation and organisation within a market which, by its very definition, is 'over-the-counter' and devoid of any kind of exchange-like structure. This methodology can also help to address the discrete/relational categorisation of the MA more broadly by helping us comprehend ISDA's role and the weight applied to its opinions as the drafting party of the MA as well as the network created around this standard-form contract.

Data and doctrinal analyses are used to assess ISDA and its MA in greater detail. By understanding the organisation and the terms of its MA on a granular level, we can start to assess the standard-form agreement which it has drafted and which is so ubiquitous in the market from the point-of-view of the possible political and corporate forces which may influence its construction.

The data analysis uses publicly available data on ISDA members as found on the ISDA website. However, only the names of such members are provided which does not always provide specific information as to the location of such organisations. Therefore, the name of each member is cross-referenced against the Global Legal Entity Identifier Foundation's (GLEIF)[81] database in order to establish, as far as possible, the location of the headquarters of each organisation. With that information, a data analysis is carried out to determine the geographical distribution of ISDA members which form part of the organisation behind the MA.

[80] Gunther Teubner, *Law as an Autopoietic System*, (Blackwell, 1993).

[81] Established by the Financial Stability Board in June 2014, the Global Legal Entity Identifier Foundation (GLEIF) is tasked to support the implementation and use of the Legal Entity Identifier (LEI) < https://www.gleif.org/en/about/this-is-gleif > accessed on 2 March 2021.

As part of the contractual and doctrinal analysis, the following clauses of the MA are analysed in this thesis along with some of the case law around those clauses. The aim is to provide an understanding of the MA as an agreement which focuses primarily on payment and termination. The following sections will be discussed:

| **Section of the MA** | **Reason for Discussing** |
|---|---|
| Section 1(c) – the single agreement | This section is discussed in order to reiterate how the different agreements form a whole. This links to arguments on how, for example, discrete transactions (formalised by Confirmations) form part of a relational whole (covered by the umbrella MA) |
| Section 2(a)(iii) – payment obligations | Payment obligations under the MA provide an insight into how the courts have struggled with the interpretation of this standard-form agreement. This section also feeds into discussions on smart contracts and the potential automation of payment mechanisms. |
| Section 5 – Events of Default and Termination Events | An orderly termination of any MA forms an important part of a derivatives market which is not centralised through an exchange. This feeds into discussions on networks and the MA at chapter 8 and this section provides some grounding in common causes for termination as well as the discrete or relational mechanisms for its activation. |
| Section 6 – Early | This section is the culmination of the termination and |

| | |
|---|---|
| Termination and Close-Out Netting | payment provisions in the MA as assessed in this thesis and is included here to show that ostensibly discrete mechanisms may still be influenced by relational language. |

While implied terms are not proposed in this thesis as part of any blanket solution – for it is considered that such terms will be context-specific and subject to 'notional reasonable people in the position of the parties at the time'[82] – the inclusion of an entire agreement clause at section 9(a) of the MA does not necessarily preclude the implication of terms, which is consistent with the English courts approach in the case of *Axa Sun Life Services plc v Campbell Martin Ltd*[83] in which it was held that, if the test for implied terms is satisfied[84] and the terms to be implied are not 'as a result of matters extrinsic to the written agreement',[85] then the entire agreement clause, which formed part of the agreement in dispute,[86] will not prevent terms from being implied.

Legal pluralism, political economy and economic theories will all be used to frame the arguments being made in this thesis rather than serve any substantive methodological or theoretical purpose. Legal pluralism will be used to frame the role of ISDA as a non-state entity which forms part of the complementing and competing

[82] *Yoo Design Services Limited v Iliv Realty Pte Limited* [2021] EWCA Civ 560, 51.

[83] *Axa Sun Life Services plc v Campbell Martin Ltd* [2012] Bus LR 203.

[84] This is set out at chapter 2.4.

[85] *Axa Sun Life Services* (n 83), 42.

[86] The wording of which bears some similarity to the wording of the Entire Agreement clause found at s.9(a) of the MA.

state and non-state systems, resulting in what Ralf Michaels describes as 'a plurality of legal orders'.[87] Political economy is utilised in combination with the data analysis to emphasise the symbiotic relationship between nation states and corporations which frames the assessment of ISDA's geographical distribution and the influence of certain common law jurisdictions over the development and wording of the MA.[88] Economic theories are used to supplement the ideas behind relational contract theory, primarily that contracts are incomplete and how that affects, or how certain economists propose that should affect, the approach parties and courts take towards commercial contracts.[89]

## 1.5 Research Objectives and Thesis Outline

This thesis is designed to explore the interaction between discrete and relational terms within contracts. Using the MA as a case study provides a unique opportunity to assess this interaction through the prism of a standard-form agreement which provides an overarching framework for the execution of what may reasonably be

[87] Ralf Michaels, 'The re-statement of non-state law: the state, choice of law, and the challenge from global legal pluralism' (2005) Vol. 51 *Wayne Law Review* 1209, p.2.

[88] John Mikler, *The Political Power of Global Corporations*, (Polity Press, 2019); Joshua Barkan, *Corporate Sovereignty*, (University of Minnesota Press, 2013); John Biggins and Colin Scott, 'Public-Private Relations in a Transnational Private Regulatory Regime: ISDA, the State and OTC Derivatives Market Reform' (2012) Vol. 13 Iss. 3 *European Business Organization Law Review* 309, p.325: 'The Master Agreement is clearly drafted with common law jurisdictions in mind. Choice of law provisions in the Master Agreement strongly recommend that transactions should be confined to either the English or Southern District of New York (SDNY) courts'.

[89] Luigi Zingales, 'Why the Incomplete Contract Approach is Important for Finance', in *The Impact of Incomplete Contracts on Economics*, Philippe Aghion, Mathias Dewartripont, Patrick Legros, and Luigi Zingales (eds.) (Oxford University Press, 2016).

classified as discrete transactions. The individual trades underpinning the MA as well as certain terms around, for example, payment or termination may well fall into the category of 'discrete' but those trades taken as a collective and some of the residual terms around, for example, performance of obligations more holistically, may be better categorised as relational. It could be argued, therefore, that there is an individual discreteness within a relational aggregate or, as is argued in this thesis and which forms part of the original contribution deriving therefrom, that the MA is a combination of discrete and relational terms. This idea is complemented by the significant legal and technological innovation behind contracts such as the MA, with new ideas being generated around how, for example, networks should form part of discussions on how contracts are interpreted and how technology can enhance otherwise rudimentary and manual operational practices.

Relational contract theory has been used to visualise contracts on a spectrum, from discrete on one end to relational on the other. The research question being posed is: where does the English Law governed MA fit on that spectrum? This idea is designed to build upon more tangential comments made by Hugh Collins,[90] Melvin Eisenberg,[91] Elizabeth Mertz,[92] and Ian Macneil[93] that contracts can often be seen as intrinsically dichotomous, containing both discrete and relational terms. The contribution of this thesis is built on the analysis of this combination of discrete and

[90] *Collins* (n 5), p.142: 'My analysis suggests, therefore, that all transactions have both discrete and relational dimensions, and that these classifications obscure the importance of variables along three different dimensions of normative orientation'.

[91] *Eisenberg* (n 5).

[92] Mertz (n 5).

[93] *Ibid*, p.814.

relational within contracts rather than the prevailing holistic contractual analysis which often determines that they are mutually exclusive. From such a contribution - albeit caveated by its application solely to the ISDA MA - a broader framework starts to emerge for how to assess standard-form agreements on the discrete/relational spectrum.

The 'Death of Contract'[94] concept was born out of the idea that classical contract law – the idea that contracts could be explained by certain common rules being applied strictly and formalistically[95] - could no longer sufficiently explain contracts and so the pursuit of doing so should cease. The conclusions from this thesis may suggest that we have returned to a place where the death of contract – or, more precisely, of contract law in this area – is revisited by assuming that contracts should be categorised as neither discrete nor relational because the very terms of all contracts are themselves both discrete and relational, making all contracts a combination of the two. If all contracts contain a combination of discrete and relational terms, the very concept of relational contracts could become superannuated.

While there are some conclusions deriving from this research which could be applied to contracts more generally, there is one obvious caveat: this thesis investigates one particular standard-form agreement, the ISDA MA, and it would be remiss to apply the results from one analysis to act as a catch-all for contracts more generally, in all their shapes and sizes. However, the investigation carried out in this thesis can be regarded as one element in a wider discussion about how we try to find

[94] Grant Gilmore, *The Death of Contract* (Ohio State University Press, 1995).

[95] *Austen-Baker and Zhou*, (n 50), p.77.

better strategies for analysing terms and categorising contracts, especially standard-form agreements, in a world of inevitably incomplete contracts.[96]

This thesis aims to address its research question through six parts:

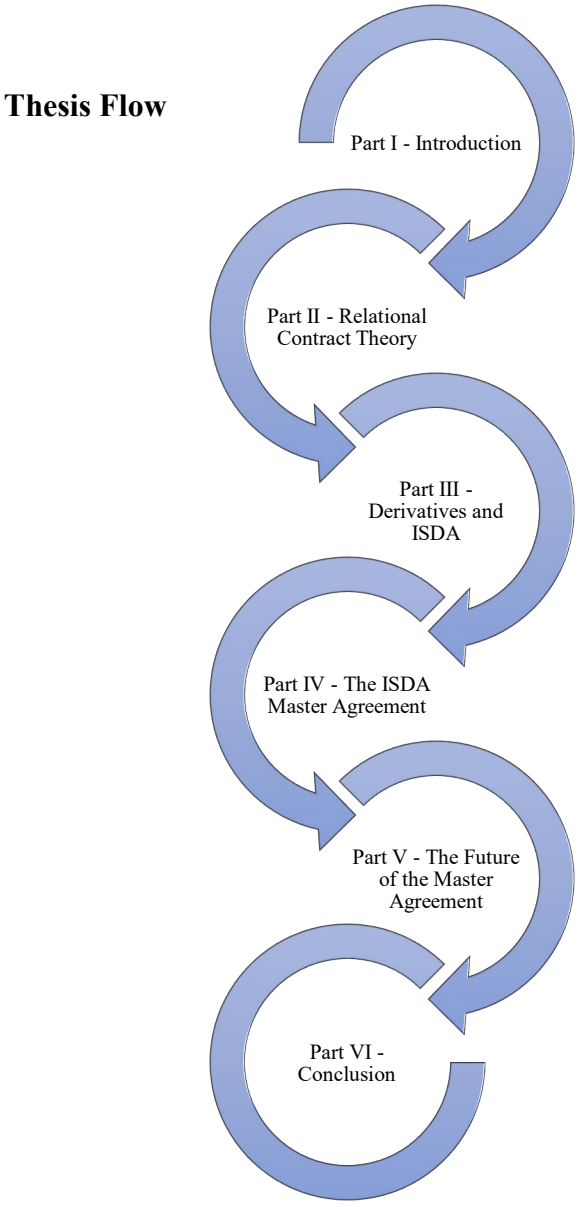


*Fig.2 A visual representation of the flow of this thesis and its constituent parts.*

[96] Tian Xu, 'Smart Contracts: The Limits of Autonomous Performance' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.) (Oxford Academic, 2022, Online Edition), p.238.

**Parts I and II – Introduction and Relational Contract Theory**

Parts I and II set out to provide context to this thesis, introducing the concept being explored herein and the background behind relational contract theory. These two Parts focus on providing a broad description of this thesis and introducing the main aim of this research (Part I) while setting the conceptual and definitional boundaries of relational contract theory which plays such a pivotal role behind the research being undertaken in this thesis (Part II).

**Part III – Derivatives and ISDA**

***Trading derivatives and the role of ISDA in the market***

Part III of this thesis is designed to analyse: (i) the OTC derivatives market, (ii) the market participants and the main purposes behind trading derivatives, and (iii) ISDA's role in the market and its composition.

Beyond providing context around the OTC derivatives market, this chapter is aimed at providing two contributions to the research question posed in this thesis: the first is to investigate the purposes behind using OTC derivatives to determine if that can reveal anything about the nature of the contract in certain circumstances; the second is to assess the membership of ISDA as an organisation which oversees a global marketplace.[97] This analysis is designed to provide insights into how the MA, given ISDA member dispersion, should be considered in light of its international nature.

[97] Maciej Konrad Borowicz, 'Private power and international law: the International Swaps and Derivatives Association' (2015) Vol. 8 No. 1 *European Journal of Legal Studies* 46, pp.51-52.

The purpose behind using OTC derivatives

While the MA may be viewed through the prism of ISDA's intentions, whether we classify the MA – or, more specifically and as argued in this thesis, particular terms therein - as discrete or relational, must also depend on the purpose of the relationship between the parties. It is at this juncture that the primary purposes for trading are assessed: *hedging* and *speculation*. Crudely put, the former is used to reduce risk while the latter performs an enigmatic role which some determine as tantamount to gambling.[98] While this thesis provides further analysis of both of these concepts below – and debunks some of the more simplistic 'good/bad' categorisations – it raises a broader point around how the discrete/relational divide may be said to be influenced more by the purpose of the relationship than by the terms of the agreement itself. For example, could it be argued that an MA between two parties looking to hedge their exposures is more likely to be viewed by those parties as relational as opposed to counterparties which are both speculating and who may view their relationship as purely transactional?

The composition of ISDA

The geographical distribution of ISDA members provides a justification for perhaps viewing the MA more contextually and the propensity for relational

[98] Timothy E. Lynch, 'Gambling by Another Name; The Challenge of Purely Speculative Derivatives' (2012) Vol. 17 No. 1 *Stanford Journal of Law, Business, and Finance* 67; in the case of *Hammersmith and Fulham London Borough Council* [1992] 2 AC 1, the House of Lords described the swaps which the Court of Appeal had described as tools for risk management as 'more akin to gambling than insurance' (at 35) and all 'essentially speculative' (at 46).

contracts to be viewed more in line with broader international norms around contractual solidarity, harmonisation with the social matrix, preservation of the relationship, and substantial fairness,[99] which would provide more scope for the courts to interpret the MA in a way which could satisfy the global user-base of the agreement rather than the parochial conditions of predominantly two national legal systems.[100]

## Part IV – The ISDA Master Agreement

### *The terms of the MA and the parties using it*

Part IV of this thesis is designed to analyse: (i) the ISDA MA and the purposes behind it, (ii) how the intentions of the parties to the standard-form MA may be supplanted in any matter of interpretation by the intentions of ISDA as the drafting party, and (iii) the contractual network created by the MA.

#### The purposes behind the MA

One of the main tenets of relational contracts is the idea of preserving the relationship[101] while the ISDA MA is designed primarily to act as a way for either party to escape in the event of default or other termination event.[102] Instead of acting as a way to harness each party's rectitude, the MA is drafted to ensure a clean, swift, and efficient break is executed between the parties as

[99] *Austen-Baker* (n 24), p.222; Ian Macneil, *The New Social Contract* (Yale University Press, 1980).

[100] Currently, English law and New York law.

[101] Ibid (*Austen-Baker*), p.221; *Robertson* (n 24), p.187.

[102] *Hudson* (n 25), p.1224.

soon as a material problem, or potential material problem,[103] arises. The idea of preservation and termination may not be mutually exclusive but it does raise questions around the MA being labelled a relational contract.

The thinking behind this capacity for prompt severance and associated concepts like close-out netting – the idea that, on termination, a single sum is payable by one party to the other – is connected to the systemic risk associated with derivatives and the OTC market specifically.[104] Given the significant amounts at risk, the speed of market information, and the importance of liquidity, the vast network of ISDA members and/or non-members using the MA means that expeditious termination is preferable, albeit not without its own risks.

ISDA and party intentions

Some commentators have advocated that certain standard-form agreements such as the MA should be interpreted not as contracts but as statutes or treaties.[105] The main argument here is that such agreements do not entail the intentions of the parties but rather the intentions of the drafting party and that, accordingly, we should approach the assessment of such contracts in the same way we approach statutory interpretation, by analysing the intentions of the drafters.

[103] The 'Potential Event of Default' is discussed below as part of discussions of the core terms of the MA.

[104] Braithwaite (n 10), p.26

[105] See, for example, *Choi & Gulati* (n 26); *Golden* (n 26), p.333.

This also raises the important issue of how contextualism or relational contract theory can be applied in practice to the MA and to analogously complex and sophisticated standard-form contracts like it. While Lord Hodge in *Wood v Capita Insurance Services Limited*[106] alluded to the more textualist approach that courts may take to the interpretation of sophisticated agreements in comparison to the perhaps more contextual approach they may take to the interpretation of less sophisticated agreements, he did rein in such assertions by caveating that there may be circumstances where the division between sophisticated and unsophisticated will be inconsequential.[107]

However, in the case of *LSREF III Wight Ltd v Millvalley Ltd*,[108] Mr. Justice Cooke made it clear that in the context of standard form contracts, and the ISDA MA in particular, 'consistency, predictability and certainty are essential and so they are much less susceptible to interpretation by reference to

[106] [2017] UKSC 24.

[107] Ibid, 13: 'Some agreements may be successfully interpreted principally by textual analysis, for example because of their sophistication and complexity and because they have been negotiated and prepared with the assistance of skilled professionals. The correct interpretation of other contracts may be achieved by a greater emphasis on the factual matrix, for example because of their informality, brevity or the absence of skilled professional assistance. But negotiators of complex formal contracts may often not achieve a logical and coherent text because of, for example, the conflicting aims of the parties, failures of communication, differing drafting practices, or deadlines which require the parties to compromise in order to reach agreement. There may often therefore be provisions in a detailed professionally drawn contract which lack clarity and the lawyer or judge in interpreting such provisions may be particularly helped by considering the factual matrix and the purpose of similar provisions in contracts of the same type'.

[108] [2016] EWHC 466 (Comm).

background circumstances or matrix'.[109] This does suggest that courts will take a more formal or textual approach to the interpretation of the MA and therefore, the arguments for some of the relational elements may be jettisoned in favour of an approach that does not assess the ongoing business relationship of the parties but merely looks to the MA between them which, in turn, will be interpreted according to the intentions of ISDA.

The Master Agreement Network

The concept of contractual networks is relatively nascent and, as Stefan Grundmann describes, 'visionary, in part fictional...often without satisfying legal consequences'.[110] This is still an academic sandbox, where social and economic realities are measured against legal doctrines. However, the same could have been said for the social realities highlighted by Ian Macneil and Stuart Macaulay and the idea of 'relational contracts', which has now found its way into practical considerations of contract law.[111] While academic work on contractual networks continues to proliferate, there are examples of burgeoning practical steps being adopted by national legal regimes – namely, Italy and Germany - which have passed legislation recognising contractual networks.[112]

[109] Ibid, 42.

[110] Stefan Grundmann, 'Contractual networks in German private law' in *Contractual Networks, Inter-Firm Cooperation and Economic Growth*, Fabrizio Cafaggi (ed), (Edward Elgar Publishing, 2011).

[111] For example, under English law, *Yam Seng* (n 2).

[112] In Italy, this has taken the form of Article 3, §4-ter, of Decree Law No 5/2009 (amended most recently with Decree Law No 179/2012, and converted into Law No 221 of 17.12.2012) (Maurizio Sciuto, 'The Network

It has been argued that a rigid approach to interpretation could stymie the recognition of networks given that their formulation in the express terms of contracts is often imperceptible. However, in the case of the MA, a more textualist approach to interpretation creates consistency, predictability and certainty across the ISDA network. This, again, leads to a reinterpretation of one of the main tenets of contract law: the intentions of the parties, as objectively assessed.[113] Legal systems often demand that in any question of interpretation, the intentions of the parties, albeit through an objective lens, should be considered as part of the context of the words they have used to form their contract. A number of legal systems have either codified[114] the idea that courts must interpret contracts in accordance with the intentions of the parties, objectively assessed, or it has been baked into the system over time.[115] In addition to considering the intentions of ISDA (under (a) above), this thesis

Contract in Italy: A Third Route between 'Contract' and 'Organisation'?' (2014) *SSRN*); in Germany, this has taken the form of the German Civil Code section 358 for connected consumer contracts and section 311 and 328 for rights of parties which may not necessarily be party to the contract (*Grundmann* (n 110)).

[113] *ABC Electrification Limited v Network Rail Infrastructure Limited* [2020] EWCA Civ 1645.

[114] For example, the *French Civil Code: The Law of Contract, The General Regime of Obligations, and Proof of Obligations* created by Ordonnance n° 2016-131, Art. 1188 < https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006070721/2023-01-01 > accessed 29 January 2023; *Draft Common Frame of Reference (DCFR), Principles, Definitions and Model Rules of European Private Law*, Chapter 8: Interpretation Section 1: Interpretation of contracts, II. – 8:101 < https://www.trans-lex.org/400725/_/outline-edition-/ > accessed 15 February 2023.

[115] For example, under English common law*: BMA Special Opportunity Hub Fund Ltd v African Minerals Finance Ltd.* [2013] EWCA Civ 416, 24: 'The court's job is to discern the intention of the parties, objectively speaking, from the words used in the commercial document, in the relevant context and against the factual background in which the document was created'.

will explore the MA as a potential network contract which may dictate a different approach, one which creates consistency across the network so that parties to a potential dispute can reasonably rely on previously held MA-related decisions, not just because they are using the same agreement (albeit with potential modifications in ancillary documents) but because the courts have reiterated their approach to the interpretation of such contracts. Textualism, in this sense, aids what is referred to in this thesis as a 'latent contractual network', a network in which participants are all linked by their use of the MA but which does not require formal recognition or a more contextual interpretation to take hold. Instead, it is the rigid, perhaps discrete reading, of the MA which supports the latent contractual network.[116]

## Part V – The Future of the Master Agreement

### *The MA and technological solutions*

Part V of this thesis focusses on the potential introduction by ISDA of a smart contract version of the MA. Smart contracts are, as Daniel Drummer and Dirk Neumann describe, 'computer programs that embed the terms and conditions of a contract between two or more parties'.[117] The term 'smart contract' is often used (and is used in this thesis) but, as ISDA admits, the term *smart derivative contract* is

[116] Matthew Armitage, 'The ISDA Master Agreement and the Recognition of a Latent Contractual Network' (2023) Vol. 19 Iss. 1 *European Review of Contract Law* 37.

[117] Daniel Drummer & Dirk Neumann, 'Is code law? Current legal and technical adoption issues and remedies for blockchain-enabled smart contracts' (2020) Vol. 35 Iss. 4 *Journal of Information Technology* 337, p.337.

more accurate,[118] the distinction being that a smart contract may not be a contract at all, at least in the traditional sense.[119] ISDA is developing a smart derivative contract, and the facilitative systems around it, in recognition of the exponential increase in technological innovation which has enveloped so many industries.

The mechanical and discrete nature of some of the MA's terms, such as collateral exchange, are particularly amenable to automation. These terms are referred to by ISDA as 'operational clauses',[120] which are highly discrete, acontextual functions and which can be automated while recognising that there are also 'non-operational clauses',[121] which may, for example, expressly refer to behavioural standards such as *good faith* and *commercial reasonableness*. This extends into research on smart contracts more generally in which there have been proposals to have contracts split into two connected contracts, creating a smart contract for the discrete, automated terms and a non-smart contract for the modifiable, relational terms.[122] This approach has, more crudely, been defined as creating 'smart contracts' and 'dumb contracts'.[123]

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[118] ISDA, King & Wood Mallesons, 'Whitepaper Smart Derivatives Contracts: From Concept to Construction', October 2018, p.5 < https://www.isda.org/a/cHvEE/Smart-Derivatives-Contracts-From-Concept-to-Construction-Oct-2018.pdf > accessed 4 March 2020.

[119] The term may refer to entirely embedded code which can self-execute but which may not fulfil the definitional requirements of what is traditionally considered a contract.

[120] *ISDA, Linklaters* (n 27), p.10.

[121] Ibid, p.11.

[122] Philipp Paech, 'The governance of blockchain financial networks' (2017) Vol. 80 Iss. 6 *The Modern Law Review* 1073, p.1097.

[123] Alexandros A. Papantoniou, 'Smart Contracts in the New Era of Contract Law' (2020) Vol. 1 No. 4 *Digital Law Journal* 8, p.21.

The automation of some of the MA's terms is the culmination of the proposition that the MA is a *bimodal contract* – consisting of both discrete and relational terms. Selecting some terms which are open to automation while recognising that others are, at least at this stage, impervious to mechanical conversion,[124] provides an appropriate denouement to the arguments put forth in this thesis in favour of a more comprehensive, meta-relational contract theory which uses the discrete/relational spectrum *within* as well as *between* contracts.

**Part VI – Conclusion**

Part VI concludes this thesis by reflecting on Parts II to V and how the chapters thereunder, in concert, contribute to the literature on relational contracts and the ISDA MA. Despite some attempts at suggesting that the ISDA MA is a relational contract,[125] and the idea that contracts, due to their inherent incompleteness, 'must be underpinned by and sustained with trust',[126] the general approach of the English

[124] *Xu* (n 96), p.243: '…computer code is ill-adapted to exercising nuanced judgment on a case-by-case basis in its interaction with the law.'

[125] David Rouch, *The Social Licence for Financial Markets: Reaching the End and Why it Counts* (Palgrave Macmillan, 2020), p.79: 'Trust is essential… Something of this is seen in industry standard derivatives documentation, known as 'ISDAs'… They use various mechanisms for resolving uncertainties later in the relationship, treatment of which cannot be agreed in advance……even short-term trades often take place in the context of wider institutional relationships; for example, most large firms maintain lists of brokers they are prepared to deal with, selection being based partly on their previous experience of those firms…the contracts, while generally not complicated, are nonetheless incomplete and therefore still involve a degree of trust'; Maciej Konrad Borowicz, 'Contracts as regulation: the ISDA Master Agreement' (2021) Vol. 16 Iss.1 *Capital Markets Law Journal* 72; *Golden* (n 20).

[126] Ibid (*Rouch*), p.69.

courts to the MA was summarised in *Grant v FR Acquisitions Corporation (Europe) Ltd:*[127]

> *...in the context of a standard form developed by reference to, and to meet the needs of, disparate users in a great variety of circumstances, the process must, in seeking to achieve that objective, ascribe even more than usual deference to the words used, and take as the context not the specific position as between the parties, but its anticipated use by such a variety of intended users in such a variety of circumstances.*

It can be argued that this may create a paradox between rigidity and flexibility. Rigid in that the courts should take a textual approach to its interpretation but flexible in that the courts must also consider the larger, MA-using, OTC derivatives community. Further to this proposition and using the MA as a case study, this thesis is aimed at showing that there may be a position between the two ends of the discrete/relational spectrum which is occupied by contracts such as the MA, building upon comments made by Hugh Collins,[128] Melvin Eisenberg,[129] Elizabeth Mertz,[130] and Ian Macneil,[131] that contracts will often contain both discrete and relational terms. It can also be seen as the manifestation of how those who trade derivatives

[127] *Grant v FR Acquisitions Corporation (Europe) Ltd (Re Lehman Brothers International (Europe))* [2022] EWHC 2532 (Ch).

[128] *Collins* (n 5), p.142: 'My analysis suggests, therefore, that all transactions have both discrete and relational dimensions, and that these classifications obscure the importance of variables along three different dimensions of normative orientation'.

[129] *Eisenberg* (n 5).

[130] *Mertz* (n 5).

[131] *Ibid*, p.814.

feel about the variance they see on a daily basis; as Nassim Nicholas Taleb, a former options trader, describes in the context of the question: 'Is it ethical to sell something to someone knowing the price will eventually drop?'[132]:

> *An upright trader will not do that to other professional traders; it was a no-no. The penalty was ostracism. But it was sort of permissible to do it to the anonymous market and the faceless nontraders [sic], or those we called "the Swiss," some random suckers far away. There were people with whom we had a relational rapport, others with whom we had a transactional one. The two were separated by an ethical wall*[133]

Given that the MA, according to ISDA, is used as the contractual basis for more than 90% of the global OTC derivatives transactions,[134] it is fair to say that there may be agreements in place in which the parties using it have, applying Taleb's terminology, a 'relational rapport' while there may be others which would be described as 'transactional'.[135] Taken in the aggregate, it can be said, as David Rouch observes, that '[t]he inter-relationships involved [in financial markets] are highly complex'[136] and such complexity may be incompatible with a binary, discrete/relational classification. The function of this thesis is to unpack the MA, the purposes and the organisation behind it, the parties using it, the network created around it, and the future development of it, to investigate this relational/transactional dichotomy within a standard-form financial market agreement in order to better understand the

[132] Nassim Nicholas Taleb, *Skin in the Game: Hidden Asymmetries in Daily Life*, (Penguin Books, 2019), p.54.

[133] *Ibid*, p.54.

[134] *Lomas* (n 63), 5.

[135] *Taleb* (n 132), p.54.

[136] *Rouch* (n 125), p.51.

complex, transnational relationships which surround the MA and how they may affect how such agreements may be drafted and interpreted under English law.

# PART II

## 2 Relational Contract Theory

### 2.1 Introduction

The basic idea behind relational contract theory is that legal agreements form part of the relationship between parties and in order to better understand and interpret contracts we need to recognise and understand the relationships underpinning them. Historically, classical contract law has taken a more textual approach to contracts, looking less at the relationship and more at the words used by the parties in their contract as a more reliable proxy for their relationship.[137] While doubt has been cast over whether there is an applied judicial demarcation between textualism and contextualism – instead, suggesting that contractual interpretation is a unitary process[138] by which the courts will look at the words of the contract in light of the surrounding circumstances – relational contract theory, some would argue, exacerbates any possible divide by asking courts to look even further into the context surrounding the contract and the relationship between the parties.

In this sense, there are some similarities between relational contract theory and developments in behavioural economics, with both concepts seeking to understand more of the nuance between social interactions than can be found in, for example, *classical contract law* or *rational choice theory*.[139] It is said that self-interest, the

[137] *Austen-Baker and Zhou* (n 50), p.77.

[138] *Wood v Capita* (n 106), 11.

[139] However, there are some who advocate that 'in contrast to most relational contract theorists, [it is argued here] that the relational methodology should be implemented at an abstract level. That is to say, the relational methodology should be used to establish what a reasonable economic agent would have intended in the parties'

foundation of rational choice theory,[140] has to be modified and channelled if an agreement is going to be found between two parties[141] and that the resulting norm of trust 'cannot be explained in terms of simple economic rationality'.[142]

There are also connections between relational contract theory and the concept of *incomplete contracts* under which it is deduced that contracts cannot cover every eventuality because the parties cannot prognosticate – or, in Macneil's words, 'presentiate'[143] - on all possible future events and because the costs of endeavouring to do so would be prohibitive or, to put it in the language of economists, the transaction costs would far exceed the potential utility.[144] In essence, relational contract theory, much like these developments in economics, recognises that contracts are limited in their capacity to capture the whole nature of the relationship between the parties and so any analysis or treatment of them should recognise the

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circumstances (objective level), rather than what the actual parties intended in those circumstances (subjective level).' (Zoe Gounari, 'Developing a relational law of contracts: striking a balance between abstraction and contextualism' (2021) Vol. 41 Iss. 2 *Legal Studies* 177, p.178).

[140] This may be a somewhat simplistic and hyperbolic account of rational choice theory as it is formed of multiple elements but it can be said that the standard assumptions of rational choice theory are, as the name suggests, fettered by rational behaviour in the sense that it includes 'self-interest maximization, or of consistency of choice' (Amartya Sen 'Rational Behavior' in *Utility and Probability*, John Eatwell, Murray Milgate, and Peter Newman (eds.) (W. W. Norton, 1990), p.206.

[141] *Campbell* (n 55), p.484.

[142] Benjamin Means, 'A Contractual Approach to Shareholder Oppression Law' (2011) Vol. 79 *Fordham Law Review* 1161, p.1193.

[143] *Austen-Baker and Zhou* (n 50), p.79: 'Presentiation' is the 'attempt at providing for future contingencies by agreeing about them in the here and now (i.e. when we make a contract).'

[144] *Scott* (n 31), p.24-25.

'messy relational clutter'[145] which surrounds them. It is an attempt to move away from the idea that economic exchange is purely individualistic and selfish, and instead move towards the idea that such exchange is, to a large extent, cooperative and reciprocal.[146]

## 2.2 A Brief History of Relational Contract Theory

Relational contract theory, from whence relational contracts derive, grew from two particular academics approaching contracts from a more practical and sociological perspective.[147] Stuart Macaulay published in 1963 the article 'Non-Contractual Relations in Business: A Preliminary Study',[148] in which he sought empirical evidence to demonstrate how businesses used and considered contracts. This study showed that in a lot of cases, contracts were sometimes not needed[149] and legal sanctions were often not utilised for fear of damaging the relationship as well as each party's reputation.[150] That is not to say that contracts are unimportant but that 'other factors are significant'.[151] Alongside Macaulay, albeit operating separately,

[145] *Mertz* (n 5), p.910.

[146] David Campbell, 'Ian Macneil and the Relational Theory of Contract' (2004) CDAMS Discussion Paper 04/1E, p.38.

[147] Zhong Xing Tan, 'Disrupting doctrine? Revisiting the doctrinal impact of relational contract theory' (2019) Vol. 39 *Legal Studies* 98, p.99; Ian Macneil, 'Relational contract: What we do and do not know' (1985) Vol. 3 *Wisconsin Law Review* 483, p.483.

[148] Stewart Macaulay, 'Non-Contractual Relations in Business: A Preliminary Study' (1963) Vol. 28 No. 1 *American Sociological Review* 55.

[149] Ibid, p.62.

[150] Ibid, p.65.

[151] Ibid, p.67.

was Ian Macneil, whose initial work on relational contracts by his own admission ran from 1967 to 1974.[152] As Zhong Xing Tan has described, while Macaulay was mainly focused on empirical measurements of the 'law in action', Macneil was developing a 'fuller socio-cultural account of contractual relations which he coined 'relational contract theory'.[153]

Ian Macneil set out 'four core propositions' of relational contract theory: (i) 'every transaction is embedded in complex relations', (ii) understanding the transaction requires understanding the 'essential elements of its enveloping relations', (iii) 'effective analysis of any transaction requires recognition and consideration of all essential elements of its enveloping relations that might affect the transaction significantly', and (iv) combining contextual analysis of relations and transactions is more efficient and complete than non-contextual analysis.[154]

It can be said that relational contract theory is a product of previous legal thinking such as legal realism in which proponents, such as Karl Llewellyn, recognised that legal contracts were executed within social contracts and that social norms, to a greater extent than the law, regulated contracts.[155] Macneil's general premise was that courts should adopt a relatively flexible approach to contract construction[156]

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[152] Ian Macneil, 'Reflections on Relational Contract' (1985) Bd. 141 H. 4 *Journal of Institutional and Theoretical Economics 541*, p.541.

[153] *Zhong Xing Tan* (n 147), p.102.

[154] *MacNeil* (n 4), p.881.

[155] Eric Posner, 'A Theory of Contract Law Under Conditions of Radical Judicial Error' (2000) Vol. 94 *Northwestern University Law Review* 749, p.750.

[156] *Teesside Gas Transportation Limited v CATS North Sea Limited, Antin CATS Limited, Conocophillips Petroleum Company U.K. Limited, ENI UK Limited* [2019] EWHC 1220 (Comm), 38.

which should be 'sufficiently open-textured for effective use in the law of modern contractual relations'.[157] He considered that classical contract law, much like rational choice theory in economics, set its course on the erroneous assumption that individuals and societies are 'neat and logical', a view Macneil vehemently inveighed against.[158]

In trying to develop relational contract theory, Macneil conceived, inter alia, of a spectrum on which exchange takes place. At one end of that spectrum are *discrete contracts* which describe one-off, simple, exchanged-based transactions, and at the other end are those referred to as *relational contracts* which can be thought of as being dependent on not just the contractual terms but on the wider relationship between the parties. Macneil asserted that either end of the spectrum, 'like the ends of rainbows…are mythical',[159] meaning that most contracts sit somewhere between either extremity. However, as David Campbell observed, the main intention of Macneil's work was not really to distinguish between two types of contract but to show that all contracts are in some way relational.[160]

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[157] *Macneil* (n 152), p.545.

[158] *Campbell* (n 146), p.54.

[159] *MacNeil* (n 4), p.896.

[160] *Campbell* (n 146), p.3 and p.41: '…it is an error to believe that "entirely discrete transactions … could occur at all" (Macneil 1978a, 856) because "pure discreteness is an impossibility" (Macneil 1981b, 883). This is to say, Macneil repeatedly denies that there are any truly discrete contracts.'; *Macneil* (n 147), p.502: 'One problem is that we cannot even understand a promise outside its relational context. Consider "I promise you $400 a week." It means one thing when a personnel manager says it to a newly hired employee receiving a weekly wage, something else when a foreman says it to an hourly employee who has been complaining about short working hours, something else when said by a sales manager to a commission salesman, again something

During his career, Macneil recognised that the discrete end of the spectrum had become squeezed, with even ostensibly discrete transactions described as relational.[161] On this basis, Macneil labelled such transactions as 'as-if discrete', since all discrete transactions, he postulated, 'are embedded in relations'.[162] In addition, he relabelled his theory 'essential contract theory' because he believed that the newly named 'theory captures the essential elements of exchange relations' and 'that analysis of this general kind is essential to [a] full understanding of any contract'.[163] For the purposes of this thesis, the label 'relational contract theory' is maintained which may, at times, draw on Macneil's essential contract theory.

## 2.3 Finding a Definition

One of the criticisms of relational contract theory and, more specifically, relational contracts, is that the concept is amorphous.[164] While relational contract theory has

different when said by a salesman of video games to the owner of a video game arcade. And yet a promise of so many dollars is one of the clearest, least-affected-by-context promises to be found.'

[161] For example, in the scenario of the one-off purchase of fuel, the motorist understands that she must pay for the fuel, the attendant accepts the money offered as an acceptable form of payment and must provide change if applicable, and both parties understand the surrounding circumstances around their transaction which allows it to occur without criminal or civil sanctions (*Austen-Baker and Zhou* (n 50), p.79 referencing *Macneil* (n 44)).

[162] *MacNeil* (n 4), p.895.

[163] Ian Macneil, 'Contracting Worlds and Essential Contract Theory' (2000) Vol. 9 Iss. 3 *Social & Legal Studies* 431, p.432.

[164] Jack Beatson and Daniel Friedman, 'Introduction: From 'Classical' to Modern Contract Law', in *Good Faith and Fault in Contract Law*, Jack Beatson, and Daniel Friedman (eds) (Oxford Academic, 2012, Online Edition), p.20: 'Melvin Eisenberg points out that the relational contract literature cannot offer a definition of relational contracts, to which special rules are to apply'; Eisenberg (n 5), p.813: '…it is impossible to locate, in the

developed from an academic concept into a practical tool of interpretation, a precise definition of relational contracts has often ended with sweeping inclusivity, leading even Macneil to suggest that discrete contracts at the other end of the spectrum are an 'impossibility' and 'entirely fictional',[165] or, as Melvin Eisenberg suggested, 'imaginary unicorns'. [166]

For some, it is less about how we define contracts - as even somewhat incredulous scholars declare 'we are all relationalists now'[167] – and more to do with the law which deals with such contracts. While contracts may be relational, contract law has ossified over time to create general rules and principles, or, as Robert Scott describes it, all contracts are relational, complex and subjective but contract law is formal, simple and classical.[168] This is driven, Catherine Mitchell argues, by contract law's reluctance to provide a set of coherent principles to deal with what are effectively behavioural standards for fear of creating legal uncertainty. [169]

Macneil was also unconvinced that contract law could adequately deal with relational contracts because it lacks what he refers to as an 'overriding relational foundation' which would allow it to adapt to 'modern commercial problems'.[170]

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relational contracts literature, a definition that adequately distinguishes relational and nonrelational contracts in a legally operational way that is, in a way that carves out a set of special and well-specified relational contracts for treatment under a body of special and well-specified rules'.

[165] Melvin Eisenberg, 'Relational Contracts' in *Foundational Principles of Contract Law*, Melvin Eisenberg (ed.), (Oxford University Press, 2018), p.736.

[166] *Eisenberg* (n 5), p.816.

[167] *Scott* (n 31), p.10.

[168] Ibid, p.10.

[169] *Mitchell* (n 52), p.15.

[170] *Michigan Law Review* (n 48), pp. 827-830.

However, this incredulity of contract law is questioned by Melvin Eisenberg who believes that we should demarcate between classical contract law and modern contract law. Classical contract law, he states and to which Macneil was referring, is static and rigid with the process of interpretation operating at a single point in time when the contract was formed, whereas modern contract law is dynamic and supple, with interpretation taking 'into account events before and after the moment of contract formation'.[171] In this way, contract law can be said to have developed to accommodate the social realities in which it operates rather than narrowly appeasing established legal doctrines.

Nevertheless, for relational contracts to form part of practical considerations of judicial reasoning on contractual interpretation, the issue of clarity once again emerges, for without a clear definition of what relational contracts are, a body of legal rules cannot sufficiently develop to deal with them.[172]

There have been attempts to define this concept, many of which focus on defining the aforementioned opposing ends of the spectrum. Therefore, as Hugh Collins describes of Macneil's attempts to define the concept using the spectrum, discrete contracts can be viewed as having 'less of certain characteristics—for example, less duration, less personal interaction, less future cooperative burdens, and less in the way of units of exchange that are difficult to measure' whereas relational contracts have 'more of these characteristics'.[173] This is somewhat antithetical to other ideas of discrete contracts, which are often seen as carefully measured and

[171] *Eisenberg* (n 30), p.77.

[172] *Eisenberg* (n 165), p.733.

[173] Ibid, p.735.

comprehensively planned, and relational contracts, which are thought of as open-ended and impervious to detailed organisation.[174]

Macneil constructed what he referred to as discrete[175] and relational poles. From these, certain characteristics were formed which Macneil considered emblematic of either end of the spectrum. Some of those characteristics are:

(a) Discrete Contracts: limited personal relationships and contact between the parties, easily transferable, short in duration, the exchange is easily measured, clear entry and exit mechanisms, relatively complete in terms of negotiation and executed agreement, no post-commencement planning, almost no future cooperation, zero-sum burden and benefits, purely an exchange with no altruism present.[176]

(b) Relational Contracts: personal relationships, not easily transferable, exchange and other factors difficult to measure, long-term with no finite beginning or end, commencement and termination are gradual, limited specific planning, the relationship is the prime source of future planning, future cooperative planning, undivided sharing of benefits and burdens, obligations may not all be written and specific, not particularly recognised as an exchange and altruism expected.[177]

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[174] *Michigan Law Review* (n 48), pp. 827-830.

[175] Macenil used the term 'transactional' which, for our purposes and in a lot of his work, is synonymous for 'discrete'.

[176] *Macneil* (n 18), p.738-740.

[177] Ibid.

To demonstrate the irresolution on defining such concepts - even if we are effectively talking about two relatively unrealistic and extreme ends of a continuum[178] - let's look at contract duration. Using Macneil's poles, as well as other scholarly analysis,[179] discrete contracts are often defined as short-term while relational contracts are often defined as long-term. However, as Hugh Collins observes, 'a long-term contract is neither necessary nor sufficient for the presence of a relational contract'[180] arguing that a long-term contract 'could have hardly any relational qualities, but be regarded instead as creating an arms' length, limited and determinate obligations between the producer and the customer. Similarly, a syndicated loan agreement with a term of 20 years...could have none of the features of a relational contract'.[181] Goetz and Scott also observe that while it is more likely that relational contracts will be long-term, contract duration per se cannot be said to be a defining characteristic.[182]

Let us next look at the notion that discrete contracts will often be carefully planned while relational contracts may often be limited in their specificity. Such a claim was

[178] *Mertz* (n 5), p.913.

[179] Mireia Artigot I Golobardes and Fernando Gomez Pomar, 'Dissecting Long-Term Contracts: A Law and Economics Approach' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law),* Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.), (Routledge, 2013, First Edition), p.41.

[180] Hugh Collins, 'Is a relational contract a legal concept?' in *Contract in Commercial Law*, Simone Degeling, James Edelman, and James Goudkamp (eds.) (Thomson Reuters, 2016), p.15.

[181] Ibid, p.16.

[182] Charles J. Goetz & Robert E. Scott, 'Principles of Relational Contracts' (1981) Vol. 67 *Virginia Law Review* 1089, p.1091.

questioned in the case of *Bates v Post Office,*[183] in which it was stated that '[d]etailed and lengthy contract terms do not of themselves mean that a contract cannot be a relational one'.[184] Moreover, in the case of *Amey v Birmingham City Council*,[185] a complex PFI contract running to over 5,000 pages was deemed relational. It was held that the nature of the relationship and the project underpinning it would evolve over time and it should not be the case that either party attempts to 'disrupt the project and maximise their own gain' by 'latching onto the infelicities and oddities' of a contract of massive length.[186] From these cases, it quickly becomes apparent that any attempt at exposition becomes entangled in examples which defy the proposed definition.

Even subsequent ideas proposed by scholars to define discrete or relational contracts carry with them a susceptibility to contretemps. While Victor Goldberg has defined a discrete contract as one 'in which no duties exist between the parties prior to the contract formation',[187] Hugh Collins has challenged this definition by highlighting that 'even in the case of contracts that involve intensive personal interaction no duties may exist between the parties prior to contract formation'.[188]

While scholarly debates continued on various theoretical relational constructs, the judiciary in England and Wales, despite the ongoing definitional irresolution, had

[183] *Alan Bates* (n 3).

[184] Ibid, 735.

[185] [2018] EWCA Civ 264.

[186] Ibid, 93.

[187] Victor Goldberg, 'Toward an Expanded Economic Theory of Contract' (1976) Vol. 10 No.1 *Journal of Economic Issues* 45, p.49.

[188] *Eisenberg* (n 165), p.735.

started to pay attention to this hitherto academic concept. The very idea of judges heeding the views of academics was once seen as absurd but, as Lord Neuberger – quoting Shakespeare - observed in his lecture entitled 'Judges and Professors – Ships passing in the night?', there is now 'perhaps between the two professions a marriage of true minds'.[189]

In terms of English law, relational contracts can be seen to form part of a continuum of the ideas promulgated by the English judiciary – in a judicial and extrajudicial capacity – that, for example and in the words of Lord Steyn, a 'thread runs through our contract law that effect must be given to the reasonable expectations of honest men'.[190] Relational contract theory can therefore be seen as an extension – at least judicially given the chronological judicial recognition of the two - of the contextual approach, which was advocated by proponents such as, amongst others, Lord Wilberforce[191] and Lord Hoffmann,[192] respectively. The idea that contracts must be viewed within the 'matrix of facts'[193] in which they are situated is developed further

[189] Lord Neuberger of Abbotsbury MR, 'Judges and Professors – Ships Passing in the Night?' (2013) Bd. 77 H. 2 *The Rabel Journal of Comparative and International Private Law* 233, p.250.

[190] *Steyn* (n 45), 433.

[191] *Prenn v Simmonds* (n 46).

[192] *Investors Compensation Scheme Ltd* (n 40).

[193] *Reardon Smith Line Ltd* (n 46), 997: 'what the court must do must be to place itself in thought in the same factual matrix as that in which the parties were'; *Prenn v Simmonds* (n 46), 1383 and 1384; 'The time has long passed when agreements, even those under seal, were isolated from the matrix of facts in which they were set and interpreted purely on internal linguistic considerations'; *The Commercial Court Guide* (n 46), C1.3(h): 'The "factual matrix" means the background knowledge which would reasonably have been available to the parties in the situation in which they found themselves at the time of the contract/document'.

by relational contract theory in which there are certain expectations incumbent upon the parties which may not be expressly set out in the legal agreement between them.

Justice Leggatt (as he then was)[194] in the case of *Yam Seng*,[195] boldly sought to apply the concept of relational contracts in English law. In so doing, he sought to apply his own definition of relational contracts which had clearly taken inspiration from the hitherto academic definitions proposed but which also aimed to apply a legal framework to its formulation, stating that relational contracts:

> *...may require a high degree of communication, cooperation and predictable performance based on mutual trust and confidence and involve expectations of loyalty which are not legislated for in the express terms of the contract but are implicit in the parties' understanding and necessary to give business efficacy to the arrangements. Examples of such relational contracts might include some joint venture agreements, franchise agreements and long term distributorship agreements.*[196]

With this definition forming part of English law, even if only a first instance decision, the groundwork had been laid for further use of the concept and perhaps more judicial clarity in order to set a perimeter around the concept to crystallise its meaning. This was soon provided by Justice Fraser in the case of *Bates v Post Office*[197] in which he applied the following characteristics to what he saw as a relational contract:

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[194] Now Lord Justice Leggatt.

[195] *Yam Seng* (n 2).

[196] *Yam Seng* (n 2).

[197] *Alan Bates* (n 3).

1. *There must be no specific express terms in the contract that prevents a duty of good faith being implied into the contract.*
2. *The contract will be a long-term one, with the mutual intention of the parties being that there will be a long-term relationship.*
3. *The parties must intend that their respective roles be performed with integrity, and with fidelity to their bargain.*
4. *The parties will be committed to collaborating with one another in the performance of the contract.*
5. *The spirits and objectives of their venture may not be capable of being expressed exhaustively in a written contract.*
6. *They will each repose trust and confidence in one another, but of a different kind to that involved in fiduciary relationships.*
7. *The contract in question will involve a high degree of communication, co-operation and predictable performance based on mutual trust and confidence, and expectations of loyalty.*
8. *There may be a degree of significant investment by one party (or both) in the venture. This significant investment may be, in some cases, more accurately described as substantial financial commitment.*
9. *Exclusivity of the relationship may also be present.*[198]

[198] Ibid, 725.

Further to points (5) to (7) above, Justice Fraser held that the categorisation as a relational contract 'has the effect of implying a term of good faith'.[199]

Despite the relatively comprehensive definition provided by Justice Fraser, it is important to briefly discuss some salient factors behind both *Yam Seng* and *Bates v Post Office*. The former case involved a very short distribution agreement which had been drafted without professional legal assistance,[200] while the latter case involved contracts which 'had similar characteristics to that of an employment contract' which meant that there was an aspect to the 'relationship that was other than purely commercial'.[201] This is crucial to raise because both distributor and employment contracts are often seen as paradigmatic relational contracts.[202] Commercial contracts, especially contracts such as the MA, may present a rather more difficult proposition. The 'altruism' described by Macneil as contributing to relational contracts, and the doctrine of good faith tangentially linked thereto, cannot be easily applied to arms-length commercial transactions[203] although Justice Fraser did state in *Bates v Post Office* that, in his judgment, 'there is no general duty of good faith in all commercial contracts, but that such a duty could be implied into some contracts,

[199] Ibid*,* 720.

[200] *Yam Seng* (n 2).

[201] *Alan Bates* (n 3), 728.

[202] *Goetz & Scott* (n 182), p.1091; Ian Macneil, 'Whither Contracts?' (1969) Vol. 21 No.4 *Journal of Legal Education* 403, p.406.

[203] *Greenclose Ltd v National Westminster Bank plc* [2014] EWHC 1146, 150: Andrews J: 'So far as the 'good faith condition' is concerned, there is no general doctrine of good faith in English contract law and such a term is unlikely to arise by way of necessary implication in a contract between two sophisticated commercial parties negotiating at arms' length'.

where it was in accordance with the presumed intention of the parties. Whether any contract is relational is heavily dependent upon context, as well as the terms'.[204]

Moreover, while there have been English law applications of relational contracts to commercial arrangements,[205] as Hugh Collins observes with regards to academic interest in the idea, 'judicial references to relational contract in connection with commercial transactions have, however, been sparser in the common law world'.[206] This may stem, at least partially from a procedural point raised by Justice Fraser who, like Justice Leggatt (as he then was), determined that the specie of contracts termed 'relational contracts' were those 'in which there is implied an obligation of good faith (which is also termed "fair dealing" in some of the cases)'.[207] This brings into focus two particularly contentious areas in English commercial contract law: implied terms and good faith.

## 2.4 Implied Terms

In the case of *Cathay Pacific*,[208] it was stated that a number of cases dealing with relational contracts,[209] are, in fact, simply applications of the general law on implied

[204] *Alan Bates* (n 3), 721.

[205] For example, see: *Bristol Groundschool Ltd v Intelligent Data Capture Ltd* [2014] EWHC 2145 (Ch); *D&G Cars Ltd v Essex Police Authority* [2015] EWHC 226; *Yam Seng* (n 2).

[206] *Collins* (n 180), p.2.

[207] *Alan Bates* (n 3), 711.

[208] *Cathay Pacific Airways Limited v Lufthansa Technik Ag* [2020] EWHC 1789.

[209] For example, *Yam Seng* (n 2); *Sheikh Tahnoon Bin Saeed Bin Shakhboot Al Nehayan v Kent* [2018] EWHC 333 (Comm).

terms[210] and that, as Falk J stated in *Russell v Cartwright*,[211] 'rather than trying to identify first whether a contract is a "relational contract" and for that reason includes an obligation of good faith, the better starting point…is the application of the conventional tests for the implication of contractual terms'.[212]

Under English law, implied terms can broadly fall into the following categories: implied by custom or a course of dealing, implied by common law or statute (otherwise referred to as 'implied by law'), and implied by fact to give effect to the intentions of the parties. So far, in the words of Justice Leggatt (as he then was):

> *Under English law a duty of good faith is implied by law as an incident of certain categories of contract, for example contracts of employment and contracts between partners or others whose relationship is characterised as a fiduciary one. I doubt that English law has reached the stage, however, where it is ready to recognise a requirement of good faith as a duty implied by law, even as a default rule, into all commercial contracts. Nevertheless, there seems to me to be no difficulty, following the established methodology of English law for the implication of terms in fact, in implying such a duty in any ordinary commercial contract based on the presumed intention of the parties.*[213]

[210] *Cathay Pacific Airways Limited* (n 208), 192.

[211] *Russell v Cartwright* [2020] EWHC 41.

[212] Ibid, 87.

[213] *Yam Seng* (n 2), 131.

We are, therefore, dealing with implication of terms in fact even though Lord Justice Leggatt did subsequently state, in obiter dicta in the case of *Sheikh Tahnoon*,[214] that a term could be implied by law 'on the basis that the nature of the contract as a relational contract implicitly requires (in the absence of a contrary indication) treating it as involving an obligation of good faith'.[215] This has, subsequently, been contemplated as applying to those arrangements 'in which the parties have not only entered into a long-term collaborative relationship but crucially where they have not specified (or have been unable to specify) in detail the terms governing their relationship' and so preclude those arrangements where 'contracting parties (in particular sophisticated commercial companies) have reduced the terms of their agreement to well-defined obligations...[in which the] legitimate expectation that each has of the other is not they will act in good faith [but] that they will do what the contract stipulates they must do'.[216] Given the nature of the MA as a professionally drafted agreement entered into by sophisticated commercial companies, references in this thesis to 'implied terms' are, therefore, unless otherwise stated, to implied terms in fact.[217]

There was a brief period in which implied terms were considered more broadly as simply part of the process of judicial contract construction. This was signalled by Lord Hoffmann's statement in *Attorney General of Belize v Belize Telecom Ltd*[218] in

[214] *Sheikh Tahnoon Bin Saeed Bin Shakhboot Al Nehayan* (n 209).

[215] Ibid*,* 174.

[216] *Cathay Pacific Airways Limited* (n 208), 201 and 202.

[217] *Braithwaite* (n 10), p.257: '…where necessary, they [the English courts] will approach the question of the implied limits on contractual discretion as implying a term of fact'.

[218] [2009] UKPC 10.

which he stated that implication of a proposed term should be considered if it 'spell[s] out in express words what the instrument, read against the relevant background, would reasonably be understood to mean'.[219]

However, in the case of *Marks and Spencer plc v BNP Paribas Securities Services Trust Company (Jersey) Limited*,[220] the judgment of Sir Thomas Bingham in the case of *Philips Electronique Grand Public SA v British Sky Broadcasting Limited* was emphasised:

> *The courts' usual role in contractual interpretation was, by resolving ambiguities and reconciling apparent inconsistencies, to attribute the true meaning to the language in which the parties themselves had expressed their contract. The implication of contract terms involved a different and altogether more ambitious undertaking: the interpolation of terms to deal with matters for which, ex hypothesi, the parties had made no such provision. It was because the implication of terms was potentially so intrusive that the law imposed strict constraints on the exercise of that extraordinary power.*[221]

In the case of *Candey Ltd v Bosheh*,[222] it was stated that the test for implying a term needs to satisfy the following:

> *(a) The term must be reasonable and equitable; and*

[219] Ibid, 21.

[220] *Marks and Spencer plc v BNP Paribas Securities Services Trust Company (Jersey) Limited* [2015] UKSC 72.

[221] *Philips Electronique Grand Public SA v British Sky Broadcasting Limited* [1995] E.M.L.R. 472, 474.

[222] *Candey v Bosheh* (n 51).

*(b) The term must be necessary to give business efficacy to the contract (in other words, does the contract lack commercial or practical coherence without the term?); or*

*(c) The term must be so obvious that it 'went without saying'; in other words, if pointed out to the parties that it was missing, they would say "of course, so and so will happen; we did not trouble to say that; it is too clear"; and*

*(d) The term must be capable of clear expression and be formulated with sufficient precision; and*

*(e) The term must not be inconsistent with, much less contradict, an express term.*[223]

As David Campbell and Hugh Collins have observed, the courts are 'reluctant to rewrite contracts in ways that they might regard as more reasonable, or to satisfy what may be regarded as a reasonable expectation which has not been protected by an express contractual agreement'.[224] However, they put forward an argument that, in certain circumstances, the only way to distinguish between, what Stewart Macaulay refers to as, the 'real deal' and the 'paper deal'[225] – what the parties do in

[223] Ibid, 29.

[224] David Campbell and Hugh Collins, 'Discovering the Implicit Dimensions of Contracts' in *Implicit Dimensions of Contract: Discrete, Relational and Network Contracts*, David Campbell, Hugh Collins, and John Wightman (eds.) (Hart Publishing, 2003), p.47.

[225] Stewart Macaulay, 'The Real and the Paper Deal: Empirical Pictures of Relationships, Complexity and the Urge for Transparent Simple Rules', in *Implicit Dimensions of Contract: Discrete, Relational and Network Contracts*, David Campbell, Hugh Collins, and John Wightman (eds.) (Hart Publishing, 2003), p.51.

practice as opposed to what their contract may stipulate – is by incorporating the implicit dimensions of the contract into the analysis.[226]

## 2.5 Good Faith

Good faith in the performance of contracts has historically been met with 'hostility'[227] under English law. English courts are especially reluctant to apply good faith to commercial contracts [228] and the concept has been met with similar opprobrium by the U.K. government which disseminated a paper in which it raised concerns centered around the unpredictability of the term when used in legal proceedings.[229]

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[226] *Campbell & Collins* (n 224) p.47; Justice Fraser in *Alan Bates* (n 3), 736, noted that there had been a lot of academic literature on relational contracts and invited submissions from both parties to the case on another paper written by Hugh Collins (see, n 180) in which Collins looked at relational contracts and whether they were a 'passing fad that will soon be forgotten'. Justice Fraser did not agree with that speculation (noting that the paper was written in 2016) and on analysis of the paper did not think it 'advance[d] the matter any further, in my judgment'.

[227] *Yam Seng* (n 2), quoting Ewan McKendrick, *Contract Law* (Palgrave Macmillan, 2011, 9th edition), pp.221–222.

[228] *Alan Bates* (n 3), 710.

[229] Massimo Bianca, 'Good Faith Related Duties of Disclosure and a View on Franchising' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law)*, Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.), (Routledge, 2013, First Edition), p.182: 'One of the difficulties in accepting the principle is apparent in the lack of a sure, common notion of good faith. This difficulty has been pointed out in a paper produced by the British Government at the London SECOLA Convention of 2002. According to the paper, the government was seriously apprehensive about the introduction of the good faith principle, which could raise serious problems, as it is extremely difficult to find an agreement among the member States about the notion of fairness.'

Like the concept of relational contracts more broadly, good faith has been described using a spectrum with just honesty on one end and paying particular attention to the counterparty's interests (even perhaps at the expense of their own interests) at the other.[230] Essentially, we can consider that good faith incorporates more than just honesty[231] but that does not necessarily mean that it requires each party to forgo its own interests in favour of the other party.[232] The concept has been described by Michael Furmston and John Carter as being associated with certain standards such as honesty, reasonableness, and fair dealing, with the latter traditionally being unrecognised in contract law.[233] It, therefore, falls along the spectrum rather than at either end. In the case of *Yam Seng*,[234] a key aspect of good faith in commercial contracts was described as the observance of 'standards of commercial deal[s] which are so generally accepted that the contracting parties would reasonably be

[230] Michael G. Bridge, 'Good faith, the common law and the CISG' (2017) Vol. 22 Iss. 1 *Uniform Law Review* 98, p.1.

[231] *Alan Bates* (n 3), 710: 'a term requiring good faith does not mean honesty…There is more to a duty of good faith than a requirement to act honestly'; *Yam Seng* (n 2), 137: 'As a matter of construction, it is hard to envisage any contract which would not reasonably be understood as requiring honesty in its performance...In particular the requirement that parties will behave honestly is so obvious that it goes without saying. Such a requirement is also necessary to give business efficacy to commercial transactions'.

[232] Vanessa Sims, 'Good Faith in English Contract Law: Of Triggers and Concentric Circles' (2004) Vol.1 No.2 *Ankara Law Review* 213, p.227.

[233] Michael Furmston and John Carter, 'Good Faith in Contract Law: A Commonwealth Survey' in *The Age of Uniform Law: Essays in honour of Michael Joachim Bonell to celebrate his 70th birthday*, Vol. 2 (International Institute for the Unification of Private Law (UNIDROIT)), p.988.

[234] *Yam Seng* (n 2).

understood to take them as read without explicitly stating them in their contractual document'.[235]

Express duties of good faith have not seemed to pose insuperable problems of interpretation. There have even been attempts to standardize the concept when expressed by the parties[236] but, more broadly, its inclusion in a contract will convince the courts to look at 'the context in which the good faith obligation was entered into'.[237] However, its inclusion in a contract can preclude its implication in the contract more generally because, it is argued, the parties have indicated where they want good faith to apply and, by omission, where they do not.[238]

Implied terms, as a default, are not to be interpolated unless, as was affirmed in *Marks and Spencer plc v BNP Paribas Securities Trust Company (Jersey) Ltd*,[239] 'at the time the contract was made, a reasonable reader of it would consider the term to be so obvious as to go without saying or the term is necessary for business efficacy'.[240] Moreover, this test, coupled with an apprehension, both in the legal and economic literature, about the imprecision of the concept of good faith leads to a

[235] Ibid, 138.

[236] *Unwin v Bond [2020] EWHC 1768 (Comm)*, 230: once good faith is established the party or parties subject to it must observe 'the following minimum standards (i) they must act honestly, (ii) they must be faithful to the parties' agreed common purpose as derived from their agreement, (iii) they must not use their powers for an ulterior purpose, (iv) when acting they must deal fairly and openly with the claimant, (v) they can consider and take into account their own interests but they must also have regard to the claimant's interest.'

[237] Ibid, 229: 'the context in which the good faith obligation was entered into is everything, or at least a great deal'.

[238] *UTB LLC* (n 1).

[239] *Marks and Spencer plc* (n 220).

[240] *UTB LLC* (n 1), 197.

more general argument against, or at least an exhortation for proceeding extremely cautiously with, implying terms of good faith into contracts.[241]

The recognition of a class of contracts referred to as 'relational', precipitated by the case of *Yam Seng*,[242] has, in Lord Justice Leggatt's words, 'provoked divergent reactions' but 'there appears to be growing recognition that such a duty [of good faith] may readily be implied in a relational contract'.[243]

In the case of *Globe Motors*,[244] the court did qualify the implication of a duty of good faith by stating that it 'will only be possible where the language of the contract, viewed against its context, permits it. It is thus not a reflection of a special rule of interpretation for this category of contract'.[245] Furthermore, as Michael Bridge has observed, while there are cases 'replete with examples of what might be called bad faith conduct that goes unpunished…when contract law and standard forms allow such actions to be taken, the courts may draw breath through bared teeth but they will not sacrifice certainty on the altar of justice in the individual case'.[246]

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[241] *Sims* (n 232), p.221: when arguments are raised against the recognition of good faith 'particular emphasis [is] placed on the well documented need for certainty in commercial transactions'; *Goetz & Scott* (n 182), p.1093: 'Because these standards [best efforts, good faith etc.] are usually described in general terms, it is difficult to apply them in any specific context. Therefore, relational contracts also require more creative control mechanisms than do conventional contingent contracts. In any cooperative contract where performance obligations remain imprecise, there are inevitable costs in ensuring that any particular level of performance is achieved.'

[242] *Yam Seng* (n 2).

[243] *Sheikh Tahnoon Bin Saeed Bin Shakhboot Al Nehayan* (n 209), 168.

[244] *Globe Motors v TRW Lucas Varity Electric Steering* [2016] EWCA Civ 396.

[245] Ibid, 68.

[246] *Bridge* (n 230), p.6.

From an international perspective, this English common law 'hostility' towards good faith is, Shilda Galletti contends, a product of the adversarial nature of common law systems as opposed to the cooperative nature of the civil law systems.[247] This, Michael Bridge explains, has created a 'pressure point' between the two systems.[248]

However, given the civil law approach which embraces and codifies good faith into its contract legislation,[249] the increasing recognition of good faith as a pillar of contract law in other common law jurisdictions, [250] and 'the increasing significance of transnational law',[251] Vanessa Sims predicts that the concept and recognition of good faith in English law is likely to increase rather than decrease in the foreseeable future'.[252]

## 2.6 Relational Contracts - Between Theory and Practice

Part of the judicial approach to relational contracts so far has been to determine that judges may, at odds with the general propensity of the courts to uphold the principle

[247] Shida Galletti, 'Contract Interpretation and Relational Contract Theory: a comparison between common law and civil law approaches' (2014) Vol. 47 No. 2 *The Comparative and International Law Journal of Southern Africa* 248, p.251.

[248] *Bridge* (n 230), p.1.

[249] *Yam Seng* (n 2), 124.

[250] Ibid, 125.

[251] *Sims* (n 232), p.215; Philip C. Jessup, *Transnational Law* (Yale University Press, 1956), p.2: explains 'transnational law' as 'all law which regulates actions or events that transcend national frontiers'.

[252] *Mid Essex Hospital Services NHS Trust v Compass Group UK and Ireland Ltd (Trading As Medirest)* [2013] EWCA Civ 200, 105: 'I start by reminding myself that there is no general doctrine of "good faith" in English contract law, although a duty of good faith is implied by law as an incident of certain categories of contract'; *Sims* (n 232), p.215: 'some contracts will be categorised as relational contracts, and this has the effect of implying a term of good faith'.

of freedom of contract and their enmity towards rewriting commercial contracts,[253] conclude that a duty of good faith needs to be implied into the contract.[254] This does start to demarcate between the theoretical considerations of relational contracts and the practical implementation under English law.

The practical problems so far have been, inter alia, that the definition of relational contracts has become relatively broad giving rise to, what the court described in the case of *Candey Ltd v Bosheh*,[255] 'something of an avalanche of claimants in recent years trying to show that the contract into which they seek to imply the term is a relational contract'.[256]

In order to provide a definition which draws on the theoretical foundations of the concept but which can also withstand practical scrutiny we need to consider both the

[253] Leng Sun Chan, 'The Frontiers of Contract Law - Resolving Ambiguity Through Extrinsic Evidence' (2005) Vol. 17 *Singapore Academy of Law Journal* 277, p.280: 'it is not the role of the court to write the contract for the parties. If crucial terms are not agreed and there is no means of determining such terms, there will be no binding contract. The concept of "reasonableness" is not a panacea for sloppiness'; *Bridge* (n 230), p.7: 'Recent developments have permitted courts to go behind the written screen to discover an ambiguity that would not be apparent on the face of the document alone. This development, far from being just a neutral attempt to discover the truth of the matter, has given rise to the danger of some courts imposing on contracting parties a reasonable contract and not necessarily the contract to which they committed themselves'; *Scandinavian Trading Tanker Co. A.B. v Flota Petrolera Ecuatoriana* [1983] Q.B. 529: [discussing commercial contracts] 'Parties to such contracts should be capable of looking after themselves: at the very least, they are capable of taking advice, and the services of brokers are available, and are frequently used, when negotiating terms'.

[254] *Alan Bates* (n 3), 711 and 720.

[255] *Candey v Bosheh* (n 51).

[256] Ibid, 31.

academic and judicial commentary.[257] Drawing on these attempts to define it, Hugh Collins provides a definition which characterises relational contracts as having four particular features:

*(1) A longer-term business relationship.*

*(2) Investment of substantial resources by both parties.*

*(3) Implicit expectations of cooperation and loyalty that shape performance obligations in order to give business efficacy to the project.*

*(4) Implicit expectations of mutual trust and confidence going beyond the avoidance of dishonesty.*[258]

Yehuda Adar and Moshe Gelbard provide their own definition of relational contracts which is based on the extent to which a contract may display the following three characteristics:

*(1) The extent to which the contract defines – or necessitates – a lengthy period of performance.*

*(2) The extent to which the contract creates an intensive interpersonal relationship, or is carried out in the framework of such an existing relationship.*

[257] *Eisenberg* (n 5), p.813: '…it is impossible to locate, in the relational contracts literature, a definition that adequately distinguishes relational and nonrelational contracts in a legally operational way that is, in a way that carves out a set of special and well-specified relational contracts for treatment under a body of special and well-specified rules'.

[258] *Collins* (n 180), p.7.

(3) *The extent to which entering into the contract requires a substantial investment, which would make the retreat or withdrawal from the contract very costly or very risky for one of the parties, or for both.*[259]

Richard Speidal describes, based on an aggregation of commentary on the matter, that relational contracts have at least three distinguishing characteristics:

*(1) the exchange extends over time;*

*(2) because of its duration, parts of the exchange cannot be easily measured at contract formation; and*

(3) *the interdependence of the parties extends beyond a discrete transaction*.[260]

Melvin Eisenberg prefers a simpler approach, highlighting that 'a straightforward definition of relational contracts is readily at hand: a relational contract is one that involves not merely an exchange but also a relationship between the contracting parties. Correspondingly, a discrete contract is a contract that involves only an exchange and not a relationship'.[261]

While definitions may vacillate, it is important to attempt to provide some kind of framework in which to place relational contracts. While the concept may be more established academically, it is still nascent judicially. While discerning between two

[259] Yehuda Adar and Moshe Gelbard, 'Contract Remedies – A Relational Perspective' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law),* Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.), (Routledge, 2013, First Edition), p.282-283.

[260] Richard E. Speidel, 'The Characteristics and Challenges of Relational Contracts' (2000) Vol. 94 *Northwestern University Law Review* 823, p.823-824.

[261] *Eisenberg*, (n 165), p.736.

ends of a spectrum may be 'too simplistic',[262] Macneil's and Macaulay's insights have proved instrumental in moving us towards a judicial recognition of relational contracts which may allow us to better understand and represent that contracts require, inter alia, cooperation and trust which may not be expressly agreed between the parties in the terms that have been used but which should, arguably, form part of the 'matrix of facts'[263] considered by the court if a dispute arises.

For the purposes of this thesis, we will need to utilise a sufficiently broad definition which maintains, as Adar and Gelbard explain, relational contracts as 'a wide and open-ended category under which any type of transaction may fit'[264] but which is succinct enough to avoid an all-encompassing categorisation which effectively makes all contracts relational by default. On that basis, this thesis provides the following characteristics of relational contracts or relational terms which attempts to pull together the academic and judicial explications in order to describe a contract in which:

*(1) There is a relationship between the parties which extends beyond an individual or limited exchange.*

*(2) It is expected that the contract will endure over a period of time beyond an individual or limited exchange.*

*(3) Unlike a discrete transaction, the terms of the contract cannot be easily determined ex-ante, meaning that there may be a more demanding requirement*

[262] *Mitchell* (n 52), p. 15.

[263] *Reardon Smith Line Ltd* (n 46), 997; *Prenn v Simmonds* (n 46), 1383 and 1384; *The Commercial Court Guide* (n 46), C1.3(h).

[264] *Adar & Gelbard* (n 259), p.278.

*to understand the relationship and the context of the contract in the event of a dispute.*

*(4) There must be a certain amount of trust and cooperation which persists beyond an individual or limited exchange and that may, and in many cases will, require the implication of duties of good faith.*

It will be noticed that the spectrum description employed by Macneil is particularly helpful in forming this definition. The discrete contract is used as the baseline against which concepts that may be seen as nebulous and elusive are measured.[265] This rejects the idea that discrete contracts are an impossibility but also recognises that many contracts may fall on the relational half of the spectrum. The discrete contract, a sui generis transaction in which there is no prior or continuing relationship, acts to anchor the characteristics of what we view as relational without applying a definition of relational contracts that is simply all-encompassing. [266]

The definition used in this thesis also affirms the approach of the English courts that there is no special rule of interpretation for relational contracts and that the 'implication of a duty of good faith will only be possible where the language of the

[265] Using the approach of defining a relational contract as one which is not discrete has been highlighted by Melvin Eisenberg (n 5, p.813): 'One approach to the problem of definition has been to define relational contracts as those contracts that are not "discrete". This approach, of course, requires a definition of discrete contracts. Vic Goldberg has defined a discrete contract as a contract "in which no duties exist between the parties prior to the contract formation..." However, even in the case of a relational contract no duties can exist under the contract prior to its formation'.

[266] *Macneil* (n 147), p.497: 'All promise-centered contracts scholarship must cope with relational contract, because all contract is relational'.

contract, viewed against its context, permits it'.[267] In the case of *TAQA Bratani Ltd v Rockrose UKCS8 LLC,*[268] it was stated that while the court was content that the joint operating agreements entered into by the parties could arguably be relational contracts, it did not necessarily follow that it was 'necessary to imply a good faith obligation into the exercise of the power on which the claimants rely'.[269]

This does not preclude the implication of a duty of good faith but it does not make a relational contract reliant upon that construction or that terms must be implied, in such contracts, as a matter of law. Instead, the approach being suggested in this thesis is that the MA contains both terms which are discrete and relational. Those relational terms, it is proposed here, should be viewed within the definition provided above. Cumulatively, the terms, both discrete and relational, may warrant the implication of a duty of good faith but, at the very least, the relational terms should be read in the context of the relationship between the parties.

## 2.7 Conclusion

Relational contracts have been described as self-regulating and as better dealt with outside the courts.[270] However, without application in the courts, relational contracts become paradoxically real yet abstract, operating in practice between the parties but

[267] *Globe Motors Inc* (n 244), 68.

[268] *UKCS8 LLC* [2020] EWHC 58 (Comm).

[269] Ibid, 56.

[270] Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori, 'The Contractual Basis of Long-Term Organization – The Overall Architecture' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law),* Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.), (Routledge, 2013, First Edition), p.13.

not recognised by the legal system which may enforce them. The case of *Yam Seng*[271] was an important milestone in English law, one which may have opened the floodgates for aggrieved parties to claim that bargains they have struck do not reflect reality but one which has also served to attain justice in the face of contracts which can never provide a complete picture of the arrangement intended.

Of course, most disputes arising out of contracts which many would describe as relational will be resolved, as Macaulay and others have demonstrated, by non-legal solutions - the relationship between the parties and their reputations in their respective markets will be too valuable to bring a legal claim.[272] However, in order to fully integrate relational contracts into the jurisprudential lexicon, we need a definition which has oftentimes been evasive. This chapter has sought to address this deficit by offering a definition which attempts to draw from both the theoretical and practical definitions proffered so far.

In terms of how this applies to the MA, this standard-form agreement is, prima facie, paradigmatic of a discrete contract, one which is often executed between commercial parties using the markets to take positions on the prices of financial instruments. However, as Lisa Bernstein has described in relation to the contractual relations between equipment manufacturers, 'sophisticated transactors in these markets have combined the governance techniques associated with arm's length contracting, intra-firm hierarchy, and trust-based relational contracting to create relationships that are long-term, highly cooperative, and involve adequate levels of specific

[271] *Yam Seng* (n 2).

[272] *Grundmann, Cafaggi, & Vettori* (n 270), p.5.

investment'.[273] Ostensibly discrete transactions can therefore be underpinned by relational expectations. It is between these two competing concepts that, it is argued in this thesis, the MA is positioned.

A legitimate rebuttal of the concept of bimodal contracts is whether discrete terms within a relational contract make it anything other than relational. The defining factor would appear to be the instance of any relational elements which, if present, cause the whole to be relational. The concept of bimodal contracts is an attempt to recognise that categorising contracts in such a way may not be wholly sufficient for parties whose contracts contain both discrete and relational terms. This may be particularly true of agreements which present characteristics predominantly associated with discrete contracts but which contain relational elements. There may be some elements which they expect to be dealt with using a particularly textualist approach whereas other terms (or any gaps in the drafting) would require a relational reading. By analysing contracts in this way, we may start to recognise that contract categorisation becomes a process of determining whether the contract, as a whole but on an investigation of its terms, requires interpretation as a discrete, relational, or bimodal contract.

The purpose of this thesis is to investigate the phenomena of bimodal contracts by using the ISDA MA as a case study and by exploring: (1) the purposes behind trading derivatives, and the international composition of ISDA, (2) the purposes behind the MA, the intentions of the parties using it, and the contractual network created around it, and (3) the development of a smart contract version of the MA.

[273] Lisa Bernstein, 'Beyond Relational Contracts: Social Capital and Network Governance in Procurement Contracts' (2015) Vol. 7 Iss. 2 *Journal of Legal Analysis* 561, p.563.

These three components create a cascading analysis, as set out at chapter 1.3, which is designed to: assess derivatives trading and ISDA (Level 1: ‘Trading derivatives and the role of ISDA in the market’), before drilling down into the MA (Level 2: ‘The terms of the MA and the parties using it’), and then looking towards the future development of the MA (Level 3: ‘The MA and technological solutions’).

# PART III - DERIVATIVES AND ISDA

## 3. Derivatives

### 3.1 Introduction

This Part III is designed to provide the practical basis of this thesis by investigating the purposes of trading derivatives and ISDA as an organisation. This chapter 3 sets out the context of derivatives and the purposes behind trading them, and fulfils the first part of the cascading analysis, as explained at chapter 1.3, adopted in this thesis to investigate the MA as a bimodal contract based on the purposes behind entering into transactions. Before the purposes behind trading derivatives are discussed, it is important to provide some background to these financial instruments.

Derivatives have been in existence for centuries, from ancient Greeks trading olive oil futures to the ancient Babylonians trading soldiers and slaves,[274] from English monasteries selling wool in the 12th Century to mineral salt forward contracts developed by Italian merchants in the 13th Century,[275] from tulip mania in 17th Century Holland[276] to the establishment of a rice futures market in 17th Century Japan.[277] However, the widespread use and the formation of many derivatives

[274] Alastair Hudson, *The Law on Financial Derivatives* (Sweet & Maxwell, 2017, 6th Edition), 5-08.

[275] Laurent L. Jacque, *Global Derivative Debacles: From Theory to Malpractice*, (World Scientific Publishing Company, 2015, Second Edition), p.5.

[276] Gilian Tett, *Fool's Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe* (Abacus, 2010, Digital Edition), p.10.

[277] Eleni Tsingou 'The Governance of OTC Derivatives Markets' in *The Political Economy of Financial Market Regulation, The Dynamics of Inclusion and Exclusion,* Peter Mooslechner, Helene Schuberth, and Beat Weber (eds), (Edward Elgar Publishing, 2006), p.171.

markets is a relatively new development.[278] In this sense, the first modern financial derivative was thought to have been an interest rate swap between the World Bank and IBM Corporation in 1981, although, as Gorden Peery warns, 'pinpointing with absolute precision the first derivative is an impossible task'.[279]

The basic idea behind derivatives is that both parties are entering into an executory contract – where obligations on both parties are to be performed over time[280] - in which they are speculating on the movement in price, or reducing their risk associated with the movement in price,[281] of an underlying 'commodity, asset, rate, index, or the occurrence or magnitude of an event'.[282]

Derivatives were, and still are, used to create promises for future delivery and physical ownership. This was supplemented by certificates of ownership which themselves became tradeable. As Richard Bookstaber explains, 'the commodity itself became an abstraction, a convenience for feeding speculation'.[283]

There are four main types of derivatives: a future, a forward, an option, and a

[278] *Steiner* (n 12), p.7.

[279] Gorden F. Peery, *The Post-Reform Guide to Derivatives and Futures* (John Wiley & Sons Inc., 2012), p.232; *Das* (n 10), p.41: Das points out that in 'April 1977, Continental Illinois Limited…completed a $25 million ten year dollar/sterling currency swap' showing that it is difficult to know exactly when the first financial derivative occurred.

[280] *Tanna* (n 9), p.81.

[281] This reduction of risk is also referred to as 'hedging'.

[282] Randall Dodd, 'The Structure of OTC Derivatives Markets' (2002) Vol. 9 *The Financier* 1.

[283] Richard Bookstaber, *A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation* (John Wiley & Sons, 2007), p.176.

swap.[284] Simply put: futures are exchange-traded contracts for which the price is agreed at the outset for delivery at a later date; forwards are OTC contracts for which the price is agreed at the outset for delivery at a later date; options can be either exchange-traded or OTC and, in exchange for a premium being paid to the seller, give the buyer the option to buy or sell a financial instrument within a specified time period; swaps are predominantly OTC contracts in which two parties agree to exchange financial instruments, cash flows or payments over a certain period of time. Derivatives therefore share two important characteristics: they derive their value from an underlying asset or event and the obligations that arise therefrom will crystallise in the future. Crystallisation, in the case of derivatives, means either taking physical delivery of the underlying asset or, more commonly, cash-settling on or before the date for delivery. Some derivative contracts do not provide physical delivery and so will always be cash-settled. Examples of each of the OTC derivatives are provided below (Forwards (Fig.3), Options (Fig.4), and Swaps (Fig.5)).

[284] G. D. Koppenhaver, 'Derivative Instruments: Forwards, Futures, Options, Swaps, and Structured Products' in *Financial Derivatives: Pricing and Risk Management*, James A. Overdahl and Rob Quail (eds.) (Wiley, 2009), pp.6-16.

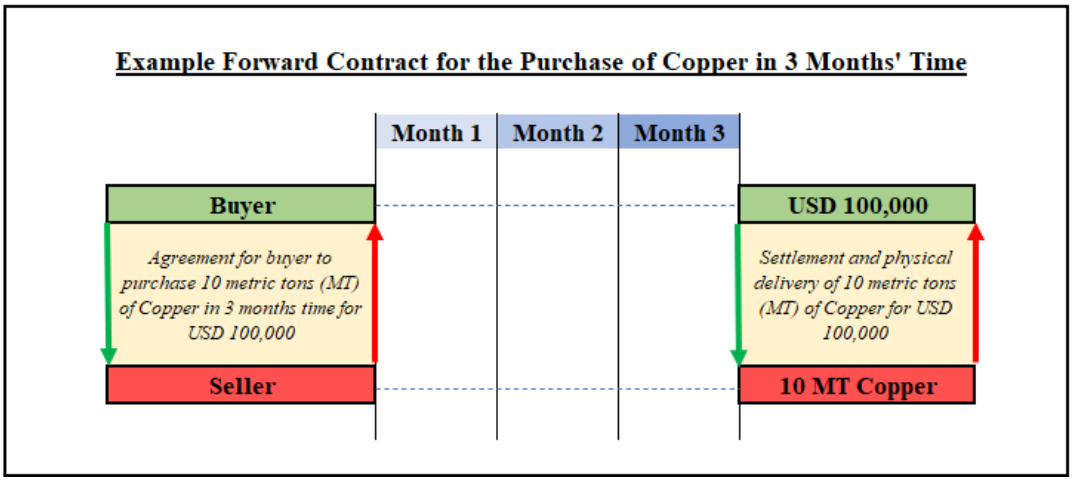


*Fig.3 A visual representation of a forward contract between two parties for the sale and purchase of copper in three months' time. At the end of month three, for a physically settled contract, 10 metric tons of copper would be delivered by the seller to the buyer in exchange for USD (United States Dollars) 100,000. If the parties to a physically settled contract agree, they may cash-settle the contract before the date for delivery meaning that the difference in the agreed price and the market price at the time of cash settlement will be delivered. Some contracts are only available on a cash settled basis which means that at, or before, the date of expiry of the forward contract, the difference in the agreed price and the market price will be exchanged between the parties.*

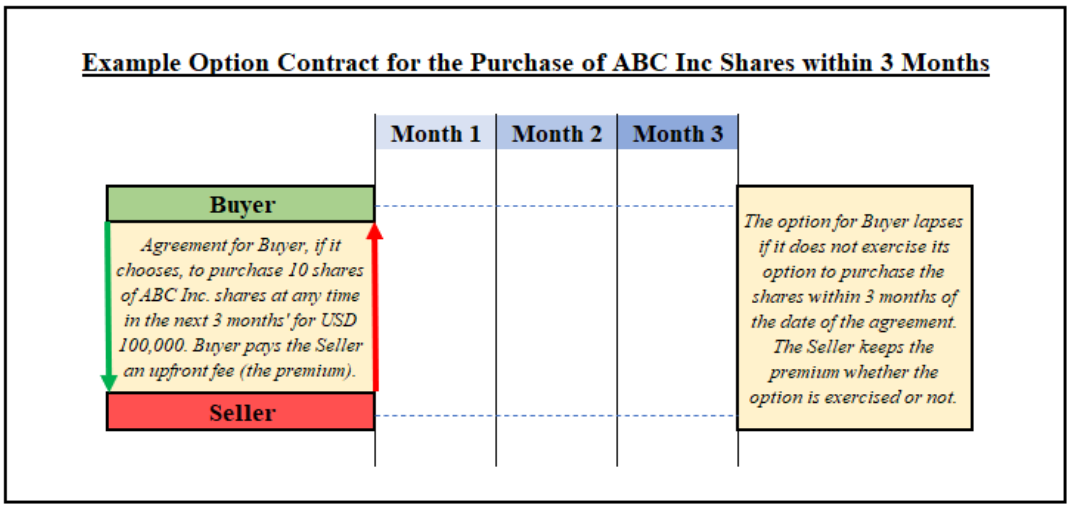


*Fig.4 A visual representation of an option contract between two parties. An option contract has two levels: (i) there is a buyer and a seller of the option contract, that is the seller is selling the right (but not the obligation) to the buyer to exercise an option for which the buyer pays the seller a fee (called a 'premium'), and (ii) the option contract itself gives the buyer the right (but not the obligation) to buy (referred to as a 'call option') or sell (referred to as a 'put option') a particular financial instrument. Generally speaking, the option contract is open to the buyer to exercise the option during the period of three months (or other specified time frame) although that would generally describe an 'American Option' whereas a 'European Option' may only be exercised on the date of maturity (not before). If the option is not exercised in that time, the option will lapse with the seller keeping the premium. Additionally, there are other types of options, for example, 'Asian Options'*

*which offer an average price over a predefined period of time rather than a price fixed at a particular point in time.*

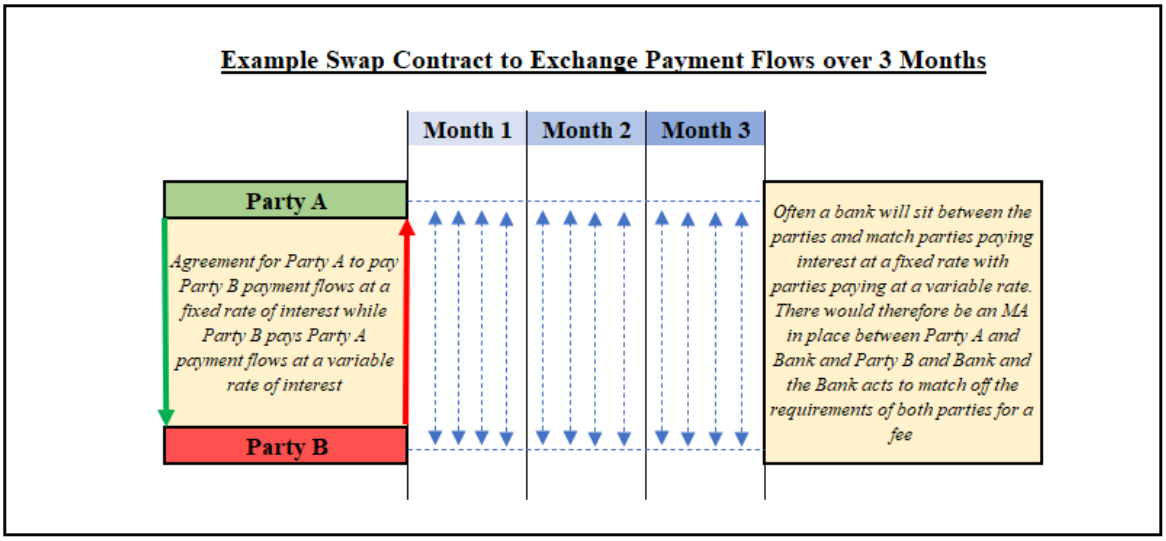


*Fig.5 A visual representation of a swap contract between two parties. Often swaps are agreements to exchange payment flows on a notional principal amount. Interest rate swaps are the most common in which two parties will exchange interest payments on an agreed amount. Often, a bank will sit in between both parties and will transact with each individually to match-off the requirements of one party to pay a fixed rate while the other pays a variable rate. The bank will then be paid a fee for their services and each party is left paying a rate of interest which suits them better at that particular time.*

Once a type of derivative is selected, there is then the choice of where or how to trade that instrument, there being two main venues for trading derivatives: on-exchange or off-exchange – or, more formally, exchange-traded (ETD) or over-the-counter (OTC), respectively. Since the GFC, there has been a regulatory push to ensure more OTC derivatives are centrally cleared. This is a kind of middle-ground under which derivatives are centrally cleared through what is referred to as a Central Counterparty Clearing House (CCP) but the derivatives are bilaterally negotiated rather than executed on an exchange.[285] While this is an important development in the evolution of derivative regulation, this chapter will focus on the two ends of the spectrum, ETD and OTC derivatives because, in the words of

[285] *Braithwaite* (n 10), p.15.

Jo Braithwaite, 'it remains useful to distinguish OTC derivatives from those subject to the tight controls, standardised and non-negotiable legal features and membership rules of an organised exchange'.[286]

ETDs, as the name suggests, are derivatives traded on exchanges. The first reported exchange was the Osaka Rice Exchange in Japan, set-up in the 17th Century,[287] this was followed by other exchanges such as the Chicago Board of Trade ('CBOT', now falling under the Chicago Mercantile Exchange (CME)) and the London Metal Exchange, both formed in the 19th Century, respectively.[288]

Exchanges are subject to regulation from the national regulator in the jurisdiction in which they are based and maintain, as Alfred Steiner explains, associated clearing houses which become the 'opposite party to every exchange-executed trade. In becoming the opposite legal party to all derivatives contracts listed on the associated exchange, clearing houses always have a balanced position – an equal number of long- and short-listed contracts'.[289] This reduction of risk coupled with a clear rulebook and standardisation of transactions means that systemic risk, 'the risk of a financial disturbance that causes widespread disruptions elsewhere in the system,' is mitigated.[290] As Satyajit Das describes, the exchange and its associated clearing house will act as a 'guarantor of the risk of the traders using a system of security deposits (known as initial and variation margining)'.[291] Initial margin and

[286] Ibid.

[287] *Steiner* (n 12), p.24.

[288] *Das* (n 10), p.30; LME, About Us, <https://www.lme.com/Company/About> accessed 4th July 2021.

[289] *Steiner* (n 12), p.176.

[290] Ibid, p.176 and p.250.

[291] *Das* (n 10), p.31.

variation margin will be discussed as part of chapter 6.8 on the ISDA Credit Support documentation as these methods are also used to provide security for uncleared OTC transactions but in that case such deposits are exchanged between two parties rather than being collected and distributed by a central clearing house.

OTC derivatives, as Eleni Tsingou sets out, allow 'parties [to] trade directly with one another and often customise products to suit their individual needs'.[292] The customisable nature of OTC derivatives remains one of the key benefits of the market.[293] Following the collapse of the Bretton Woods system which was predicated upon, inter alia, the pegging of currencies, directly or indirectly, to the price and supply of gold, trading in currencies and interest rates proliferated. In the late 1970s the swap market emerged which ushered in, as Satyajit Das describes, the OTC market and a 'golden age of derivatives', at least for the financial intermediaries involved, and created an opaque, highly customisable, 'gigantic system of betting on changes in prices'.[294]

As OTC markets do not involve an exchange sitting between the parties and guaranteeing performance of the contract, they pose additional systemic risk to the market. As John Biggins and Colin Scott describe, while 'OTC derivatives trading is...considered capable of offering highly innovative and socially useful risk management and investment strategies...[it is] comparatively more risky than exchange trading'[295]

[292] *Tsingou* (n 277), p.171.

[293] *Das* (n 10), p.31.

[294] Ibid, p.32.

[295] *Biggins and Scott* (n 88), p.317.

OTC derivatives are private, bilateral arrangements between counterparties. Historically, these arrangements would be primarily regulated by the contract between the parties – often the ISDA MA – while the details of the transactions would be opaque and held off-balance sheet, meaning that regulators and shareholders were often oblivious to positions and associated exposures.[296] Moreover, these transactions were almost exclusively uncleared, meaning that, in addition to not being reported, the risk of counterparty default was not mitigated by trading with a clearing house. OTC derivatives trading allowed organisations to trade, untrammelled by the restrictions applicable to more transparent, exchange-traded products. As Frank Partnoy observed, participants could transact in the dark without the powerful sunlight of regulation which shined on other financial instruments.[297] This latitude and opacity was alluring to a vast number of market participants and so the market grew at a staggering rate[298] along with the complexity of the instruments being traded. The proliferation of the market meant that ISDA now held a particularly powerful position[299] and it wielded its authority vociferously on behalf of the OTC derivatives industry in front, and behind the

[296] Franklin R. Edwards and Edward R. Morrison, 'Derivatives and the Bankruptcy Code: Why the Special Treatment?' (2005) Vol. 22 *Yale Journal on Regulation* 91, pp.99-100.

[297] Frank Partnoy, *Infectious Greed: How Deceit and Risk Corrupted the Financial Markets*, (Profile Books, 2003), p.48.

[298] Leading one commentator to refer to the OTC derivatives market as an 'accelerating juggernaut…a financial phenomenon that has radically altered the landscape of the global capital markets,' from Adam P. Waldman, 'OTC Derivatives & Systemic Risk: Innovative Finance or the Dance into the Abyss?' (1994) Vol. 43 No. 3 *American University Law Review* 1023, p.1025.

[299] *Partnoy* (n 297), p.61.

scenes, of regulatory and legislative bodies in the U.S. and abroad.[300] The initial purpose of ISDA, which was to protect and oversee the standard form documentation it had created for the derivatives industry,[301] had rapidly expanded, as had its membership and influence across the globe.

## 3.2 The Purpose of Trading Derivatives

Derivatives have, as Alastair Hudson has observed, 'two principal, commercial rationales: first, to acquire protection against some existing obligations ("hedging") and, secondly, to speculate on the future movement of the prices of securities or of financial indices, such as interest rates or a share index ("speculation")'.[302] While the purpose of trading is ostensibly immaterial in terms of ISDA or its MA – the suite of documents do not ask for clarification on the purpose of trading between counterparties – an understanding of the two main purposes will inform later assumptions made about the MA.

Historically, derivatives had generally but not exclusively been used by

[300] *Flanagan* (n 70), 228.

[301] *Biggins and Scott* (n 88), p.323.

[302] *Hudson* (n 25), p.1175; there are, arguably, three categories: (1) hedging, (2) speculation, and (3) arbitrage. Arbitrage is 'ideally risk-free or low-risk trading that aims to capitalize on differences in price between what in theory are economically equivalent assets by buying low and selling high' (Hirokazu Miyazaki, 'Between arbitrage and speculation: an economy of belief and doubt' (2007) Vol. 36 Iss. 3 *Economy and Society*, 396, p.397). However, arbitrage is not included as a separate category here on the basis that: 'Some claim that there is a third category of derivatives counterparties, arbitrageurs. Arbitrage, however, merely denotes a trading strategy, not whether or not a derivatives contract counterparty is speculating or not. An arbitrage strategy within the derivatives context is simply strategic offsetting wherein one speculates in one market while strategically hedging that risk simultaneously in a differently-priced second market' (*Lynch* (n 98), p.76).

participants on exchanges to hedge their risk. For example, if a rice producer was worried that the price of rice was set to fall, affecting income generated from future harvests, it could employ a derivatives contract to lock-in the price and mitigate price risk. This reduction of risk is defined as *hedging* and, as Stephen Lubben observes, it serves a simple purpose of circumventing the adverse effects of future price uncertainty[303] or, as Colleen Baker has described, it can provide a 'risk-neutralizing function'.[304]

Speculation, on the other hand, has always occupied the turbid space between gambling and market utility. Commentators such as Timothy Lynch and Lynn Stout have described what is essentially a bet which underlies all derivatives contracts. Timothy Lynch describes derivatives as 'aleatory contracts between two counterparties wherein the payoffs to and/or from each counterparty depend on the outcome of one or a set of extrinsic, future, uncertain event(s) and/or metric(s) and wherein each counterparty expects an outcome opposite to that expected by the other counterparty'.[305] Lynn Stout describes derivatives more generally as simply 'bets on the future – nothing less, and nothing more,'[306] however, she goes on to

[303] Stephen J. Lubben, 'Derivatives and Bankruptcy: The Flawed Case for Special Treatment' (2009) Vol. 12 *University of Pennsylvania Journal of Business Law* 61, p.74.

[304] Colleen M. Baker, 'Regulating the Invisible: The Case of Over-the-Counter Derivatives' (2010) Vol. 85 Iss.4 *Notre Dame Law Review* 1287; with this being said, basis risk - the idea that a hedge may not always perfectly neutralise a risk because offsetting instruments may not move against each other in an optimal way – can create conditions whereby hedging may not be completely 'risk-neutralising'.

[305] *Lynch* (n 98), p.71.

[306] Lynn A. Stout, 'How Deregulating Derivatives Led to Disaster, and Why Re-Regulating Them Can Prevent Another' (2009) *Cornell Law Faculty Publications Paper* 723, p.5.

explain that:

> *Unlike hedging, which reduces risk, speculation increases a speculator's risk in the much same way that betting at the track increases a gambler's risk. Highly-speculative markets are also historically associated with asset price bubbles, reduced returns, price manipulation schemes, and other economic ills.*[307]

While commentators such as Lynn Stout may be incredulous of any supposed benefits of speculation in the derivatives industry,[308] there are arguments in favour of speculation which include providing much needed liquidity and price-discovery to the market.[309] Both of these benefits are simply based on there being more participants involved in a market which provides more opportunities for parties to find a counterparty with whom to trade a particular position and a greater volume of transactions creating a more accurate price.

### 3.3 Categorising Trades on Both Sides

These distinctions between hedging and speculation have led Timothy Lynch to attempt to refine the rationales behind derivatives trading further into three specific taxonomies: (i) where both parties are hedging (*hedge-hedge*), (ii) where one party is hedging and the other is speculating (*hedge-speculation*), and (iii) where both parties are speculating (*speculation-speculation*).[310]

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[307] Ibid, p.6.

[308] Ibid, p.8.

[309] *Lynch* (n 98), p.115.

[310] Ibid, p.76.

The first category of *hedge-hedge*, as described in the rice producer example, provides wider benefits to society, such as price certainty, job creation and risk mitigation. By knowing how much they will pay or receive for a product, the parties are unfettered from price volatility which provides certainty for labour and production.

The second category - *hedge-speculation* - occurs when an end-user, such as the rice producer mentioned above, looks to lock in price certainty and reduce risk by trading with a speculator who is willing to take the other side of the trade. The speculator in this transaction is seen to be providing liquidity to the market as well as price discovery; the former means that with more buyers, sellers have more options and vice versa and prices are competitive, while the latter, because of the greater volume of trading, results in more accurate information becoming available in the market.

The final category is what is seen by many as the most problematic category of derivatives transactions. *Speculation-speculation* derivatives trades are viewed by many, such as Shaheen Borna and James Lowry, as no more than gambling, creating artificial risks rather than mitigating pre-existing risks.[311] Timothy Lynch has described these transactions as less than zero-sum transactions because while one party takes all in a trade, after accounting for transaction and opportunity costs, the average return over a number of trades is generally below zero. [312] The creation of artificial risks was a significant factor behind the conception of

[311] Shaheen Borna and James Lowry, 'Gambling and Speculation' (1987) Vol. 6 No.3 *Journal of Business Ethics* 219, p.220.

[312] *Lynch* (n 98), p.73.

*synthetic* derivative products – instruments which mimic the characteristics of another - which created, in Michael Lewis' words, a 'synthetic natural disaster'.[313] In terms of the GFC, this meant that derivative products which were linked to underlying mortgages had spawned synthetic equivalents which were only artificially linked to those same mortgages. Michael Lewis reports Steve Eisman as saying that the banks were creating mortgages 'out of whole cloth. One hundred times over! That's why the losses in the financial system are so much greater than just the subprime loans'.[314] There was also 'synthetic securitisation'[315] which, with the help of swaps, allowed banks to transfer the credit risks of loans to other banks, meaning that credit risk was being shifted around the market in ways which decoupled the original loan from its associated credit risk.[316] These innovations led the revered investor Warren Buffet to label derivatives as 'financial weapons of mass destruction'.[317]

### 3.4 Where Speculation Ends and Hedging Begins

However, it can be seen, looking back on some of the financial innovations which have emerged in the last 40 years or so, that, on many occasions, it has been the pursuit of risk-reduction which was the original purpose behind certain financial instruments. Insurance-like products have been designed to combat certain risks – for example, credit default swaps were originally designed as a way to hedge

[313] Michael Lewis, *The Big Short* (Penguin Books, 2011), p.239.

[314] Ibid, p.143.

[315] *Das* (n 10), p.331.

[316] Ibid, p.326.

[317] *Jacque* (n 275), p.1.

against the default of a counterparty before such financial instruments were then sold at scale to market participants which were sometimes just speculating on a firm's survival with no insurable interest in that firm. The point being made here is that while hedging can be seen as risk-reducing and speculation as gambling, ostensibly creating a good/bad divide, the reality, as is often the case, is a lot more complicated. This is what led an Irish Minister to say, when discussing the proposed Irish law exemptions proposed for derivatives, 'I do not know where gambling stops and hedging begins'.[318]

As Richard Bookstaber explains, it was the design of a prima facie, risk-reducing hedging technique referred to as *portfolio insurance* - designed to protect clients from their share portfolios falling below a pre-specified floor value – which precipitated the financial crash of 1987. This technique employed what is referred to as dynamic hedging - which is essentially readjusting the hedge as market conditions change so if a client's portfolio increased in value the hedge would be reduced, if the portfolio fell in value the hedge would be increased. [319] As with most hedging methods, this worked efficiently until there was significant market volatility and, in this case, all portfolio insurers[320] needed to trade in the same

[318] *Biggins and Scott* (n 88), p.331.

[319] *Bookstaber* (n 283), p.9.

[320] The term 'insurance' has been used in financial markets since then to describe insurance-like products but which have not been regulated as such. These insurance-like products have been proven to be particularly fallible to market volatility. Under such circumstances, the hedge or insurance-like aspect of these products has eroded, causing financial chaos. These products, however, can be seen as having emerged from a legitimate interest to reduce risk rather than increase it. As with much in the financial system, scale is often the magnifying glass which turns a risk-reducing product into a systematic risk.

direction to increase their hedge. In calm market conditions, the correlation between different assets will be relatively constant which is where the sagacity of terms like 'diversified portfolio' arise.[321] Diversification in a portfolio is a kind of hedging technique – if your portfolio is sufficiently diversified, the theory goes, as you lose money in one asset, you will gain in another. However, market crises cause correlation disorder which means, as Bookstaber describes, that it can be difficult to predict whether the correlation between exposures is positive or negative, i.e. whether a hedge is reducing your risk or increasing it.[322]

While a number of scholars rightly look at the purposes behind a trade as a medium through which to judge the social utility of a particular class of trades, the complexity of the financial system means that there is a panoply of reasons behind crises which are too interwoven and overlapping to concentrate into neat solutions or justifications.

In terms of the OTC derivatives market and the GFC, it could be argued that the opacity, complexity, absence of central counterparties, disconnected regulatory regimes, lack of accountability and governance, and leverage available to parties trading in OTC markets[323] all contributed to the problems which culminated in the

[321] The diversified portfolio concept derives from the Modern Portfolio Theory of balancing risk and reward.

[322] *Bookstaber* (n 283), p.9.

[323] One of the key selling points of derivatives is that they are based on leverage which is the ability to use borrowed money to place a trade. For derivatives, the only money required is the effective deposit amounts: initial margin and variation margin (see Credit Support Annex section below); Nicholas Shaxson, *The Finance Curse: How Global Finance is Making us all Poorer*, (Vintage, 2019), p.199: 'The first joy of debt is that it magnifies returns. To take a simplified example, imagine you spend £100,000 of your own money to buy a house and its value rises by £20,000. You've increased your capital by 20 per cent. But if you instead borrow

crisis. Writing in 2010, Adair Turner, then Chairman of the Financial Conduct Authority in the U.K., stated that the growth of the financial services sector along with the complexity of associated products was not, as originally thought, adding material economic value by making the global economy more efficient and less risky.[324]

Regulators have tried to discern between hedging and speculation by developing carve-outs in their post-2008 financial crisis regulations.[325] These attempts at exempting transactions which 'reduce risk' suffer from the same ambiguity as stated above whereby the line between reducing risks and increasing risk can sometimes be difficult to demarcate. This is a problem which Roy Goode has observed in the increasingly abstract nature of markets where it is now difficult to discern trading and hedging from gambling and speculation.[326]

### 3.5 Party Expectations

Given the difficulties of definition, it would appear that the purpose behind a trade would be inconsequential. However, insofar as we can discern between a hedging

£900,000 to add to your £100,000 and buy ten such houses, which each rise in value by £20,000, you can sell the lot for £1.2 million, pay back the £900,000 loan and keep £300,000. You've tripled your money. This is the principle of leverage'; *Steiner* (n 13), p.260: 'Given the potential leverage offered by derivatives at low transaction costs, derivatives facilitate the taking of speculative positions'.

[324] Adair Turner, 'What do banks do? Why do credit booms and busts occur and what can public policy do about it?' in *The Future of Finance: The LSE Report*, A. Turner et al. **(**London School of Economics and Political Science, Center for Economic Performance and the Paul Wooley Centre for Capital Market Dysfunctionality**,** 2010).

[325] For example, see the EU's Markets in Financial Instruments Directive, 2014/65/EU (MiFID II), Article 2.

[326] Roy Goode, *Commercial Law in the Next Millennium*, The Hamlyn Lectures, (Sweet & Maxwell, 1998), p.7.

transaction and a speculative transaction, consideration should be paid to the notion that perhaps parties may expect certain behaviour under certain circumstances. Let us take the *hedge-hedge* scenario set out above. Would these two parties consider their trades and their contractual relationship to be tantamount to that of two parties trading on a *speculation-speculation* basis? Arguably, there is a case to be made that the parties under a *hedge-hedge* scenario would expect certain relational duties to apply with greater force to their relationship than two parties under a *speculation-speculation* arrangement. The former are entering into transactions in order to reduce their risk, while the latter are entering into transactions seeking risk.

In transactions which are often described as commensurate with gambling, the zero-sum outcome is embedded within the fabric of the activity. Because of its association with gambling, there are arguably fewer expectations of good faith and fair dealing in a *speculation-speculation* transaction. Those who gamble understand the mantra that 'the house always wins' and that there are a number of contrivances that 'the house' will employ.[327] There are even phrases, such as 'bad beat', which are used in certain games such as poker to describe losing when you

[327] Andy Belin, *Poker Nation* (Yellow Jersey Press, 2003), pp.66-67: Andy Bellin explains: '...each hotel's construction is geared toward that end...the lobby design so the guest must walk through the casino to do just about everything...there are free drinks so that no one has to get up to go to the bar...oxygen is pumped into the casino to give gamblers more stamina...there are no windows or clocks that might show evidence of the earth spinning on its axis, and the interior lighting is set perfectly so that when you catch yourself in the mirror, you look as healthy and robust as possible'.

have done everything right.[328] However, most gamblers expect nothing less when placing bets. It is a relatively simple and ruthless process of win/lose. Despite increasing regulatory protections,[329] investors are faced with the same prospect when entering into trades with derivatives providers as their websites and trading platforms will clearly state that by trading derivatives the investor is very likely to lose money.[330] The reality is stark but the consequences are clear.

Hedging parties may not be so inured to the expectations of speculators. For them, the transaction represents a reduction of risk. Underlying the trade may be a physical commodity with social utility and value; there may be jobs and production which are dependent on the reduction of risk and creation of some semblance of certainty which the trade provides. For these parties, a case can be made that the MA is more than just a high-stakes casino agreement between two parties looking to bet on the direction of prices.

Can it, therefore, be said that the purpose behind the trade affects how we view the MA, with *speculation-speculation* transactions being viewed as discrete, whereas

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[328] Richard J. Rosenthal 'The phenomenology of 'bad beats': Some clinical observations' (1995) Vol. 11 *Journal of Gambling Studies* 367.

[329] For example, in the U.K., the Financial Conduct Authority has introduced the 'Consumer Duty' in order to try to better protect retail investors (Financial Conduct Authority, 'Policy Statement (PS22/9): a new Consumer Duty - Feedback to CP21/36 and final rules' (2022) < https://www.fca.org.uk/publication/policy/ps22-9.pdf > accessed on 25 April 2023).

[330] In this case, retail investors are often trading CFDs (Contracts for Difference) which allow the investor to speculate on the market price of an underlying asset. These are effectively cash-settled forwards. Often the chances of loss, clearly stated for all to see, are between ~70-80%. See, for example, < https://www.plus500.com/; https://www.ig.com/uk; https://www.cmcmarkets.com/en-gb/ > accessed on 4 January 2024.

*hedging-hedging* transactions can be viewed as relational, as defined at chapter 2? Unfortunately, it is not quite that simple. As already mentioned, there are many institutions which may argue that their transactions, while ostensibly speculative, are hedging some underlying risk in the firm's portfolio. Given how large some of these portfolios are, it is not a strenuous claim to make even if the reality is only coincidental and unplanned.[331] In addition, while there are some who see that there is little difference between speculation and gambling,[332] others would inveigh against the proposition that speculation is tantamount to gambling – with the two main arguments being that speculation provides a vital market function by bearing risks others may not want and that speculation is taking on risk with a plausible expectation of making a profit whereas a gambler takes on risk for entertainment value while presumably understanding that the average gambler will not make a

[331] *Miyazaki* (n 302), p.407: 'Categories such as hedgers, speculators and arbitrageurs are ideal types. All market participants necessarily engage in more than two of the trading strategies these categories represent'.

[332] *Borna & Lowry* (n 311), p.224: '...industries which offer 'pure' risk (casino for example), or to institutions such as American Stock Exchange. These institutions (American Stock Exchange for example), although not originally designed for gambling purposes, nevertheless, are a convenient conduit for satisfying individuals' needs for gambling. The consequences of individuals using speculative markets for gambling purposes is the heavy cost of economic instability which may ensue'; Jennifer N. Arthur, Robert J. Williams, and Paul H. Delfabbro 'The conceptual and empirical relationship between gambling, investing, and speculation' (2016) Vol. 5 *Journal of Behavioural Addictions* 580, p.587: 'Although financial market activity and gambling both entail financial risk, most people tend to regard these things as fundamentally different... [However, t]he empirical relationship between gambling and speculation is likely due to their conceptual overlap, which results in similar types of people being attracted to both activities. Financial speculation ostensibly entails a high degree of skill and knowledge, which helps explain why speculators are highly involved in skill-based forms of gambling'.

profit.[333] As a corollary, the demarcation between hedging and speculation in practice has been difficult to define.[334] Moreover, it can be argued that the MA is an umbrella agreement under which many transactions will fall and the aggregation of those transactions – whether they are all speculative, risk-reducing or a combination of the two – creates a melange which is difficult to categorise.

## 3.6 Conclusion

The purpose of this chapter was to provide the necessary background to the derivatives market and unpack the first part of the cascading analysis, as described at chapter 1.3, which proposes that the purposes behind placing trades could be utilised to determine the nature of the MA according to the parties using it.

There are two ways of looking at this analysis, on the one hand there is the purpose behind individual transactions which, given the volume of transactions executed by most parties, may be difficult to establish as a blanket categorisation, on the other hand there is the more general notion that individual OTC derivative transactions can often be categorised as discrete as documented by individual ISDA Confirmations but when taken as a collection of transactions under the MA, the categorisation may slide towards the relational end of the spectrum. While the purpose of the *trade* may be relevant to establish whether it is discrete or relational, it is the purpose of the *trades* which is important under an MA. It may be argued that an MA in place between two counterparties that are entering into

[333] James J. Angel and Douglas M. McCabe, 'The Ethics of Speculation' (2009) Vol. 90 Supp. 3 *Journal of Business Ethics* 277.

[334] *Credit Suisse International v Stichting Vestia Groep* [2014] EWHC 3103 (Comm), 218: '…in one sense every investment decision carries some risk, and a decision to hedge might be described as a speculation'.

thousands of *speculation-speculation* trades should be viewed as discrete. However, as this chapter has tried to illustrate, the parties may not view themselves as speculating and the aggregation of their trades under the MA may produce expectations, such as good faith and fair dealing,[335] which may be indicative of a relational contract and which exceed those of parties entering into simple, one-off transactions.

As Brown, Falk, and Fehr observe, traders 'prefer to trade exclusively with the same partner for many periods with the consequence that, over time, bilateral relationships thoroughly dominate the market...long-term relations are much more profitable than are short-term ones for both sides of the market'.[336] On this basis, the purpose of individual trades may give way to relational expectations developed over cumulative trades; discrete transactions, taken together, can produce relational contracts.[337] While individual trades may be discrete and binary (win/lose), the MA may cover multiple trades which, in the aggregate, equate to a win-win for the parties. Analysis of a losing trade will show a loss and this may be extrapolated over many losing trades but the important element for most parties is not losing on a particular trade or even on a set of trades but the relationship between the parties which allows them to continue trading and access vital

[335] *Yam Seng* (n 2), 150.

[336] Martin Brown, Armin Falk, and Ernst Fehr, 'Relational Contracts and the Nature of Market Interactions' (2004) Vol. 72 *Econometrica* 747, p.748.

[337] Collins (n 5), p.100: 'It is wrong to think of markets as comprised of large numbers of transactions between strangers. A deeper analysis reveals that markets are comprised of a constellation of repeated patterns of transactions between familiar parties'; however, this may be complicated by the discussion in chapter 7 of how party expectations may be minimalised and potentially supplanted by the intentions and expectations of ISDA.

liquidity in the OTC market which does not have an exchange matching buyers with sellers. Moreover, an MA may be in place between, for example, an intermediary and parties on either side of it. In this scenario it will simply be acting as a link in the chain, accepting trades from its clients and placing them with other financial institutions (a process known as 'straight-through processing' or 'STP'). While some intermediaries will also have their own trading teams which will take some risk, they can, if they choose, simply STP trading flow. For such parties, there may be no particular win-loss scenario, only small wins by charging commission to the client or clients. For them, the MA allows them to access liquidity and maintain important relationships. The hedge-speculation dynamic may fall away, leaving only the net benefit of the relationship.

# 4 International Swaps and Derivatives Association

## 4.1 Introduction

This chapter is designed to provide some context to the organisation behind the MA before a data analysis of that organisation's membership is carried out at chapter 5. This chapter, therefore, is used to underpin the three levels of cascading analysis described at chapter 1.3. It starts by providing some background to the creation and expansion of ISDA before moving on to its role in what Edward Cohen has described as the 'networks of key private actors' which has created a 'transnational policy network'[338] of state and non-state actors.

[338] Edward S. Cohen, 'Legal Pluralism, Private Power, and the Impact of the Financial Crisis on the Global Political Economy' (2013) Vol. 3 No. 4 *Oñati Socio-Legal Series* 679, p.689; the term 'Transnational Policy

The idea of transnationality is explored through the prism of legal pluralism in order to understand the way in which ISDA has developed, through its MA and the other documentation and mechanisms described further at chapter 6, what Jo Braithwaite has referred to as a form of 'transnational private law or global law without a state, according to which standard form contracts may be understood as a set of binding norms that are generated privately'.[339] This sets the scene for the analysis of ISDA's membership at chapter 5 and the examination of the MA carried out at chapter 6.

## 4.2 The Creation and Expansion of ISDA

ISDA was born out of three main challenges which were incubated during the 1960s[340] and started to materially emerge in the 1970s and early 1980s following the fall of Bretton Woods and the application of neoliberalism[341] famously adopted by

Network' is attributed to Eleni Tsingou, 'Regulatory Reactions to the Global Credit Crisis: Analyzing a Policy Community Under Stress' in *Global Finance in Crisis: The Politics of International Regulatory Change*, E. Helleiner, S. Pagliari, and H. Zimmerman, (eds.) (Routledge, 2010), 21-36.

[339] *Braithwaite* (n 72), p.780

[340] Jeremy Green, 'Anglo-American development, the Euromarkets, and the deeper origins of neoliberal deregulation' (2016) Vol. 42 No. 3 *Review of International Studies* 425, p.426

[341] David Harvey, *A Brief History of Neoliberalism* (Oxford University Press, 2005), p.2: 'Neoliberalism is in the first instance a theory of political economic practises that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterised by strong private property rights, free markets, and free trade…State interventions in markets (once created) must be kept to a bare minimum because, according to the theory, the state cannot possibly possess enough information to second-guess market signals (prices) and because powerful interest groups will inevitably distort and bias state interventions (particularly in democracies) for their own benefit'; *Shaxson* (n 323), p.36: 'Government is re-engineered as an agent for making markets penetrate as deep into society as

the Ronald Reagan and Margaret Thatcher administrations,[342] respectively: the first challenge was that, as the volume of financial transactions – namely, swaps – increased, the main players wanted a quicker and cheaper way to agree legal terms which were often entangled between the parties in a battle of the forms;[343] the second challenge was that national regulators were beginning to require firms to hold more capital to adequately underpin their derivatives business; the third challenge was directly correlated with the first and inadvertently aided the suppression of the second: globalisation.[344]

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possible…Neoliberalism is 'the disenchantment of politics by economics', as the British political thinker Will Davies puts it: 'an attempt to replace political judgment with economic evaluation…through processes of competition it becomes possible to discern who and what is valuable. Competition, competitiveness and, ultimately, inequality, are rendered justifiable and acceptable.''

[342] In his inaugural address, Ronald Reagan famously remarked that 'government is not the solution to our problem; government is the problem' (Reagan, Ronald, Inaugural Address, (20th January 1981) < https://avalon.law.yale.edu/20th_century/reagan1.asp > accessed on 22 February 2022); while Margaret Thatcher coined the acronym 'TINA' (There Is No Alternative to the market) (*Mikler* (n 88), p.6); this opinion that neoliberalism began under these two administrations and during that zeitgeist is not completely without criticism, see: Aled Davies, Ben Jackson and Florence Sutcliffe-Braithwaite (eds.), *The Neoliberal Age? Britain since the 1970s*, (UCL Press, 2021).

[343] Ross Cranston, *Principles of Banking Law* (Oxford University Press, 2007, Second Edition), p.47; Simon Firth, *Derivatives Law and Practice* (Sweet & Maxwell, 2019), 10A.002: 'As the swap market developed, however, the number of market participants and the volume of transactions increased and by 1984 a large number of banks were actively trading in a range of products, particularly interest rate swaps, foreign currency options and forward rate agreements. Substantial documentation backlogs developed and increased price competition eroded the profit margins, so that negotiation costs began to be seen as a significant problem'.

[344] Florian Rödl, 'Private Law beyond the Democratic Order? On the Legitimatory Problem of Private Law "Beyond the State"' (2008) Vol. 56 Iss. 3 *The American Journal of Comparative Law* 743, p.744: 'the

In response to these three main challenges, as Gillian Tett describes, a group of bankers in 1985 working at 'Salomon Brothers, BNP Paribas, Goldman Sachs, J.P. Morgan and others held a meeting in a Palm Beach hotel with a view to agreeing on standards for swaps deals'.[345] The political landscape at the time was fertile ground for free-market ideologies and libertarian convictions. The idea that capital flows should be restricted as they were under Bretton Woods had been assailed in favour of globalisation and unfettered markets.

This coterie of bankers, eventually calling themselves the 'International Swap Dealers Association' and registering as a not-for-profit corporation in the state of New York in 1985,[346] set out with the primary purpose of creating and, just as importantly, protecting the copyright to their standard form documentation,[347] the production of which was a monumental task in itself given that a number of main swap dealers were determined not to forgo the benefits provided by their own forms. It was swiftly discovered that the standard form documentation could not only apply

beginnings of "globalization" are best dated to the 1970s, when the Bretton Woods system of fixed exchange rates based on the dollar-gold standard fell apart under the pressure of international currency markets'; Jennifer Connelly, 'Delaware General Corporations Law § 102(b)(7) and Bentham's Utilitarian Calculus: 'The Greatest Good for the Greatest Number of Corporate Stakeholders' (2012) *SSRN*, p.3: 'William Cary pointed out in 1974 what Americans are feeling the effects of today: a regulatory "race to the bottom" of corporate and financial deregulation. In order to attract bigger corporations, more fees and tax dollars, states have been lowering the bar of corporate ethics steadily for more than thirty years'; *Baker* (n 304), p.185: 'Since there is no global regulator, it is not clear what force if necessary could prevent a global race to the bottom…capital is likely to migrate to less restrictive regulatory jurisdictions'.

[345] *Tett* (n 276), p.26.

[346] *Lomas* (n 63), 7.

[347] *Biggins and Scott* (n 88), p.323.

to swaps but to other forms of derivatives. Soon, the tautologically named[348] 'International Swaps and Derivatives Association' was formed and it quickly grew in line with the over-the-counter derivatives market.[349]

Within a short space of time, ISDA had managed to adapt to the three main challenges facing the market at the time of its inception: the ISDA Master Agreement had helped to improve legal certainty and made negotiating terms more efficient, while the deregulation of the OTC derivatives market which was, according to John Biggins and Colin Scott, 'at least partly attributable to the influence and effectiveness of ISDA,'[350] had meant that firms dealing in OTC derivatives could do so without worrying about increased capital costs or any meaningful national or transnational regulatory scrutiny.

Due to sustained deregulation which had been executed in the belief that, inter alia, OTC derivatives were reducing-risk and that they were entered into by sophisticated market participants[351] which did not necessarily need protection or intrusive oversight, ISDA was now involved in far more than simply maintaining its standardised contractual documentation. However, it was its standard-form contracts which predominantly filled the lacuna left by laissez-faire regulation,[352] developing

[348] The term 'derivatives' includes swaps, as well as forwards, futures and options. Other instruments will essentially be combinations or variants of these four main products.

[349] It is now an 'international association of derivatives dealers and market participants' (*Flanagan* (n 63), 228) with 'over 1000 member institutions from 77 countries' (ISDA, 'Membership', < https://www.isda.org/membership/ > accessed on 3 December 2023).

[350] *Biggins and Scott* (n 88), p.322.

[351] Ibid, p.319.

[352] *Shaxson* (n 323), p.143.

a regulatory structure,[353] built upon the 'ubiquitous'[354] Master Agreement, which then enabled ISDA to become, in the words of Frank Partnoy, 'the most powerful and effective lobbying force in the recent history of financial markets.'[355]

As John Biggins and Colin Scott have observed, ISDA's 'role as gatekeeper of the Master Agreement'[356] helped it to thrive as a legal and political force[357] and it is by assessing the ISDA Master Agreement and associated documentation that we can start to assess the framework ISDA has put in place and how that has shaped the market.

### 4.3 Transnationality

As John Biggins and Colin Scott have observed, 'ISDA is the principal transnational private trade association and standard-setter for the OTC derivatives markets'.[358] Tony Porter has described the public-private arrangements which have developed across global finance where private associations 'provide rules of their own and work closely with public rulemaking processes'.[359] As legal pluralists have

[353] *Golden* (n 26), p.333.

[354] *Tanna* (n 9), p.79.

[355] *Partnoy* (n 297), p.47.

[356] *Biggins and Scott* (n 88), p.323.

[357] Katharine Pistor, *The Code of Capital: How the Law Creates Wealth and Inequality* (Princeton University Press, 2019), p.145: describing ISDA as an organisation as being a success 'beyond anyone's imagination'.

[358] John Biggins and Colin Scott, 'Private Governance, Public Implications and the Tightrope of Regulatory Reform: The ISDA Credit Derivatives Determinations Committees' (2013) *Comparative Research in Law & Political Economy*, Research Paper No. 57/2013, p.4.

[359] Tony Porter, 'Transnational Business Governance Interactions and Technical Systems in Global Finance' (2012) *Comparative Research in Law & Political Economy*, Research Paper No. 19/2012, p.13.

observed, the boundaries of state-made law and private-made law have become blurred,[360] with ever greater roles played by private-made law.[361] This pluralist view of law builds upon the sociological and anthropological observations of academics such as Sally Falk Moore who asserted, inter alia, that 'not all the phenomena related to law and not all that are law-like have their source in the government.'[362] Boaventura de Sousa Santos is among a group of scholars who have endeavoured to move legal pluralism forward from anthropological notions of different legal orders being separate and coexisting to 'different legal spaces superimposed, interpenetrated, and mixed in our minds as much as in our legal actions'.[363]

Brian Z. Tamanaha, referencing the work carried out by Gunther Teubner, elucidates that transnational commercial transactions are often organised and executed in ways that are no longer entirely bound by national systems but instead derive from, inter alia, customs, conventions, or standard-form contracts.[364] This speaks to the fact that, as Aleksandar Goldštajn describes, traditional legal systems are often unfit to

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[360] Simin Gao, 'Legal Pluralism and Isomorphism in Global Financial Regulation: The Case of OTC Derivative Counterparty Risk Regulation in China' (2019) Vol. 51 No. 1 *George Washington International Law Review* 145, p.146

[361] Eleni Tsingou, 'Transnational Policy Communities and Financial Governance: The Role of Private Actors in Derivatives Regulation' (2003) *CGSR Working Paper No. 111/03*, p.3.

[362] Sally Falk Moore, 'Legal Systems of the World: An Introductory Guide to Classifications, Typological Interpretations, and Bibliographical Resources' in *Law and the Social Sciences*, Leon Lipson and Stanley Wheeler (eds.) (Russell Sage Foundation for the Social Science Research Council, 1986).

[363] Baudouin Dupret, 'Legal Pluralism, Plurality of Laws, and Legal Practices: Theories, Critiques, and Praxiological Re-Specification' (2007) Vol. 1 *European Journal of Legal Studies* 296, p.300.

[364] Brian Z. Tamanaha, 'Understanding Legal Pluralism: Past to Present, Local to Global' (2008) Vol. 30 *Sydney Law Review* 375, p.388.

serve modern cross-border markets.[365]

In recognition of the limits of national legal systems, the MA created by ISDA has been described as the 'dominant transnational standard in the OTC derivatives markets', [366] the 'crown of private governance',[367] and 'one of the most powerful agreements in the world [which]…underpins trillions of dollars' worth of cross-border transactions'.[368] However, despite the commonly held notion that the MA is not 'connected with any particular country,'[369] the MA is still anchored to national legal systems and to the expectations of ISDA and its members.

The governing law and jurisdiction clause in the MA (section 13) sets out as a default the jurisdiction to be used depending on the governing law to be selected by the parties. This decision will made in the Schedule and the parties are advised to maintain consistency with the governing law version they have chosen.[370] The choice to predominantly utilise national court enforcement instead of, for example, private arbitration, provides a fascinating insight into the interrelation between private law and state law. It has been observed by many commentators, including Jo

[365] Aleksandar Goldštajn, 'The New Law Merchant Reconsidered' (1961) JBL 12 in *Transnational Commercial Law: Texts, Cases and Materials,* Goode, Roy, Kronke, Herbert, McKendrick, Ewan (eds.) (Oxford University Press, 2015, Second Edition), p.21.

[366] *Biggins and Scott* (n 88), p.324.

[367] *Gao* (n 360), p.148.

[368] *Braithwaite* (n 10), p.2.

[369] *Dexia Crediop SpA v Comune di Prato* [2017] 1 C.L.C. 969, 1001: '…use of the ISDA Master Agreement is self-evidently not connected with any particular country and is used precisely because it is not intended to be associated exclusively with any such country'.

[370] ISDA, '2018 ISDA Arbitration Guide (2022 Update)' (2022) < https://www.isda.org/a/fVWgE/ISDA-2018-Arbitration-Guide-%E2%80%93-Version-2.1-May-31-2022.pdf > accessed 3 August 2023.

Braithwaite, that the MA has been 'widely cited as the paradigmatic example of a standard form contract that can be thought of as transnational law'.[371] However, this tool of transnational law is often tied to certain national legal systems in order to ensure enforcement.

This is perhaps less surprising than it may appear at first glance. A single, privately negotiated contract between two parties in different jurisdictions requires some kind of assurance that it will be enforced. Without that, the parties are reliant solely on trust[372] and the agreement becomes peripheralised. The parties may repose trust in one another but the contract provides a means of comfort that the relationship is not governed by trust alone but by a recognised, formal process of adjudication. This formal process can be thought of as a kind of gold-standard, the type which was used for so long to buttress fiat money which, save for a commonly held belief in its existence and worth, had no real value without it.

Jo Braithwaite has drawn attention to some of the benefits of using national courts to govern the MA, such as their 'capacity to generate 'binding fixes' for sophisticated contractual remedies, trigger public and productive debate about terms of standard form contracts, bind users and members, and develop 'market-minded' jurisprudence'.[373]

When the MA was first developed, like any fledging standard-form contract, it needed to assure its users that its terms would be fairly and impartially enforced. While London and New York were – and remain so at this point – two of the most

[371] *Braithwaite* (n 72), p.784.

[372] This thesis includes within 'trust' the wider reputational effects of breach as well as the bilateral effects.

[373] *Braithwaite* (n 72), p.804.

powerful centres for international finance, they both had a common law predilection for a commercially sensible blend of loyalty to the words of the contract and contextual sensitivity. This was most eloquently encapsulated by Lord Steyn who said, in the case of *Society of Lloyd's v. Robinson*,[374] that 'loyalty to the text of a commercial contract, instrument, or document read in its contextual setting is the paramount principle of interpretation'.[375] This meant that ISDA could utilise both jurisdictions' courts for its MA - which would assuage the fears of users that private arbitration may be peopled by arbiters with conflicting interests - while building up a body of precedential law which would, at its core, adhere to the words of the MA.[376]

With that being said, the MA and analogous contracts can be seen, Clive Schimittoff describes, as having a more international background rather than national given the agreement's 'self-regulatory aims'.[377] Moreover, as Jo Braithwaite has observed, as standard-form contracts, such as the MA, become more widely used 'on a worldwide basis, they metamorphose from simple creatures of national contract law, into something new and more exotic (or, at least, less well understood)'.[378]

There is then a juxtaposition between the international nature of the MA and the

[374] [1999] UKHL 22.

[375] Ibid.

[376] *Wood v Capita* (n 106), 15: Lord Hodge: 'The recent history of the common law of contractual interpretation is one of continuity rather than change. One of the attractions of English law as a legal system of choice in commercial matters is its stability and continuity, particularly in contractual interpretation'.

[377] Clive M. Schmitthoff, 'The Unification or Harmonisation of Law by Means of Standard Contracts and General Conditions' (1968) Vol. 17 No. 3 *The International and Comparative Law Quarterly* 551, p.568.

[378] *Braithwaite* (n 72), pp.779-780.

importance of national law on its enforcement.[379] On the one hand, ISDA recognises that the courts, especially those commonly used to interpret the MA, 'have a reputation for probity and experience of resolving disputes arising out of derivative transactions, and they can generally be relied upon to do so with reasonable despatch',[380] whereas it has also been part of legal opinions which have censured decisions made by national courts, attempting to claim that such cases are sui generis and disrupting the precedential value of the judgement.[381]

There is, then, a dichotomy between the self-regulatory aims of the MA and the decisions of national courts on it. While national court decisions can crystallise the treatment of the MA in important jurisdictions, there is always the fear that issues of interpretation may run counter to the objectives of ISDA as the drafting party. In terms of how the MA is interpreted, the international nature of ISDA creates a paradox which will be explored in this thesis between the discrete terms so commonly associated with sophisticated, professionally drafted financial contracts

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[379] Peter Werner (on behalf of ISDA), 'The use of arbitration under an ISDA Master Agreement' (2011) *Memorandum for ISDA Members*, p.3 < https://www.isda.org/a/NyDDE/flrc-isda-arbitration-memo-jan11.pdf > accessed on 11 November 2021: despite the importance of national law on the MA, ISDA has accepted that there is a growing number of market participants that want to obviate national courts 'driven primarily by a combination of the unattractiveness of litigating such disputes in the courts of many jurisdictions, particularly in emerging markets, and the enforcement advantages of the New York Convention'.

[380] *ISDA, '2018 ISDA Arbitration Guide'* (n 368), p.8.

[381] Allen & Overy, 'Memorandum to ISDA Members' (2000), p.5 <https://www.isda.org/a/k6iDE/aoperegrinememo052400.pdf> accessed on 12 April 2020; Jeffrey Golden has also highlighted the legal and systemic risks of utilising national courts presided over by judges who do not fully understand the markets and the potential impact of erroneous decision-making on standard-form agreements such as the MA (*Golden* (n 26), p.337).

and the ineluctable reality that contracts are incomplete[382] and, in the case of the MA, involve parties from a wide range of jurisdictions, each with their own expectations and understanding of what contracts are meant to achieve. Moreover, international principles developed to harmonise contractual interpretation, such as the United Nations Convention on Contracts for the International Sale of Goods (CISG) or the International Institute for the Unification of Private Law (UNIDROIT) principles, expressly state that, as part of contractual interpretation for certain contracts, we must pay due regard to a contract's international character and to the need to promote uniformity.[383] There is an argument that the international nature of ISDA, explored at chapter 5 of this thesis, should create a similar requirement for the MA which will be further investigated at chapter 8 of this thesis. However, there are also principles, laid down in both the CISG and UNIDROIT, which stipulate that the usages and practices established between the parties or which ought to be known between parties in their particular industry, are contractually binding.[384] There is, therefore, a balance to be struck between the

[382] *Valsan* (n 16), p.54: 'Contracts typically do not provide for all variables and contingencies that are of potential relevance to performance. Incompleteness is a central, rather than tangential, feature of commercial contracts and a key theme in the economic literature on contract interpretation. When performance unfolds over time, parties cannot foresee and bargain ex ante over every relevant contingency'.

[383] United Nations Convention on Contracts for the International Sale of Goods < https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/19-09951_e_ebook.pdf > Chapter II, Article 7; International Institute for the Unification of Private Law (UNIDROIT) Principles 2016 < https://www.unidroit.org/wp-content/uploads/2021/06/Unidroit-Principles-2016-English-i.pdf >, Article 1.6: accessed 11 November 2023.

[384] Ibid, (United Nations Convention on Contracts for the International Sale of Goods, Chapter II, Articles 8 and 9; UNIDROIT Principles 2016, Article 1.9).

certainty and uniformity created by textualism and the flexibility and reasonableness created by contextualism. This can be extrapolated further to describe the discrete and binary functions of contracts such as the MA which co-exist alongside a relational plurality inherent in such contracts' flexibility.[385]

## 4.4 Conclusion

The purpose of this chapter was to provide a descriptive and pluralist account of ISDA in order to set the scene for chapter 5 and the ISDA membership data analysis. The aim has been to provide vital context to this thesis in terms of the organisation behind the MA.

ISDA is part of a collection of private actors which, legal pluralists may argue, have created law - beyond the legal centralist ideas of law – where, as Paul Schiff Berman observes, 'the state itself is increasingly delegating power to private actors who exist in a shadowy world of quasi-public/quasi-private authority'.[386]

Legal pluralists, such as Simon Roberts, describe this as 'multiple, interpenetrating legalities',[387] consisting of both state and non-state actors. This also feeds into the MA as the contract through which this non-state law[388] manifests and its role as a transnational instrument. On this basis, it is important to understand the composition

[385] *Anthracite Rated Investments* (n 74), 115.

[386] Paul S. Berman, 'A Pluralist Approach to International Law' (2007) Vol. 32 *Yale Journal of International Law* 301, p.321.

[387] Simon Roberts, 'After Government - On Representing Law without the State' (2005) Vol. 68 Iss. 1 *Modern Law Review* 1, p.3.

[388] Gunther Teubner, 'The Two Faces of Janus: Rethinking Legal Pluralism' (1992) Vol. 13 No. 5 *Cardozo Law Review* 1443, p.1443.

of ISDA and international standards of contractual interpretation. The aim of the next chapter is to assess the former through a data analysis of ISDA's membership.

# 5 Membership Data Analysis

## 5.1 Introduction

This section of this thesis is designed to use publicly available data to assess ISDA as an organisation. ISDA is made up and controlled by members – organisations, financial and non-financial, which use or advise on OTC derivatives. The analysis carried out in this chapter is both descriptive (describing the tranches of membership and their roles in the market) and data-informed (gathering publicly available data on those members to provide a geographical indication of who controls ISDA and where those institutions are based). The aim of this chapter is to understand the organisation behind the MA and, in the process, attempt to determine current expectations of the MA from ISDA members as well as future projections of how it, and expectations of it, may develop. This is part of assessing the MA on the discrete/relational contract spectrum.

The geographical distribution of ISDA members, it could be argued, is immaterial in the so-called 'global free market' in which national borders dissipate, culminating in self-regulation and economic prosperity.[389] Many large companies are multinational and, it is said, there has been a decline in national identity.[390] Therefore, measuring

[389] Dani Rodrik, *The Globalisation Paradox: Why Global Markets, States, and Democracy Can't Coexist* (Oxford University Press, 2011), p.77.

[390] Elfriede Sangkuhl, 'Rethinking Limited Liability' (2007) Vol. 11 *The University of Sydney Law Review* 124, p.136.

the geographical distribution of ISDA members would appear to be a futile exercise in the face of what Daniel Woodley describes as the:

> *...transition from imperial state hegemony to transnational corporatism in a decentred world-system where the determining logic of capital is organized and diffused through structures of economic integration, securitization and financial surveillance necessitated by the growing internationalization of production, trade and investment.*[391]

However, as Kate Raworth describes, 'markets (and hence their prices) are strongly shaped by a society's context of laws, institutions, regulations, policies and culture' and that a 'market looks free only because we so unconditionally accept its underlying restrictions that we fail to see them'.[392] It is argued here that companies may be multinational and globalisation may be inexorable but we should not underestimate that companies are still anchored to nation states and globalisation must still operate within the confines of borders and the associated institutions, laws, and culture which develop therein.

The method used here to collect the data which form the basis of this chapter is set out as follows:

(i) a list of ISDA members was collected from the ISDA website (< https://www.isda.org/membership/isda-members/ > accessed on, and the snapshot of members used in this thesis taken from, 18th February 2024;

[391] Daniel Woodley, *Globalization and Capitalist Geopolitics: Sovereignty and state power in a multipolar world (Rethinking Globalizations Book 60)* (Routledge, 2008, Kindle Edition, First edition), Loc.175.

[392] Kate Raworth, *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist* (Random House, 2017), p.82.

(ii) a search was carried out of each member's Legal Entity Identifier (LEI), 'a 20-character, alphanumeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO). It connects to key reference information that enables clear and unique identification of legal entities participating in financial transactions'.[393] Such LEI numbers are predominantly available for Primary and Subscriber Members as dealers and users of financial instruments, respectively. However, Associate Members – often advisers – are not necessarily required to possess an LEI so such investigation has focussed on such members' headquarters as either stated by them on their respective websites or established on an investigation of various sources, which may include their websites and public registries;[394]

(iii) for Primary and Subscriber Members, if the results of the LEI search produced more than one result, research was then carried out[395] on that organisation to determine, if possible, the location of its headquarters and use the LEI of that entity as the basis of that entity's location;

(iv) data from the above were plotted on a table and analysed to determine continental distribution and country distribution of ISDA Members;

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[393] https://www.gleif.org/en/about-lei/introducing-the-legal-entity-identifier-lei: additionally: 'Each LEI contains information about an entity's ownership structure and thus answers the questions of 'who is who' and 'who owns whom'. Simply put, the publicly available LEI data pool can be regarded as a global directory, which greatly enhances transparency in the global marketplace'.

[394] Further research included any publicly available information on the company's website, company registers, regulator registers, and basic due diligence platforms such as Bloomberg.

[395] Ibid.

(v) additionally, research was carried out to determine what kind of legal system each member operated within – civil law, common law, or both;[396] and

(vi) each member was then labelled with its associated continent, country and national legal system to produce the analysis set out in this chapter.

This chapter can be seen as providing an insight into the mind of ISDA. If, as described in Chapter 7, it is ISDA's intentions as a 'designated legislative body' which take precedence in a dispute between parties using the MA, should we not try to understand this organisation? By collecting data on its members, including the jurisdictions in which they are headquartered and the legal systems associated therewith, this chapter endeavours to provide a glimpse into the composition of ISDA and the legal systems which influence its MA. It is also designed to assess the MA, which is entered into by parties whom, on the one hand, are often fettered by the terms of the standard-form contract, drafted by an organisation which may be influenced by parties in certain jurisdictions far removed from them, while on the other hand, form part of a well-known and respected group which encourages trust between participants and in the terms they use to formalise their arrangement.

## 5.2 ISDA Membership

ISDA is an organisation composed of members which are split into three tranches: Primary Members, Associate Members, and Subscriber Members. Potential members must apply to ISDA in order to become a member and the category of

[396] There are some jurisdictions that may have a mixture of legal and religious systems but also a mixture of civil and common law: William Tetley, 'Mixed Jurisdictions: Common Law v. Civil Law (Codified and Uncodified)' (2000) Vol. 60 No. 3 *Louisiana Law Review* 678.

membership, as described in this chapter 5, will be driven by the activities in which the potential member is engaged.

In terms of the analysis carried out in this chapter 5, as mentioned above, this thesis uses the list of all ISDA Members from the ISDA website and those entities have been cross-referenced against either their LEI or by a separate investigation where an LEI was unavailable,[397] based on where those members are headquartered. This analysis reinforces the assessment by some political economists that corporate entities are empowered by states and simultaneously empower states rather than simply undermine their power.[398]

There are clear caveats to the conclusions drawn from this data analysis. Firstly, as Margaret Heffernan describes, the financial system has transformed from a complicated system into a complex one, meaning that what those putative globalists, such as Adam Smith, historically advocated was based on a system which was a lot more predictable and repeatable whereas the global economy today 'can't ever be wholly understood or explained by expertise'.[399] Secondly, and as Heffernan continues, we have also built 'institutions and corporations so large and so complex that we can't see how they work'.[400] And finally, and as a corollary of the previous two points, it can be difficult to attribute a nationality to corporations which are part

[397] See n 394.

[398] Joshua Barkan (n 88), p.4; *Mikler* (n 88), p.21.

[399] Margaret Heffernan, *Wilful Blindness: Why We Ignore the Obvious*, (Simon & Schuster UK, 2011, Reissue edition, Kindle Edition), p.214.

[400] Ibid, p.216.

of such a byzantine and inscrutably connected system which is underpinned by national border agnosticism.

While there is growing literature around transnationality, as well as tools such as the United Nations Conference on Trade and Development's (UNCTAD) Transnationality Index which are used to measure it, there are also clear signs, as John Mikler writes, that nation 'states and their global corporations, whether established or emerging, operate *together'*.[401] Mikler goes on to explain that 'the world's most transnational corporations are more national and regional than global'.[402] Moreover, a popular aphorism has developed that banks are 'international in life and national in death'[403] presupposing that banks - and, by extension, many large financial institutions - enjoy the benefits of global trade but encumber nation states when things go wrong. However, Rachel Epstein and Martin Rhodes argue that 'banks have always been national in life, even as they have become increasingly globally active'[404] The symbiotic relationship between nation states and many of the corporations which are large enough to consider ISDA membership underpins this

[401] *Mikler* (n 88), p.21.

[402] Ibid, p.70.

[403] Charles Goodhart, 'How Should We Regulate Bank Capital and Financial Products? What Role For 'Living Wills'?' in *The Future of Finance: The LSE Report*, A. Turner et al. **(**London School of Economics and Political Science, Center for Economic Performance and the Paul Wooley Centre for Capital Market Dysfunctionality**,** 2010), p. 182.

[404] Rachel Epstein and Martin Rhodes, 'International in Life, National in Death? Banking Nationalism on the Road to Banking Union', in The Political and Economic Dynamics of the Eurozone Crisis, James A. Caporaso and Martin Rhodes (eds.) (Oxford Academic, 2016), p.200.

analytical research and is designed to assess how we examine the ISDA MA and those collectively responsible for its formation, drafting, and sustentation.

### 5.2.1 Primary Members

Primary Members are the largest derivatives dealers and, as Sean M. Flanagan describes, 'have the right to be represented on the board of directors and to vote in board elections'.[405] John Biggins and Colin Scott note that Primary Members are referred to as 'the derivatives dealers club' and 'wield the lion's share of influence within ISDA since its formation…[having] a strong…presence on the ISDA Board of Directors and committee voting rights afforded exclusively to primary members in the ISDA By-Laws'.[406]

At the time of this analysis there are 209 Primary Members covering 44 jurisdictions.[407] For the purposes of assessing dues – fees payable for membership - Primary Members are further categorised as:

(i) Global: those institutions with 'substantial' derivatives business across most or all of the financial centres around the world; or

(ii) International: those institutions which carry out derivatives business across at least two regions; or

(iii) Regional: those institutions which carry out derivatives business primarily within their own country or region; or

[405] *Flanagan* (n 70), 241.

[406] *Biggins and Scott* (n 88), p.324.

[407] See Appendix A to this thesis. This data analysis was finalised on 18th February 2024.

(iv) Emerging: those institutions located in certain countries which qualify for reduced fees.

This progressive fee structure appears to encourage a more diverse membership base. It can be argued that this is played out in the data when we look at the geographical distribution of Primary Members by country at Fig.6 below.

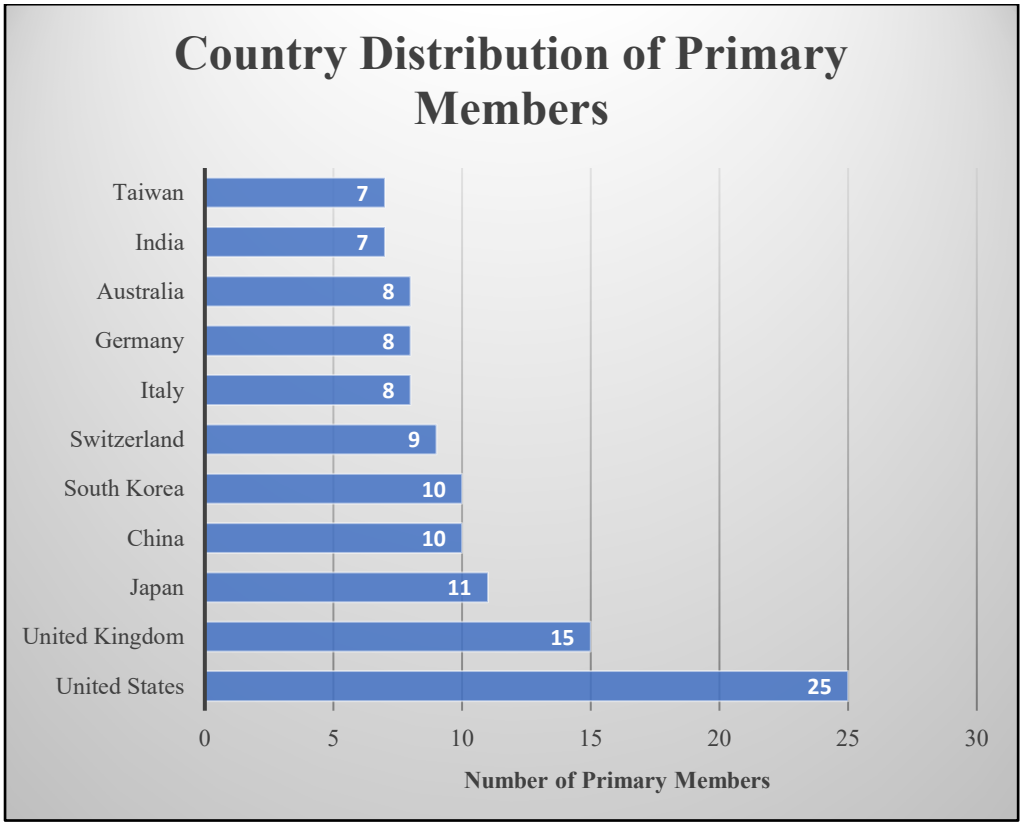


*Fig. 6: the geographical distribution of ISDA Primary Members by country. The top 11 countries with the largest concentration of ISDA Members are shown here.*

The full list of countries represented in this analysis can be found in Appendix A to this thesis. This analysis, consistent across Primary, Associate, Subscriber members, seeks to represent the 10 (for ease of illustration) countries with the most ISDA members. Where there are countries with an equal share of ISDA members at the point of the tenth country, this analysis includes all countries at that figure so, using Fig. 6 as an example, there are eleven members included.

The pertinent points to address are twofold: firstly, in terms of Fig. 6, there is a relatively wide spread of jurisdictions represented, from North America to Asia to Europe to Oceania, although there are some jurisdictions notably absent from the top 10 list: the Middle East is represented with Israel having five Primary Members, Africa is represented by six Primary Members (five from South Africa and one from Nigeria), and South America has four Primary Members (two from Brazil,  and one each from Chile and Peru, respectively). The second point to address is the predominance of Anglo-American entities which make up ISDA's Primary Membership and, as we shall see, ISDA's Associate Membership as well. Such predominance is concomitant with the main use of English law and New York law, respectively, as governing laws of the MA.[408]

This illustrates that ISDA is essentially run by a Primary Membership which is represented, albeit not equally, by a wide range of national interests. However, the main voices are situated in the United States of America (hereafter referred to as either: 'United States' or 'U.S.') and the United Kingdom (hereafter referred to as either: 'United Kingdom' or 'U.K.') equivalent to the majority shareholders in a company having the ultimate say in how the company operates. Such predominance has been questioned, albeit extraneously to the composition of ISDA, by those outside of those regions who would not, as one

[408] *Braithwaite* (n 10), p.313: 'More than ten years after the [global financial] crisis [of 2008], English and New York law remain the default choices for many different types of international participants across the financial markets'.

example, extol the virtues of the market ahead of the government.[409] Prima facie, the market-based approach, which is promoted with such rigour in Anglo-American societies,[410] would appear to suit the needs of ISDA as, what Arthur Miller and others have described more generally, a *private government*.[411]

This Anglo-American predominance of the most powerful membership class of ISDA also steers the organisation towards a certain view which favours the legal approach to the regulatory one, as Nicholas Nassim-Taleb describes:

> *The Anglo-Saxon world has traditionally had a predilection for the legal approach instead of the regulatory one: if you harm me, I can sue you. This has led to the very sophisticated, adaptive, and balanced common law, built bottom-up, via trial and error. When people transact, they almost always prefer to agree (as part of the contract) on a Commonwealth (formerly British-ruled) venue as a forum in the event of a dispute: Hong Kong and Singapore are favourites in Asia, London, and New York in the West. Common law is about the spirit while regulation, owing to its rigidity, is all about the letter.*[412]

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[409] Eric Helleiner, 'Reregulation and Fragmentation in International Financial Governance' (2009) Vol. 15 No. 1 *Global Governance* 16, p.19: 'One senior Chinese banking regulator, Liao Min, summed up the views of many in the Asian region in May 2008, declaring that the western consensus on the relation between the market and the government should be reviewed. In practice, they tend to overestimate the power of the market and overlook the regulatory role of the government and this warped conception is at the root of the sub-prime crisis.'

[410] *Rodrik* (n 389).

[411] Arthur S Miller, 'The Corporation as a Private Government in the World Community' (1960) Vol. 46 No. 8 *Virginia Law Review* 1539, p.1539.

[412] *Taleb* (n 132), p.32.

Such matters will be discussed as part of the civil/common law divide below. Suffice to say, at this juncture, it is important to note that the ISDA Primary Membership is relatively diverse but it is particularly composed of Anglo-American entities which raises questions over the predilections of the ISDA board and the authority they hold over the terms of the MA.

### 5.2.2 Associate Members

Associate Members of ISDA comprise service providers in the derivatives market. These providers include, in ISDA's words, 'technology solution providers, exchanges, intermediaries, clearing organisations and repositories, as well as law firms, accounting firms and other service providers'.[413] In a lot of ways, Associate Membership provides a measure of status for these firms. Being associated with ISDA in such a way shows that the firm is part of the club and is part of the discussions and forums coordinated by ISDA in relation to issues of interest.

Focussing on law firms as Associate Members, there is a certain juxtaposition that exists in their relationship with ISDA. On the one hand, as Stephen Choi and Mitu Gulati explain, associations like ISDA and the MA it has created has eliminated an advantage that the larger firms may have otherwise had through monopolising certain standard provisions of their own.[414] However, there are still advantages to be found by these law firms becoming members of ISDA

[413] ISDA, Associate Membership < https://membership.isda.org/associate-membership/ > accessed on 28 November 2021.

[414] *Choi & Gulati* (n 26), p.1142.

and therefore becoming advisers to market participants who use the MA. The law firm Cravath Swaine & Moore LLP, as well as Allen & Overy, were instrumental in the early stages of moving forward with the MA and they are both Associate Members to this day.[415] Moreover, Allen & Overy has reproved certain decisions of the courts which it sees as ruling against the intention or expectations of the MA; in addition to its comments on the *Peregrine*[416] case which will be discussed,[417] the firm also assailed the decision in another case[418] in which it described the decision as a 'doubtful conclusion (at odds with market expectations)'.[419]

[415] *Borowicz* (n 97), p.50.

[416] *Peregrine Fixed Income Ltd v. Robinson Department Store Public Co. Ltd* [2000] EWHC Commercial 99

[417] See chapter 6.6.4 of this thesis (*Section 6 – Early Termination; Close-Out Netting*).

[418] *Lomas* (n 63).

[419] *Braithwaite* (n 72), pp.799-800.

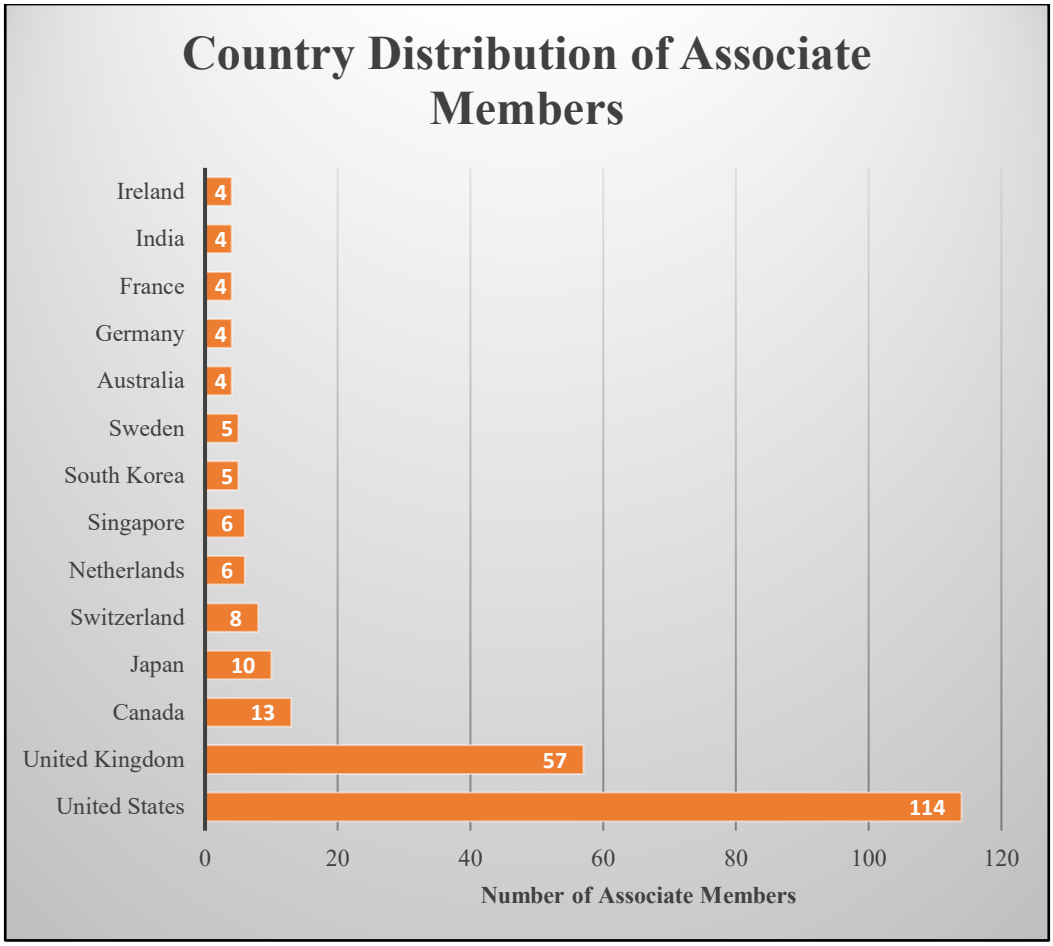


*Fig. 7: the geographical distribution of ISDA Associate Members by country. The top 14 countries with the largest concentration of ISDA Members are shown here.*

Given the influence that Associate Members can have on the market and on the advice and opinions they provide and disseminate, it is interesting to note the continued prevalence of US-based firms as dominating this tranche of ISDA membership. In summary and further to Fig. 7 above, the Middle East is represented with Israel having three Associate Members, Africa is represented by three Associate Members (all from Nigeria, respectively), and South America has five Associate Members (two from Colombia and one each from Argentina, Brazil, and Chile, respectively). The full breakdown of this analysis is provided in Appendix A to this thesis.

While there are Associate Members in 55 countries across five continents, firms in the U.S. make up 38% of the total and Anglo-American firms together account for 57% of the total Associate Membership of ISDA, respectively. This means that, like with Primary Membership, firms headquartered in these jurisdictions once again form the predominant voice at the table. This may not be surprising given the predominance of New York and London as financial centres but it speaks to the design and the expectations of the terms of the MA which are proposed, drafted, agreed, and implemented in the market.

### 5.2.3 Subscriber Members

The third and final tranche of ISDA Membership is referred to as Subscriber Membership. Subscriber Members which are otherwise referred to as 'end users'[420] and include, as ISDA explains, 'corporations, financial institutions, supranationals, government entities, and others that use derivatives to better manage financial risks.'[421] Again, the main benefit of membership to these Members is status as well as information (such as the provision of legal opinions supporting certain terms of the MA). The status of being an ISDA Member brings with it a certain prestige and respect in the market and the forums which ISDA curates allows those members to gain insights and access materials and platforms which are unavailable to non-members.

[420] *Biggins and Scott* (n 88), p.324.

[421] ISDA, Subscriber Membership < https://membership.isda.org/subscriber-membership/ > accessed on 3 December 2021.

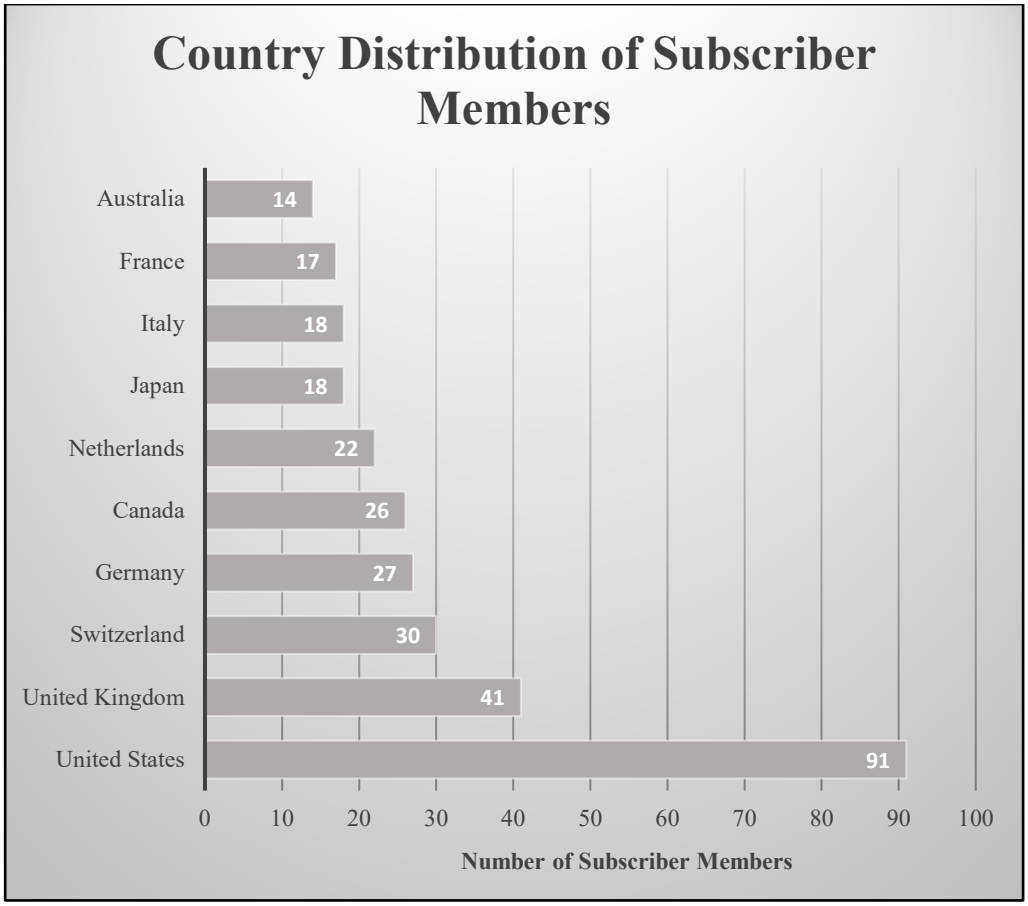


*Fig. 8: the geographical distribution of ISDA Subscriber Members by country. The top 10 countries with the largest concentration of ISDA Members are shown here.*

The data analysis here does show that there is a continued trend of Anglo-American hegemony in ISDA membership, with end users predominantly found in the U.S. and, to a lesser extent, the U.K.. From this perspective, an argument can be made that if both Primary Members, which are generally sell-side[422] dealers, and end users, which are generally buy-side[423] participants, are predominantly based in the U.S., then this points to a market which is concentrated in that jurisdiction. However, that is not the full picture and

[422] Sell-side participants are generally creating, selling, and/or trading and may include institutions such as investment banks and market makers.

[423] Buy-side participants, sometimes referred to as 'end-users', are generally purchasing and investing and may include institutions such as pension funds and asset managers.

ignores two important components: the first is that, when we zoom out further to assess membership based by continent, as set out below, North America falls behind Europe and Asia in terms of total Primary Members; the second is that ISDA Membership does not account for all those parties who have entered into ISDA Agreements. The MA can be entered into by members with non-members as well as non-members with other non-members.[424] Non-members often rely on the established terms of the MA even if they cannot directly affect the agreement's main terms like members, especially Primary Members, can. This speaks to the ubiquity[425] of the MA not only in the U.S. and the U.K. but as what Jo Braithwaite describes as a form of transnational law.[426] It also reinforces the caveat of this data analysis which speaks to the variance in ISDA membership rather than the geographical variance of all parties using the MA.

In summary and further to Fig. 8 above, Africa has eleven Subscriber Members (four from South Africa, three from Mauritius, and one member each from Côte d'Ivoire, Egypt, Ghana, and Zambia, respectively); South America has five Subscriber Members (one member each from Brazil, Colombia, Dominican Republic, Peru, and Chile, respectively). The full breakdown of this analysis is provided in Appendix A of this thesis.

[424] This derives from the author's experience working at two non-member financial services firms and entering into ISDA MAs with members and other non-members.

[425] *Tanna* (n 9), p.79.

[426] *Braithwaite* (n 72).

## 5.3 ISDA Membership Distribution – a Continental Perspective

The following graphs show the ISDA Membership based on a continental distribution with the full analysis provided in Appendix A to this thesis. This provides a fuller picture as to the geographical distribution of ISDA Members which will inform later discussions around the MA and its classification on the discrete/relational spectrum. One facet of that discussion is the extent to which one of the fundamental rules of contract law – that being the importance applied to the intentions of the parties – dissipates in the face of standard-form contracts. The idea, as Frederich Kessler describes, that the law delegates the legislation of their particular relationship to the contracting parties themselves, [427] is replaced with the intent of ISDA or, at least, the market.

The importance of distinguishing such intentions was recognised long ago in the shipping case of *Glynn v Margetson & Co.*,[428] in which it was held that in considering the main intent and object of standard terms 'it is legitimate to bear in mind that a portion of the contract is on a printed form applicable to many voyages, and is not specially agreed upon in relation to the particular voyage'.[429] The data analysis carried out in this section of the chapter therefore acts to shine a light upon the organisation which drafted the MA on the basis that, as Stephen Choi and Mitu Gulati advocate, courts should look more to the intent of the original drafters (as the 'designated legislative body'[430]) of a standard-form contract than to the intentions of

[427] Friedrich Kessler, 'Contracts of Adhesion - Some Thoughts about Freedom of Contract' (1943) Vol. 43 No. 5 *Columbia Law Review* 629, p.629.

[428] [1893] A.C. 351.

[429] Ibid, 355.

[430] *Choi & Gulati* (n 26), p.1162.

the parties in a particular case.[431] This proposition appears to be tacitly accepted by courts at least in their recognition that interpretation of the MA requires strict adherence to predictability and certainty. In the case of *LSREF III Wight Ltd v Millvalley Ltd*,[432] Mr Justice Cooke stated the following:

> *In the context of standard form contracts, consistency, predictability, and certainty are essential and so they are much less susceptible to interpretation by reference to background circumstances or matrix. An ISDA standard form cannot therefore be subjected to any "manipulation" of the language used, because of the potential impact on other transactions governed by it.*[433]

Understanding, therefore, the composition of ISDA is an important aspect of comprehending the MA. Fig. 9 shows the country distribution of ISDA members (Primary, Associate, and Subscriber) which is designed to show the total members in each country.

[431] Ibid, p.1131.

[432] *LSREF III Wight Ltd* (n 108).

[433] Ibid, 42.

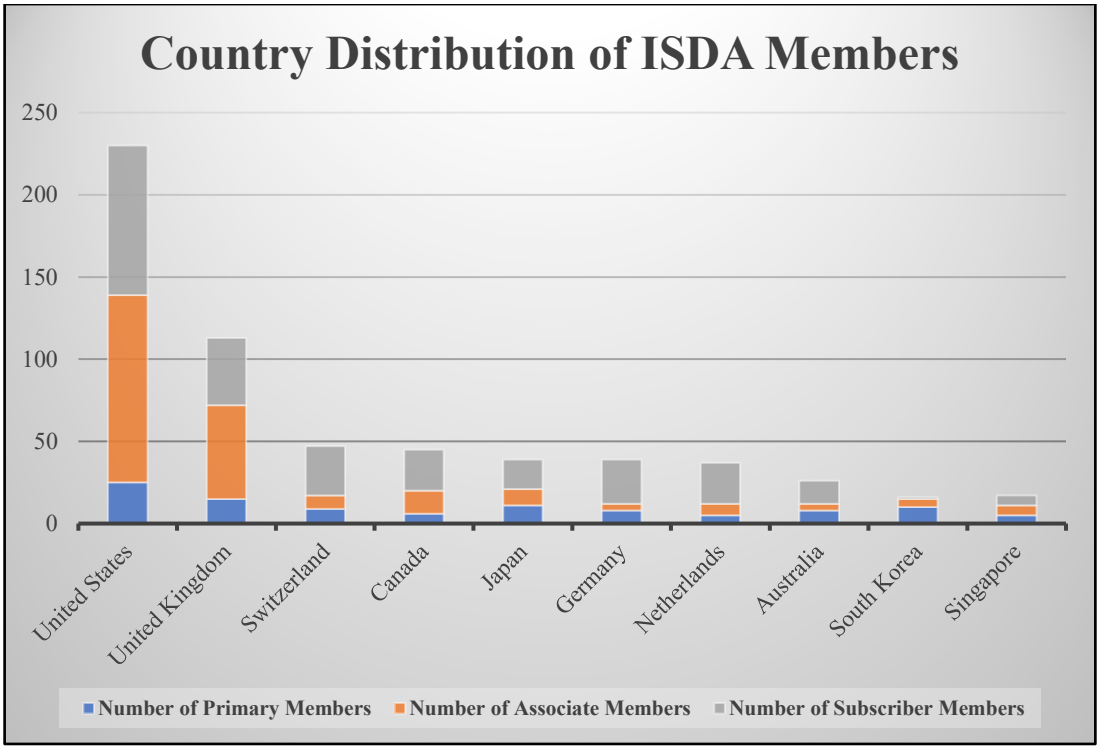


*Fig. 9: the geographical distribution of total ISDA Members (Primary, Associate, and Subscriber) by country. The top 10 countries with the largest concentration of ISDA Members are shown here.*

The assertion that ISDA is a multinational organisation is irrefutable but the hegemonic presence of U.S. entities within each membership tranche should not be overlooked. This is because it may signal either that, if you believe that corporations are 'institutions inextricably linked to sovereignty',[434] a particular jurisdiction wields disproportionate power through organisations headquartered in its country or, if you do not believe that the nexus between states and organisations is as strong as some political economists contend, the MA, and the infrastructure and expertise which maintain it, are inextricably beholden to U.S. market participants.

However, as shown at Fig. 10, the picture does change if we reframe the distribution. Analysed by continent, ISDA's membership distribution, at least in terms of Primary Members, is more concentrated in Europe and Asia. While it can be argued that

[434] *Barkan* (n 88), p.162.

North America may be composed of fewer sovereign territories, the political and commercial unions - such as the European Union[435] in Europe or the Asia-Pacific Trade Agreement (more formally referred to as the Regional Comprehensive Economic Partnership (RCEP))[436] – show meaningful intentions in those areas to operate as powerful political or commercial coalitions.

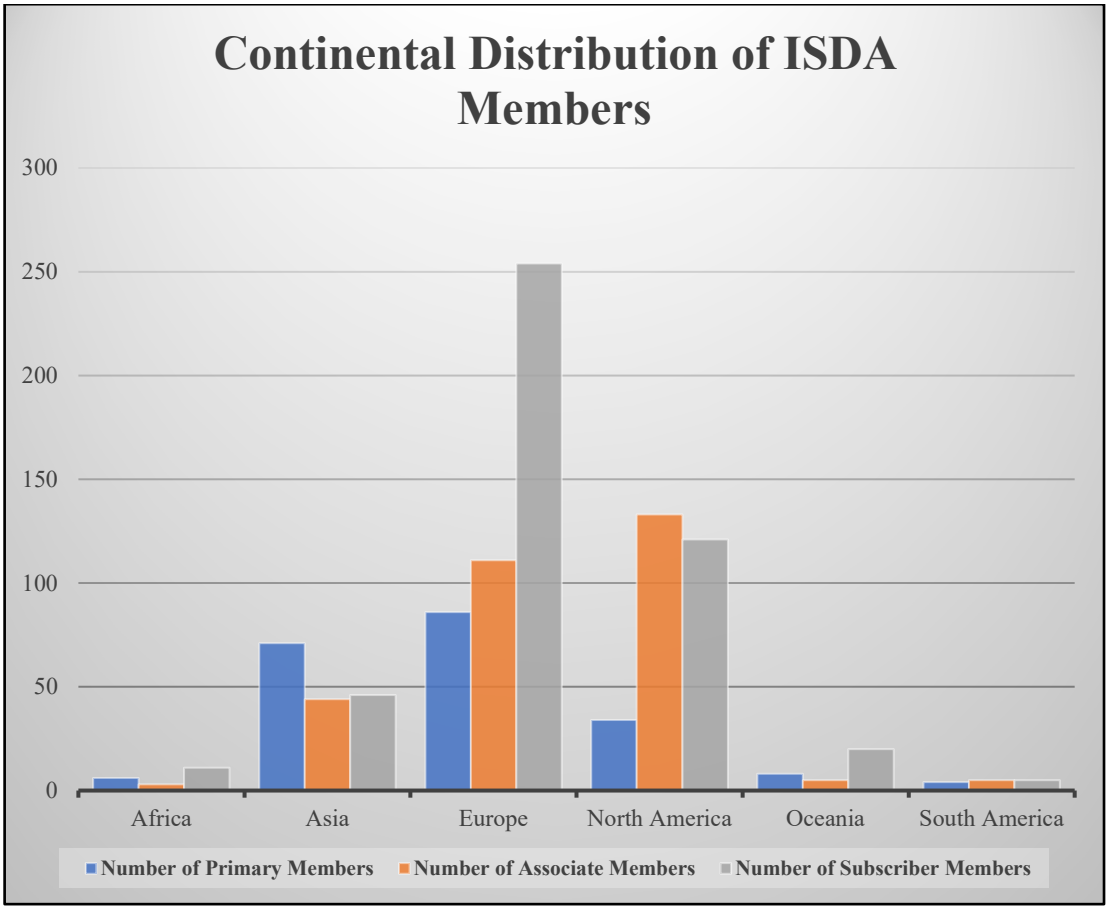


*Fig. 10: the geographical distribution of total ISDA Members (Primary, Associate, and Subscriber) by continent.*

[435] Fig.10 is illustrative of Europe as a continent even if certain countries therein are not directly part of the European Union.

[436] United Nations Conference on Trade and Development, 'Asia-Pacific partnership creates new 'centre of gravity' for global trade' (15th December 2021) < https://unctad.org/news/asia-pacific-partnership-creates-new-centre-gravity-global-trade > accessed on 19 December 2021.

This analysis shows that ISDA is a truly global organisation with interests which span continents. While some jurisdictions may hold a significant amount of power if we assess where corporations are headquartered, it becomes clear that the MA must operate to satiate a panoply of market participants when we look at the continental distribution of members.

This does not necessarily hold true in terms of the MA section-by-section analysis given that the MA was, until relatively recently, drafted on the basis that either New York law or English law would be the predominant governing law choices of the MA.[437] However, ISDA has expanded its offering in relation to the MA to cover French law and Irish law, respectively, a Japanese law Credit Support Annex, as well as an ISDA & IIFM (International Islamic Financial Market) Tahawwut Master Agreement which is designed to be Shari'ah compliant.[438] On this basis, ISDA represents a microcosm of the global financial services economy: preponderantly controlled by Anglo-American interests[439] but with an emerging diversity caused by an increasingly heterogeneous marketplace.

While there are clear caveats to be raised from this data analysis of ISDA's Membership base, it shows that ISDA is simultaneously composed of a panoply of corporations from different areas of the world but that there is a particular

[437] *Braithwaite* (n 10), p.62: '…the English courts and the English law have remained as one of the two standard regimes offered to market participants using the trade association's standard documentation. This status quo has endured, even as markets radically diversified and globalised'.

[438] While ISDA has expanded its offering, Jo Braithwaite has mentioned in a book published in 2020, discussing the alternative new Irish and French versions available, that there has 'been no great rush to adopt the new terms yet' (*Braithwaite* (n 10), p.348).

[439] *Green* (n 340).

concentration in the U.S. and the U.K. This may be unsurprising and certainly fits with a priori assumptions given the predominance of those two jurisdictions – in particular New York and London, respectively – as global financial centres but, as the rapacious nature of capitalism looks for opportunities in other parts of the world, it will be interesting to see whether ISDA's Membership is as fluid to adapt to the potentially recalibrated dispersion of financial power.

## 5.4 ISDA Membership Distribution – a Legal System Perspective

In addition to analysing the geographical distribution of ISDA members, the data analysis provided in this chapter can be extrapolated further to determine how many ISDA members are based in civil law or common law legal systems (or a combination of the two). While the governing law of a large amount of MAs may still reside in the U.S. (using the law of New York) or the U.K. (using English law),[440] the headquartered locations of ISDA members may speak to certain expectations of the law more generally.

It can be argued that civil law systems are more open to concepts which are redolent of relational contracts. For example, it can be said that good faith forms a larger and more accepted part of contract law in civil law jurisdictions[441] and some jurisdictions, as we will see in chapter 8, have begun to recognise network

[440] This assumption is made based on the original drafting of English law and NY law versions of the MA with variations for other jurisdictions being published later.

[441] For example, in France there is a duty of good faith in all commercial contracts by virtue of article 1104 of the French Civil Code (n 114); in Germany there is section 242 of the German Civil Code (n 112) in which there is a duty to perform according to the requirements of good faith; Article 1366 of the Italian Civil Code (n 112) states that contracts must be interpreted in good faith.

contracts.[442] However, there are some common law systems, namely the U.S., which has adopted, as part of the Uniform Commercial Code, an obligation of good faith on contracts falling thereunder.[443] This analysis, therefore, investigates the legal systems underpinning ISDA members as indicative of their expectations of contracts but, on that matter, it is not a rigorous assessment of each jurisdiction's approach to relational contracts. This thesis is based on English law and the English law governed MA but it provides examples of certain civil law, as well as other common law, approaches as illustrative rather than categorical.

From the data analysis carried out on the geographical distribution of ISDA members, a further parameter was added to each member based on the headquartered jurisdiction. The parameter was: (i) common law ('Comm'), (ii) civil law ('Civ'), or (iii) or a combination of both common law and civil law ('Both'). The latter was chosen, as the parameter label suggests, if the jurisdiction in which the ISDA member is headquartered applies a combination of common law and civil law legal systems. From that labelling exercise, the following analysis was run and is broken down first by member type and then as a total amount across all members to show the cumulative numbers. The full data analysis for this legal system perspective can be found in Appendix A to this thesis.

[442] *Italian Civil Code and German Civil Code* (n 112).

[443] U.S. Uniform Commercial Code, § 1-304, Obligation of Good Faith < https://www.uniformlaws.org/acts/ucc > accessed on 5th June 2023: 'Every contract or duty within the Uniform Commercial Code imposes an obligation of good faith in its performance and enforcement.'

### 5.4.1 Primary Members

If we first consider Primary Members, those with the right to vote and influence the direction of ISDA, we can see that a majority of those members are headquartered in civil law jurisdictions. This may explain the increasing prevalence of civil law jurisdictions as standardised governing law options in the MA with France and Japan now used as two of those options. This may also provide an indication of the possible direction of ISDA and its associated contractual documentation. While many Primary Members may be inured to common law systems, and may even have offices in, and strong links to, those jurisdictions, there may be a push towards civil law systems with which they may be more comfortable.

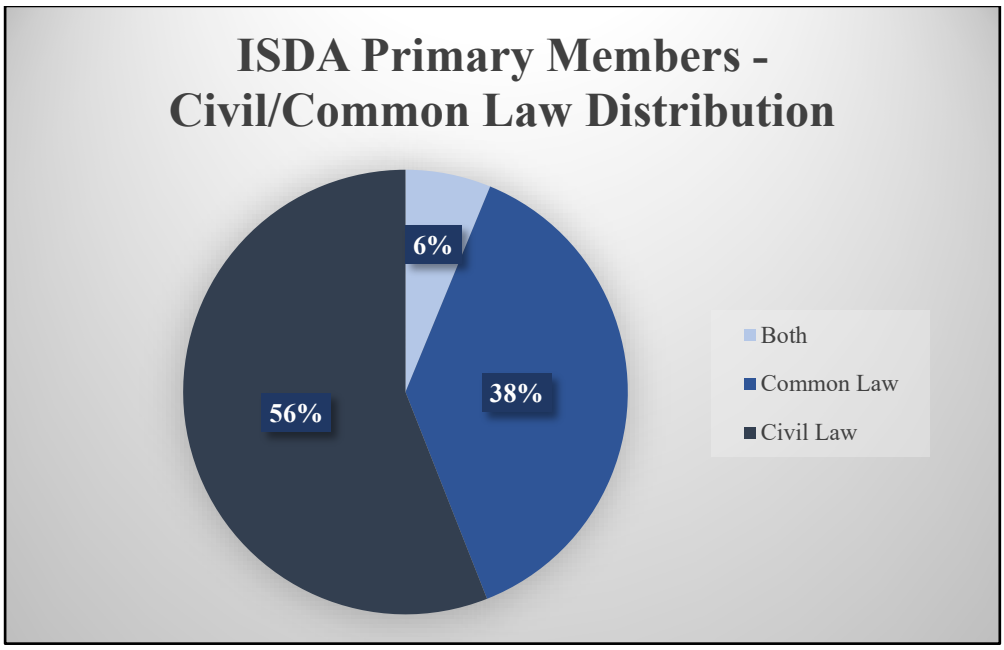


*Fig. 11: distribution of ISDA Primary Members headquartered in either civil law systems, common law systems, or a combination of the two.*

### 5.4.2 Associate Members

Before discussing the data analysis of Associate Members, it is worth remembering that these members are predominantly advisory firms. This explains the significant percentage of members based in common law jurisdictions, with just over 70% of Associate Members being based in either the U.S. or the U.K.. Therefore, these numbers are skewed in favour of common law jurisdictions based on the requirement for advisory firms to understand common law systems, namely Anglo-American. Despite the increase in civil law governing law jurisdictions, we may not necessarily see the numbers of Associate Members change in terms of the civil and common law divide. Most of these existing firms are multinational so they will have subsidiaries and/or branches in different jurisdictions and many have become embedded in the ISDA eco-system, with that associated expertise and experience being particularly valued in the market.

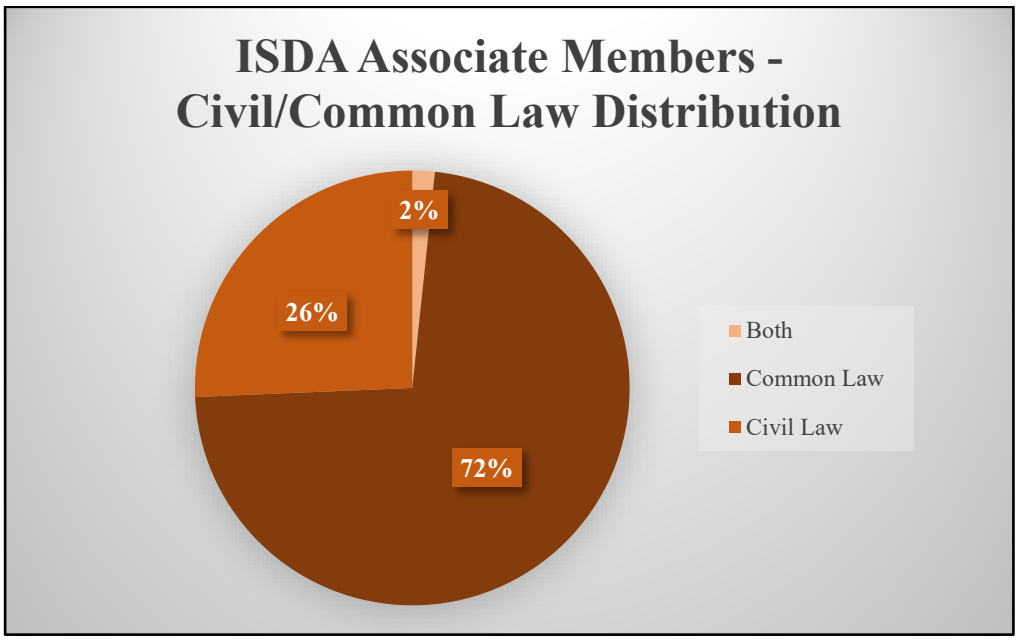


*Fig. 12: distribution of ISDA Associate Members headquartered in either civil law systems, common law systems, or a combination of the two.*

### 5.4.3 Subscriber Members

The distribution of Subscriber Members provides an interesting snapshot of where end-users are located. While Primary Members are predominantly domiciled in civil law jurisdictions and Associate Members in common law jurisdictions, there is a relatively equal split within the Subscriber membership with a slight edge in civil law headquartered members.

While Subscriber Members may have the least clout within ISDA, it does provide an idea of where the underlying activity is taking place in the OTC derivatives market even with the caveat that there are parties which use the MA which are not ISDA members.

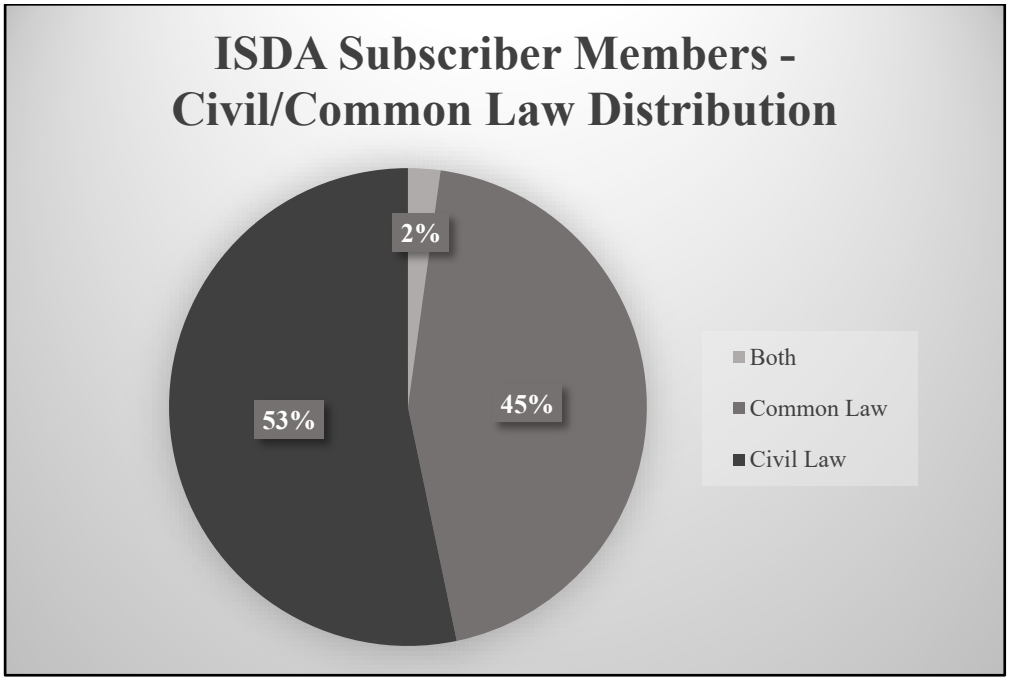


*Fig. 13: distribution of ISDA Subscriber Members headquartered in either civil law systems, common law systems, or a combination of the two.*

### 5.4.4 All ISDA Members

While the distribution between civil law and common law members is provided here, the caveat, as set out under the Associate Member section, is worth reiterating. The numbers for Associate Members do tilt the scales in favour of members headquartered in common law jurisdictions but the actual activity of trading OTC derivatives is perhaps better represented by Primary and Subscriber members which, if we remove Associate Members, we see that civil law members account for 54% of Primary and Subscriber Membership while common law members account for 42%.

This shows that the 52% to 45% split in favour of common law members when evaluating ISDA membership as a whole should be viewed with a certain amount of scepticism but it is nonetheless included here because it still provides a useful visualisation of where members are located and what expectations they may have.

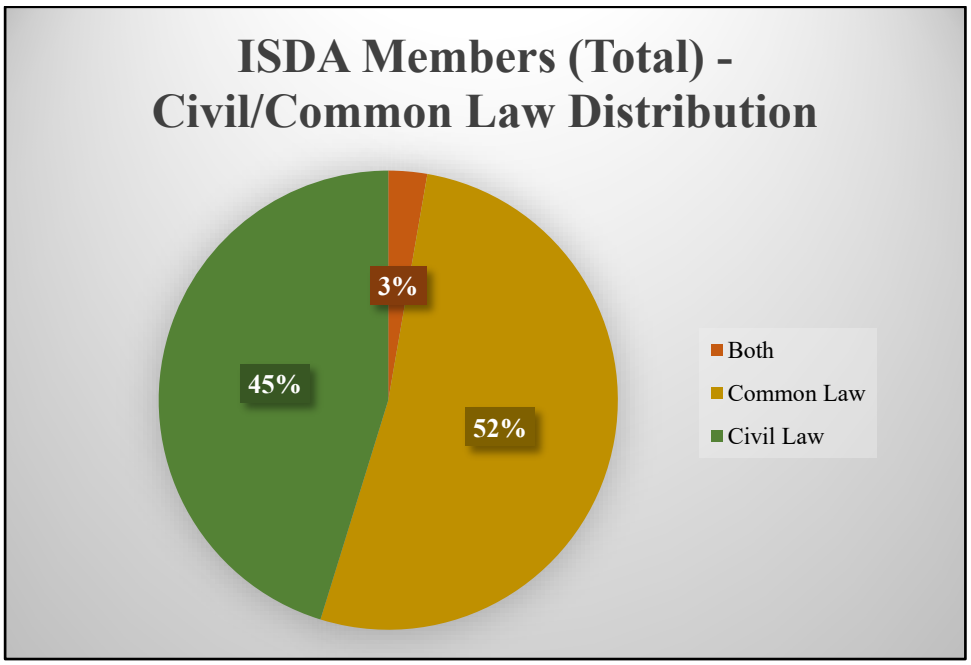


*Fig. 14: distribution of all ISDA Members headquartered in either civil law systems, common law systems, or a combination of the two.*

The purpose of this section of the data analysis into ISDA was to show the civil law and common law divide between members as potentially indicative of those members' ideas about the concepts behind relational contracts. It can be said that civil law systems have been more receptive to the idea of relational contracts (or, at least, the codification of ideas so strongly related thereto) and while, on a practical and individual level, firms may not particularly care about arcane legal concepts, they operate within legal systems that do. On a day-to-day basis, these civil law members may be entering into non-MA contracts with other firms in civil law jurisdictions on the understanding that certain expectations operate concurrently with their legal agreements. The corollary may be that such firms will be more ready to accept the MA as a relational contract and, in fact, this may already play into their thinking of contracts more generally as relationship building rather than adversarial. As Charles Haward Soper found with an empirical analysis of commercial contracts, while many 'commercial players eschew termination...those with a U.S. Common Law background were more likely to consider termination to be helpful'.[444] This illustrates the balance needed to be struck by organisations such as ISDA when creating international instruments in order to assuage parties from a panoply of jurisdictions and different national legal systems. In the face of such compromises, it can be argued that relational contracts provide the necessary flexibility needed to allay any

[444] *Soper* (n 37), pp.122 and 124.

incompatibility between parties and supports the idea that the MA should be viewed more as a relational contract rather than discrete.

## 5.5 Conclusion

There are, of course, caveats to this data analysis. The main assumption being made is that the headquarters of a firm represents its main interests and, for these purposes, where it resides. Many firms are multinational with offices across the world and owned by shareholders in other jurisdictions, making research into where they are based potentially futile. However, there are compelling narratives that suggests that the headquarters of a firm can tell us a lot about that firm's identity, its culture, and its interests as well as representing a symbiotic relationship between the jurisdiction in which the firm is headquartered and the firm itself.[445]

Nation states clearly play a role in global trade and have, in the words of John Biggins and Colin Scott:

> *...played a role in incubating ISDA's dominant regulatory role in the sense that states have, at the very least, traditionally been 'facilitative' of ISDA. Overall, therefore, it is clear that the private element (articulated through ISDA) of the broader regulatory regime for OTC derivatives is not 'anational'. Instead, ISDA could be described as 'beyond, but not without, the nation state'.*[446]

This can be seen with the international nature of OTC derivatives markets which are predominantly bound together by the MA. The MA may not be fixed to any one

[445] *Mikler* (n 88), p.70.

[446] *Biggins and Scott* (n 358), p.12.

jurisdiction but it is anchored to the interests of ISDA and the national legal systems with which its members are most comfortable and familiar. English courts have appeared amenable to recognising the international nature of such standard terms and interpreting them in accordance with their 'purpose and function, facilitating international, cross-border trade'.[447] As a consequence, it can be argued (at least under English law) that the expectations across the ISDA community are more important than the rules of contractual interpretation in the jurisdiction in which the case is heard. Therefore, considerations of English courts may need to reflect the international character of ISDA and its MA. As part of this approach, it is important to understand the geographical distribution of ISDA members in the aggregate. Moreover, understanding the general approaches in those main jurisdictions does not form part of this analysis directly but should inform English law decisions if it wants to maintain its loyalty to its international nature.

The membership analysis contained herein is designed to reflect upon that point and inform interpretations of the MA based on the geographical distribution of ISDA members and the legal systems which govern their headquartered operations. By assessing ISDA's composition, the aim is to investigate the MA and the potential direction of travel for its development and its interpretation.

While the data show that Anglo-American, common law systems are predominant in the ISDA membership structure, it is also clear that the split between common law and civil law systems is small and, if we remove the Associate membership tranche – the advisory firms – members in civil law systems become the majority. This, it is argued here, could factor into the amenability of viewing the MA as a relational

[447] *Heytex Bramsche GmbH v Unity Trade Capital Limited* [2022] EWHC 2488, 21.

contract rather than a discrete, zero-sum contract. In this sense, it could be said that it is not so much the MA itself that is either discrete or relational but more the receptiveness of the legal system in which it is governed to the concept of relational contracts. While English law, for example has been more 'hostile'[448] to the concept of good faith – the implication of which has become inextricably linked to the concept of relational contracts[449] - civil law systems have not been as hesitant.[450] In fact, there may even be a chasm developing between common law systems with, for example and at the time of writing, the U.S. and the Australian common law systems becoming more open to the concept of good faith than the English common law system.[451]

This should be viewed against the backdrop of the potential introduction of a smart contract version of the MA which will be discussed in detail in chapter 9. For some, smart contracts will need to include some in-built mechanism for dispute resolution

[448] *Yam Seng* (n 2), 123.

[449] *Portobello Productions Ltd* (n 66), 50: '…then to consider whether the contract is properly regarded as being 'relational' with the consequence that an implied term as to good faith could be incorporated'.

[450] French Civil Code (n 114); German Civil Code (n 112); Italian Civil Code (n 112).

[451] In the US: *Uniform Commercial Code* (n 443); in Australia: *Overlook v Foxtel* [2002] NSWSC 17, 67: '…the implied obligation of good faith underwrites the spirit of the contract and supports the integrity of its character. A party is precluded from cynical resort to the black letter. But no party is fixed with the duty to subordinate self-interest entirely… The duty is not a duty to prefer the interests of the other contracting party. It is, rather, a duty to recognise and to have due regard to the legitimate interests of both the parties in the enjoyment of the fruits of the contract as delineated by its terms'.

if they are to have any chance of success.[452] This may lead to dispute resolution procedures which circumvent national laws[453] but, ultimately, some suggest that, with the international nature of commerce, there will be a move towards international forms of arbitration.[454] This thesis contends that such eventualities will still need to hang their hat on certain laws and methods for resolving disputes which, even indirectly, point to national legal systems. While the nationality of the members of ISDA and the national legal systems under which they fall may be of relevance today, this may change in the future. However, the analysis carried out in this chapter in terms of ISDA can be seen as indicating potential paths for contractual dispute resolution as the dominant members will often seek to impose their ways of thinking (including ideas around how legal systems should operate) on new methods of approaching problems, transposing vestigial solutions onto new ones.

While the data may be framed in various ways, the intention of this chapter was to show that the MA is a truly global contract in terms of the organisation that is responsible for it. By looking at the composition of that organisation, we can learn more about the agreement itself and the expectations of its drafters. This chapter has attempted to facilitate a fuller understanding of ISDA and rounds off Level 1

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[452] Sir Geoffrey Vos, 'End-to-End Smart Legal Contracts: Moving from Aspiration to Reality' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.68.

[453] Justice Stephen Estcourt, 'Smart Contracts and Dispute Resolution: Faster Horses or a New Car?' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.82.

[454] Ian Grigg, 'Why the Ricardian Contract Came About: A Retrospective Dialogue with Lawyers' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.106.

('Trading derivatives and the role of ISDA in the market') of the cascading analysis, as set out at chapter 1.3, before moving on in Part IV to Level 2 ('The terms of the MA and the parties using it') of the cascading analysis and the ISDA MA.

# PART IV – THE ISDA MASTER AGREEMENT

## 6 The ISDA Master Agreement and associated contracts

### 6.1 Introduction

This Part IV is designed to assess the MA: its terms, its purpose, its structure, the parties using it, and the network created around it. From an analysis of the terms of the MA and the purposes behind using it, two separate ideas will be assessed around how the intentions of the parties to standard-form agreements like the MA can be supplanted by the drafting party and the development of a contractual network around the MA.

Three parts of the cascading analysis are contained in this Part IV in which we drop down to the second level ('The terms of the MA and the parties using it') as visualised at chapter 1.3. These three parts are complemented by an analysis of: (i) those provisions pertaining to what have been described as the two most important factors behind the MA: payment and termination,[455] and (ii) the supporting contracts which, together with the MA, form a single agreement.[456] The three parts of the cascading analysis can be summarised as follows:

(1) the purposes behind the MA. This chapter 6 is designed to investigate the

[455] *Hudson* (n 25), p.1269: 'Termination of the master agreement is the purpose of the master agreement'; Robert R. Bliss and George G. Kaufman, 'Derivatives and Systemic Risk: Netting, Collateral, and Closeout' (2005) *FRB of Chicago Working Paper*, No. 2005-03, p.5: the MA 'specifies the general terms of the agreement between counterparties with respect to general questions such as credit support arrangements, netting, collateral, definition of default and other termination events, calculation of damages (on default), documentation, and so forth'.

[456] See chapter 6.6.1.

competing elements – both discrete and relational – and how they manifest as part of the MA's design as both a sophisticated preparatory severance agreement and a method through which parties formally agree to enter into long-term and potentially lucrative trading arrangements.[457] If the purposes of the transactions underlying the MA should be viewed holistically, it then falls on the MA and its express terms to determine how we view it as a discrete, relational, or, as proposed in this thesis, a *bimodal contract*;

(2) Stephen Choi and Mitu Gulati argue that there are certain standard-form agreements, like the MA which they use as an example, which should be treated more akin to statutes and that the drafting parties of these agreements should operate as a 'designated legislative body', [458] in any question of interpretation. This idea is explored here in terms of understanding the MA as a discrete, relational, or bimodal contract and how the role of ISDA as the designated legislative body may affect that determination; and

(3) contractual networks are, as Fabrizio Cafaggi describes, 'created to coordinate activities by legally independent parties who cooperate to achieve a common objective without creating a new corporate entity'.[459] It is contended in this thesis that the ISDA MA has created an international contractual network and, therefore, its global significance is part of judicial, and should be part of ISDA's drafting, considerations. Under these conditions, one may argue that a more contextual

[457] *Hudson* (n 25), p.1224; *Golden* (n 20).

[458] *Choi & Gulati* (n 26), p.1162.

[459] Fabrizio Cafaggi, 'Contractual networks and contract theory: a research agenda for European contract law' in *Contractual Networks, Inter-Firm Cooperation and Economic Growth* (Fabrizio Cafaggi, ed.) (Edward Elgar Publishing, 2011), p.77.

understanding of the MA would be required to comprehend not only the words of the agreement but the international network of users. However, it is argued here that the extant, more discrete reading of the MA is what creates the latent contractual network at play and creates a level of consistency across the network.

## 6.2 A Brief History of the ISDA Master Agreement

Before ISDA was formed, counterparties would transact with one another via privately negotiated agreements which were formed after each party had put forward their respective standard terms in what became a battle of the forms.[460] The MA was born out of a meeting between a group of banks looking to ameliorate this contractual stagnation in order to formulate common, standardised legal terms for interest-rate swap deals.[461] After this meeting, that group of banks formed what was referred to as the Documentary Committee in May 1984, which, a year later in 1985, evolved into ISDA and in that same year, as described by Simon Firth, it had published a 'Code of Standard Wording, Assumptions and Provisions for Swaps, comprising a set of standard definitions and terms that could be incorporated in whole or in part into individually negotiated agreements.'[462]

By this time, interest rate and currency swaps[463] were the primary instruments for

[460] *Cranston* (n 343), p.47; *Firth* (n 343), 10A.002.

[461] *Tett* (n 276), p.26.

[462] Ibid (*Firth,* n 343), at 10A.002.

[463] The five predominant underlying instruments traded on the OTC derivatives market are, in order of market size: interest rates, currencies, credit, equities, and commodities. Source: Bank for International Settlements, 'OTC derivatives statistics at end-June 2023' (2023) < https://www.bis.org/publ/otc_hy2311.pdf > accessed 5 December 2023; ISDA, 'Key Trends in the Size and Composition of OTC Derivatives Markets in the First Half

which swap dealers wanted standardisation in order to reduce costs, increase legal certainty and reduce risk.[464] However, as the use of derivatives grew, it became necessary to cover more classes of derivatives as part of the MA and the associated definitions.[465] In addition, the financial instruments – or, in some guileful cases, just the nomenclature – falling under each class were expanding into a 'bewildering variety of different types of derivative transactions'[466] so that the MA needed to contain a certain amount of flexibility 'sufficient to enable it to be applied across a wide range of different types of transactions, in an infinitely variable combination of different circumstances'.[467]

It was at this time that two main changes were affecting the market: deregulation and financial innovation – with the former encouraging the latter. The successful lobbying to deregulate the OTC derivatives market meant that there was a push, as Frank Partnoy explains, 'toward increased privatization of derivatives regulation…and [that] the ISDA form agreements should continue to dominate ex ante legal rules in the derivatives market';[468] this led to a shift of trades from on-exchange to off-exchange.[469] In addition to transactions being shifted off-exchange, as Alfred Steiner

Of 2023' (2023) < https://www.isda.org/a/5ihgE/Key-Trends-in-the-Size-and-Composition-of-OTC-Derivatives-Markets-in-the-First-Half-of-2023.pdf > accessed 2 January 2024.

[464] Flanagan (n 70), 231 and 232; *Golden* (n 20), p.304.

[465] *Lomas* (n 63), 54.

[466] *Anthracite Rated Investments* (n 74), 115.

[467] Ibid, 115.

[468] Frank Partnoy, 'ISDA, NASD, CFMA, and SDNY: The Four Horsemen of Derivatives Regulation?' (2001) No. 39 *University of San Diego*, *Public Law Research Paper 1*, p.2.

[469] Ibid, p.2.

observed, new financial instruments were being designed around the OTC market[470] due to its opacity and flexibility.

This meant that the ISDA Master Agreement was being stretched in terms of the instruments it had to cover but that it also formed the primary basis of the rules between a rising pool of counterparties, with regulators becoming increasingly reluctant to involve themselves in sophisticated business-to-business transactions under the mistaken belief that such transactions were decoupled from the part of the economy which affected consumers.[471] National financial regulators were also inhibited by two connected forces: their close nexus to their respective governments and, in the words of Nicholas Shaxson, the associated 'competitiveness agenda', which is 'the notion that [national governments] must dangle endless goodies in front of multinationals and large global investors in case they run away'.[472] The proximity of governments to their national financial regulators meant – and, to a certain extent, still means – that the agendas set by those regulators were heavily influenced by the administrations in power at the time.[473] In the U.K., for example, the laissez-faire attitude of the Conservative and Labour governments from the 1980s to 2008, led to the 'Big Bang' – a series of deregulatory measures implemented by the U.K.

[470] *Steiner* (n 12), p.212.

[471] *Braithwaite* (n 10), p.30: discussing the evolution of derivatives: '…financial innovation was actively encouraged by regulators in the 1990s and early 200s. In particular, derivatives were lauded for their capacity to mitigate, disperse and transform risk, and their supposed effects in this regard were widely compared to alchemy'.

[472] *Shaxson* (n 323), p.70.

[473] For example, the Financial Conduct Authority is accountable to Her Majesty's Treasury and Parliament.

government and the national financial regulator, the Financial Services Authority.[474]

In a market which had become progressively deregulated since the mid-1980s and by early 1994, thanks to the lobbying efforts of ISDA, was largely unregulated,[475] the MA took on the role of becoming more than just a contractual foundation, it occupied the lacuna left by retreating regulation.[476]

The regulatory lacunae left by retreating national legislators and regulators were filled by ISDA and its Master Agreement in what Jeffrey Golden has described 'as a kind of global law by contract'.[477] While there have been international efforts to harmonise financial regulation following the GFC,[478] standard-form agreements like the MA, originally conceived as time and cost saving measures for a coterie of banks,[479] had gained market acceptance and created a framework which would be used across borders and would govern the rules between parties in a way that national regulation, and any cross-border symbiosis which would need to exist in order to effectively regulate the OTC derivatives market, would struggle to equal. It is the result of the aforementioned 'competitiveness agenda' which means, as set out by Colleen Baker,

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[474] The Financial Services Authority (FSA) was the financial regulator in the U.K., abolished in April 2013 by the Financial Services Act 2012 and replaced with the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA).

[475] *Partnoy* (n 297), p.142.

[476] *Awrey; Braithwate* (n 10).

[477] *Golden* (n 26), p.331; Braithwaite (n 10), p.2: talking of the ISDA MA, '…it is now widely accepted that this standardised agreement has evolved from an ordinary contract into a source of privately created law for these transnational markets'.

[478] Financial Stability Board, 'Post-2008 financial crisis reforms', < https://www.fsb.org/work-of-the-fsb/market-and-institutional-resilience/post-2008-financial-crisis-reforms/> accessed 14 December 2023

[479] *Braithwaite* (n 10), p.31.

that ‘no individual jurisdiction can successfully enact unilateral reforms of global OTC derivative markets’.[480]

Differences in regulatory treatment already creates a concept which is worth mentioning briefly here: *regulatory arbitrage*, which - as Frank Partnoy so succinctly describes - ‘refers to financial transactions designed to reduce costs or capture profit opportunities created by differential regulations or laws’;[481] a more onerous regulatory regime in one jurisdiction compared to another creates opportunities to profit from the discrepancies. Astute multinational corporations can profit from these discrepancies or they can use them to cajole nation states into rewriting their laws in order to become more competitive.[482] In a global market, thinking nationally will often force you into a race to the bottom whereby national standards continue to fall in order to compete for business.[483]

The MA is in its third major iteration, with the first being the 1987 Interest Rate and Currency Exchange Agreement.[484] As the name suggests, this was limited in scope to interest rates and currencies. It was the second iteration - the 1992 ISDA Master Agreement - which was far more comprehensive and, along with a new set of definitions, covered a much broader base of derivative instruments.[485] As Robert

[480] *Baker* (n 304), p.165.

[481] Frank Partnoy, ‘Financial Derivatives and the Costs of Regulatory Arbitrage’ (1997) Vol. 22 *The Journal of Corporation Law* 211, p.211.

[482] *Shaxson* (n 323), p.70.

[483] Caroline Bradley, ‘Competitive Deregulation of Financial Services Activity in Europe after 1992’ (1991) Vol. 11 Iss. 4 *Oxford Journal of Legal Studies* 545, p.555.

[484] *Borowicz*, (n 125), p.82.

[485] *Flanagan* (n 70), 251.

Pickel describes, this version of the agreement provided a 'comprehensive framework to address the full range of financial risks faced by a company' and won an award from Risk Magazine in 2007 for the 'most significant development in the risk management industry over the previous 20 years'.[486] The third iteration was the 2002 Master Agreement which provided an update to, inter alia, the close-out netting calculation which had caused some confusion in the market and in the courts.[487]

## 6.3 The Purpose of the Master Agreement

The primary purpose behind the MA is to crystallise the process of terminating the transactions which fall under it - to, in the words of Alastair Hudson, 'ensure formal legal niceties so that the parties can set off their obligations in the event of an insolvency or some other termination event'.[488] This is an understandable aim when you consider the number of institutions which commonly use the MA as the basis of their relationship with counterparties; there may be thousands of transactions outstanding between just two parties so to take those transactions, or a group of those transactions, and say that once the gains and losses are apportioned between the two there is a single net sum which can be transferred to either party by the other, is a sensible solution to a potentially messy problem. If you consider that one party may have hundreds if not thousands of counterparties with whom it is trading vast volumes

[486] Robert G. Pickel, 'Catastrophes, punk eek and hopeful monsters: a new species of financial contract' (2017) Vol. 12 Iss. 3 *Capital Markets Law Journal* 299, p.308.

[487] Guy Usher, 'Overview of Industry Standard Documentation' in *Practical Derivatives: A Transactional Approach*, Edmund Parker and Marcin Perzanowski (eds), (Globe Law and Business, 2017, Third Edition), p.120-121; this particular issue is discussed at chapter 6.6.4.

[488] *Hudson* (n 25), p.545.

of OTC derivative contracts, the concept of netting takes on greater significance.

Despite some contestation that the MA was designed to prefer sell-side participants at the expense of buy-side participants,[489] the underlying contract is not built to particularly favour either party. It is, save for any additions in the Schedule, CSA, or Confirmations, a neutral contract. This means that the legal wrangling at the beginning of a business relationship is mitigated and therefore the relationship is not as tainted by prolonged negotiations about the inclusion of a certain word or sentence.

As was proposed at chapter 1.4, the main clauses of the MA, along with payment mechanisms, relate to its termination. This is emphasised by a simple data analysis of the 2002 MA, whereby taking its main clauses, of which there are fourteen, and removing expository clauses (the preamble and the 'Definitions' clause), leaving us with thirteen clauses, the largest clause by word count is clause 5 ('Events of Default and Termination Events') with 30% of the total contract wording and, together with clause 6 ('Early Termination; Close-Out Netting'), clauses expressly dealing with how the relationship will end constitute 50% of the total contract.

| Clause | Word Count | % of Total |
|---|---|---|
| 1. Interpretation | 123 | 1 |
| 2. Obligations | 1,033 | 8.5 |
| 3. Representations | 695 | 5.7 |
| 4. Agreement | 510 | 4.1 |
| 5. Events of Default and Termination Events | 3,685 | 30 |

[489] *Biggins and Scott* (n 358), p.16.

| | | |
|---|---|---|
| 6. Early Termination; Close-Out Netting | 2,559 | 20 |
| 7. Transfer | 167 | 1.4 |
| 8. Contractual Currency | 585 | 4.8 |
| 9. Miscellaneous | 1,627 | 13.3 |
| 10. Offices; Multibranch Parties | 351 | 2.9 |
| 11. Expenses | 77 | 0.6 |
| 12. Notices | 304 | 2.5 |
| 13. Governing Law and Jurisdiction | 474 | 3.9 |
| **Total** | **12,190** | **100** |

*Fig. 15: removing the preamble and Definitions clauses, as well as clause headings, this table shows the word count in the 2002 MA based on words used per clause and the percentage of the total word count.*

This analysis fits with the idea that the MA, as described by scholars such as Alastair Hudson, provides a 'series of escape hatches'[490] which, in essence, 'enable the parties to terminate their transactions as quickly and painlessly as possible'.[491]

Under these conditions, it is difficult to categorise the MA as a relational contract under the idea that relational contracts are designed, as observed by Donald Robertson, to preserve the relationship of the parties[492] whereas the MA seems to plan principally for the end of the relationship. This dichotomy is summed up by Hugh

[490] *Hudson* (n 25), p.1224.

[491] Ibid, p.539.

[492] *Robertson* (n 24), p.187.

Collins who, when viewing relational contracts through the lens of institutional economics, recognises that there are 'contradictory pressures simultaneously both to co-operate and to compete',[493] which may explain why there is this conflict between express terms promoting relational concepts and the fundamental purpose of the MA which is effectively devoted to how the parties can effect a clean break in the event that a termination event is triggered. Hugh Collins continues:

> *The economic logic of the relational contract is that both parties will be better off if they co-operate to maximise the size of the pie, such as sales in a franchise or distribution network, but simultaneously they still need to compete to obtain a greater slice of the profits arising from their labours. Each party needs to be co-operative and loyal to the general aim of the networked business enterprise, whilst ensuring that it obtains a fair share of the rewards. These expectations of loyalty and co-operation within relational contracts must fall short of those applicable to organisations, however, for both parties remain residual profit-takers with antagonistic interests. Loyalty is owed, not to each other, but rather to the relational contract itself as the embodiment of an independent business operation.*[494]

This is overwhelmingly the case with MA users. As Deakin, Lane, and Wilkinson observe, it is the preservation of self-interest which demands cooperation, meaning that 'the relationship will continue as long as each party calculates both that she or he

[493] *Collins* (n 180), p.14.

[494] Ibid, p.14.

will be better off by maintaining it and that the other party is making the same calculation'.[495]

## 6.4 Trade or Trades?

MA users' interests under individual transactions may be antagonistic but it is in the parties' interests to make the contract work for the sake of the many transactions which may fall under it over time. The trades which fall under the MA may ostensibly fall under what we would think of as discrete, atomistic competition but the contractual umbrella develops conditions which promote cooperation.[496] There is also an argument that competitors cooperate because, as Charles Haward Soper describes, 'making the contract work is part of the deal that they have done; they feel somewhat obliged to cooperate'.[497] This idea is emphasised by empirical analysis carried out by Soper in which he found that 83% of commercial participants in his analysis found termination 'too expensive or impractical...commercial players eschew termination. They want to make the contract work'.[498] This fits with the empirical analysis carried out by Stewart Macaulay in which it was found, inter alia, that business people seldom use legal sanctions to settle disputes[499] because it may

[495] Simon Deakin, Christel Lane, and Frank Wilkinson, ''Trust' or Law? Towards an Integrated Theory of Contractual Relations between Firms' (1994) Vol. 21 No. 3 *Journal of Law and Society* 329, p.334.

[496] Ibid, p.344.

[497] *Soper* (n 37), p.129.

[498] Ibid, p.122.

[499] *Macaulay* (n 148), p.55.

settle a particular dispute but it terminally severs the relationship 'since a contract action is likely to carry charges with at least overtones of bad faith'.[500]

It should also be mentioned that planning for the end of a business relationship should not automatically preclude the MA from being considered relational. As Lawrence Cunningham describes, it may simply make commercial sense 'to think through plausible future scenarios and negotiate some parameters for how to handle them'.[501] The idea that the MA is built around an orderly wind-down of the relationship can be viewed less as a discrete and commercial exigent but rather reflects the systemic risk posed by many large institutions using the MA.

The chasm between termination and preservation, and cooperation and competition is perhaps not as great as we think. These concepts can be coupled in a single agreement so that they need not be mutually exclusive. Is a marriage any less resilient because a couple enter into a prenuptial agreement? Can fierce competitors in a particular field or industry not also be close friends?

While it may be said that market participants are 'more interested in performance than in revenge'[502] and that one of the rules of relational contracts is to preserve or to keep the contract together,[503] this does not mean that the contract needs to be built around these objectives. Parties will often ignore the future state of the relationship in favour of the here-and-now, what psychologists would refer to as 'planning

[500] Ibid, p.65.

[501] Lawrence A. Cunningham, *Contracts in the Real World: Stories of Popular Contracts and Why They Matter* (Cambridge University of Press, 2012), p.129.

[502] *Soper* (n 37), p.115.

[503] *Eisenberg* (n 165), p.737.

fallacy' in which we often underestimate the time, costs and risks associated with a task.[504] This means that, as Melvin Eisenberg describes, parties are:

> *...likely to give undue weight to the state of their relationship at the time when the contract is made, which is vivid, concrete, and instantiated; to erroneously take the state of their relationship at that point as representative of the relationship's future state; and to give too little thought to, and place too little weight on, the risk that the relationship will go bad.*[505]

The emphasis on termination found in the MA does not, therefore, preclude it from being described as relational. It can be viewed instead as a sensibly planned contract in a market which can present significant systemic risk. Furthermore, the incomplete nature of contracts more generally, even those such as the MA, promotes a more relational reading of the contract. Commentators such as Jeffrey Golden describe the MA as relational, establishing, in his words, 'a framework for a course of dealing over an extended period of time' which is necessarily incomplete on the understanding that 'ambiguous provisions will be interpreted consistent with market expectation'.[506]

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[504] Roger Buehler, Dale Griffin, and Michael Ross 'Inside the Planning Fallacy: The Causes and Consequences of Optimistic Time Predictions' in *Heuristics and Biases: the Psychology of Intuitive Judgment*, Thomas Gilovich, Dale Griffin, and Daniel Kahneman (Cambridge University Press, 2002), p.250.

[505] Ibid, p.738.

[506] *Golden* (n 20), p.299; see also: *Borowicz*, (n 125), p.77: 'At a basic level, we can distinguish between elements that can be adapted easily and elements that cannot, at least not without the adaptation being considered 'off-market' and, therefore, costly to make. We can refer to the former as relational and the latter as regulatory elements.'

The MA is therefore considered relational because it is very often used to formalise long-term business relationships in which there are certain expectations which cannot adequately be enumerated in a single agreement[3] - expectations such as integrity, good faith, fidelity, cooperation, trust and confidence - on the understanding that no contract can ever fully document a relationship.[4] It has also been contended that such expectations mean more to businesspeople than the precise terms of the contract between them.[5] While the MA will cover derivative transactions which, in isolation, may be discrete, the aggregation of a number of these transactions develops certain relational norms between the parties.

However, these relational ideas are difficult to reconcile with judicial treatment of the MA so far. This is, in part, due to the inextricable link between relational contracts and the requirement to imply duties of good faith. As was held in the case of *Monde Petroleum SA v Westernzagros Ltd,*[507] there was nothing in the ISDA Credit Support Annex (CSA) 'which indicate[d] that the CSA would lack commercial or practical coherence without the implication of a "good faith" term'.[508] Moreover, the 'CSA therefore simply does not contain the sorts of mutual obligations and commitments that would be expected in the kind of relational contract where there are (in Justice Leggatt's (as he then was) words) "expectations of loyalty which are not legislated for in the express terms of the contract but are implicit in the parties' understanding"'.[509]

[507] [2016] EWHC 1472 (Comm), 255.

[508] Ibid, 255.

[509] Ibid, 259.

This reluctance of the courts to imply terms of good faith into the MA (which includes ancillary contracts such as the CSA), is built on an embedded reluctance on the part of English courts to rewrite contracts entered into by commercial parties,[510] the continued unease under English law to derogate too far from the principle of freedom of contract[511] and the recognition that certain contracts, like the MA, are sophisticated, professionally drafted agreements.[512] With regard to the latter point, Lord Hodge in *Wood v Capita Insurance Services Limited*[513] stated that the English courts would, prima facie, adopt a more textualist approach to the interpretation of sophisticated agreements in comparison to the perhaps more contextual approach they may take to the interpretation of less sophisticated agreements. Even though he qualified that assertion somewhat by saying that there may be circumstances where the division between sophisticated and unsophisticated will be inconsequential.[514]

In two recent English High Court decisions, there has been a judicial reluctance to imply terms into professionally drafted agreements. In *UTB LLC v. Sheffield United Limited,*[515] Fancourt J stated that where 'detailed, professionally-drawn contracts exist, it is more difficult to imply terms because there is a strong inference that the

[510] *Re Golden Key Ltd (In Receivership)* [2009] EWCA Civ 636, 25: 'It goes almost without saying that what the court has to do in this case is find the true interpretation of the contractual documents and that the court is not entitled to rewrite the contractual documents, or more precisely to write some provision into the contractual documents, to reflect some provision that the court considers that it would have been reasonable for the parties to have agreed or to reflect some provision that the court considers would have made more commercial sense'.

[511] *Arnold v Britton* [2015] UKSC 36.

[512] *Braithwaite* (n 72), p.786.

[513] *Wood v Capita* (n 106).

[514] Ibid, 13 (n 107).

[515] *UTB LLC* (n 1).

parties have given careful consideration to all the terms by which they agree to be bound'[516] and in *TAQA Bratani Ltd v Rockrose UKCS8 LLC,*[517] HH Judge Pelling QC stated that implying terms must be carried out with particular care in professionally drafted and negotiated agreements between well-resourced parties because 'where an issue has been left unresolved, it is much more likely to be the result of choice rather than error'.[518] As Lord Sumption observed, the 'more precise the words used and the more elaborate the drafting, the less likely it is that the surrounding circumstances will add anything useful'.[519]

Despite the express use of good faith in the MA - and the broader acceptance of good faith in jurisdictions such as the U.S. and Australia, in which good faith has been found, in certain cases, to underlie 'the spirit of the contract'[520] - the English courts remain more reluctant to use it 'as an open invitation to the court to interpret a good faith clause as imposing additional substantive obligations…outside the other terms of the contract…[especially] where…the contract in question is professionally and comprehensively drafted.'[521]

In terms of judicial treatment of the MA in particular, it is worth repeating here that the MA has been described by the English courts as 'probably the most important standard market agreement used in the financial world'[522] and 'plays an important

[516] Ibid, 206.

[517] *TAQA Bratani Ltd* (n 268).

[518] Ibid, 29.

[519] *Sumption* (n 42), p.9.

[520] *Overlook* (n 451).

[521] *Re Compound Photonics Group Ltd* (n 51), 205.

[522] *Lomas* (n 63), 53.

role in the efficient functioning of the international financial markets and their financial stability'.[523] In addition, it has been stated that it is 'axiomatic' that the MA is 'interpreted in a way that achieves the objectives of clarity, certainty and predictability, so that the very large number of parties using it know where they stand'[524] and that 'consistency, predictability and certainty are essential and so they are much less susceptible to interpretation by reference to background circumstances or matrix'.[525] Such descriptions would appear to support the view more generally proposed by Catherine Mitchell that English law is 'undergoing a formalist [also referred to in this thesis and more generally as 'textualist'] – or at least anti-contextualist – shift'[526] and this is particularly acute for professionally drafted agreements such as the MA.

Given judicial reluctance to meddle in the language of, and the associated, ostensibly discrete transactions stemming from, the MA it would appear improbable that a court would view the MA as relational. However, as Lord Mance stated in the case of *Re Sigma Finance Corporation*, '[e]ven the most skilled drafters sometimes fail to see the wood for the trees'[527] and the MA is certainly not immune from infelicities. Using the definition of relational contracts applied in this thesis at chapter 2, the MA can be considered relational especially given the presumption by scholars such as Adar and Gelbard that 'in modern times most contracts are in fact at

[523] *AWB (Geneva) SA* (n 6), 37.

[524] *Lomas* (n 63), 53.

[525] *LSREF III Wight Ltd* (n 108), 42.

[526] *Mitchell* (n 52), p.89.

[527] *Re Sigma Finance Corporation* [2009] UKSC 2, 12.

least to some extent - relational in one sense or another'.[528] However, the reality of labelling the MA as relational could be significant. Such a categorisation may cause two particular issues: the first is that it may dilute the certainty with which counterparties generally trade by attributing an inherent incompleteness to the MA which may then be invoked by parties seeking to rely on implied obligations of good faith to disentangle themselves from trading losses resulting in a proliferation of costly litigation which could favour larger parties to transactions; the second is that categorising the MA as relational could be seen as defeating the purpose of an industry-led, professionally drafted, standard-form agreement entered into by sophisticated commercial companies. While no contract can be complete, one drafted over the course of almost four decades, across three iterations, would not appear, prima facie, to be a candidate for judicial meddling. That being said, it can equally be argued that it is not unprecedented for cases to be brought before the courts which present circumstances which cause the courts to consider the efficacy of the MA.[529] In such situations, it would not be beyond the realms of possibility that the courts would need to consider implying a term or terms into the MA because it is obvious and necessary in order to give it business efficacy. Rather than negotiating each deal from scratch, parties engaged in international trade rely heavily on standard form contracts[530] and, as such, there may be holes in its efficacy to adequately describe the parties' particular arrangements.

[528] *Adar & Gelbard* (n 259), p.279.

[529] For example, see *Lomas* (n 63).

[530] *Braithwaite* (n 72), p.779.

Maciej Konrad Borowicz may argue that it is the variable terms contained in the ISDA Schedule, CSA, and Confirmations which could be seen as relational[531] and that fits, although not directly, with the idea promoted in this thesis that there are certain terms which may be termed ‘relational' which sit alongside those which may be more accurately defined as ‘discrete'. By ‘relational', this thesis also includes any gaps in the drafting which, however unlikely, may need filling in the MA.[532]

The idea of relational contracts in the practical sense is also impaired because, as Macneil describes, the law largely deals with cases in which things have gone wrong – what he describes as ‘pathological’ cases – which creates a problem when coupled with the feedback of precedent in common law systems and the idea that ‘the rule of the pathological case governs the healthy contract too…the law arising from sick cases is not necessarily the optimum law for healthy cases’.[533]

While the current judicial conception of relational contracts is relatively narrow and anchored to ‘pathological’ cases, it is still a relatively nascent concept in English law. As Zhong Xing Tan observes, the boundaries of relational norms are still being configured and will require, over time, ‘both extension and circumscription’.[534]

## 6.5 Contractual Framework

From a set of standard definitions and terms that could be incorporated into agreements, ISDA developed an umbrella agreement, the ISDA Master Agreement

[531] *Borowicz*, (n 125).

[532] In accordance with the limitations on implied terms as set out at chapter 2.4 and the MA’s Entire Agreement clause as set out at chapter 1.4.

[533] *Macneil* (n 202), p.408.

[534] *Zhong Xing Tan* (n 147), p.119.

(MA), under which ancillary documents could sit but which would all ultimately form one single agreement. The single agreement approach is described in more depth below but, in short, given the volume of transactions which often fall under an ISDA MA, it is prudent to ensure that parties can reduce their various payment streams under various Confirmations to one net amount.

Standardising the legal documentation behind OTC derivatives would, it was argued, reduce both risk and costs,[535] facilitate legal certainty,[536] and thereby increase efficiency.[537] However, some view this intricate web of contractual documentation as serving the few (namely banks) while under-serving the many (small financial institutions and other non-financial counterparties).[538] This also highlights a danger which Hudson raises with the MA: the legal risk that arises from standard form contracts, namely the propensity of users to stick slavishly to the terms of the MA without considering the effects of these terms with the kind of thought that should be demonstrated when you consider the volume of transactions which will fall under the MA.[539]

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[535] Bhushan Kumar Jomadar, 'The ISDA Master Agreement - The Rise and Fall of a Major Financial Instrument' (2007) *SSRN*, p.2 – 'A lack of uniformity in definitions and terminology made negotiations difficult and time consuming. This often resulted in significant delays in completing the documentation for transactions that had already taken place which increased legal and credit risk'.

[536] *Golden* (n 26), p.331

[537] Jeffrey B. Golden, 'The courts, the financial crisis and systemic risk' (2009) Vol. 4 No. S1 *Capital Markets Law Journal* S144.

[538] *Hudson* (n 25), p.1224.

[539] Ibid, p.543.

While conceding that it can be difficult to differentiate between genuine reflections of the parties intentions (objectively assessed) and standardised terms 'included without any meaningful reflection,'[540] Catherine Mitchell has pointed out, especially in the financial markets which operate at such speed and volume, the provision of standard term agreements reduces the pressures of botched transactions by allowing parties to make important trades on a moment's notice precisely because standard packages are available to facilitate them.[541]

While the risks raised by Hudson are clearly material, the benefits appear to outweigh the risks for a very large number of market participants using the MA. As Richard Calnan describes more generally of standard forms: 'they promote uniformity of approach, and therefore consistency and certainty in the markets concerned'.[542] If applied carefully, the MA can improve legal certainty, saving parties time and resources.[543]

The ISDA MA sets out the main terms governing different transactions between the parties rather than separately negotiating terms each time the parties trade with each other. Such terms are designed to be unalterable,[544] leaving such bespoke terms to be

[540] *Mitchell* (n 52), Loc 4644.

[541] Ibid, Loc 4199.

[542] Richard Calnan*, Principles of Contractual Interpretation* (Oxford University Press, 2017, Second Edition).

[543] Mohamed H. Reda, 'Are Islamic Commercial Laws Proper and Normative Laws? Or Simply "primitive" and "religious and moral codes"?' in *Islamic Commercial Law: Contemporariness, Normativeness and Competence* (Mohammed H. Reda) (Brill's Arab and Islamic Series, Vol.12, 2018), p.57.

[544] Although the ISDA MA at clause 1(b) does state that if there is any inconsistency between the terms of the ISDA Schedule or any ISDA Confirmation and the ISDA MA, the Schedule or Confirmation will prevail. This is based on the understanding that the parties cannot amend the MA and so any bespoke terms (albeit somewhat

negotiated in three accompanying documents: the ISDA Schedule, the ISDA Credit Support Annex (CSA), and the ISDA Confirmation. The ISDA Schedule is a standard-form contract setting out some of the material and common variations and additions parties may need to make to the Master Agreement; the ISDA Credit Support Annex sets out how collateral will be provided between parties or from one party to another; the ISDA Confirmation sets out, in brief, the financial terms of each transaction[545] and is accompanied by ISDA Definitions, providing the parties with a dictionary of terms which can be used without having to redefine them under each Confirmation.[546] Each of these documents is standardised by ISDA so while amendments or additions can be made, it is controlled.[547] The terms of the MA are therefore seen as key to the overarching arrangement between the parties and consistency on those terms is important insofar as parties should expect those terms to apply equally across the market. The terms of the supporting documents fit within the umbrella MA but will, by the nature of the bilateral arrangements pertaining to specific relationships, require an element of anomalous specification. A visual representation of how these documents interact is provided at Fig. 16 and will be provided at various sections of this chapter – with each document being highlighted red to indicate the document under discussion.

constrained, at least ostensibly, by the standardised format of the ISDA Schedule and Confirmation) are of primary importance.

[545] Financial instrument, price, volume, time period etc.

[546] *Wood* (n 8), 13-004.

[547] *Braithwaite* (n 10), p.32.

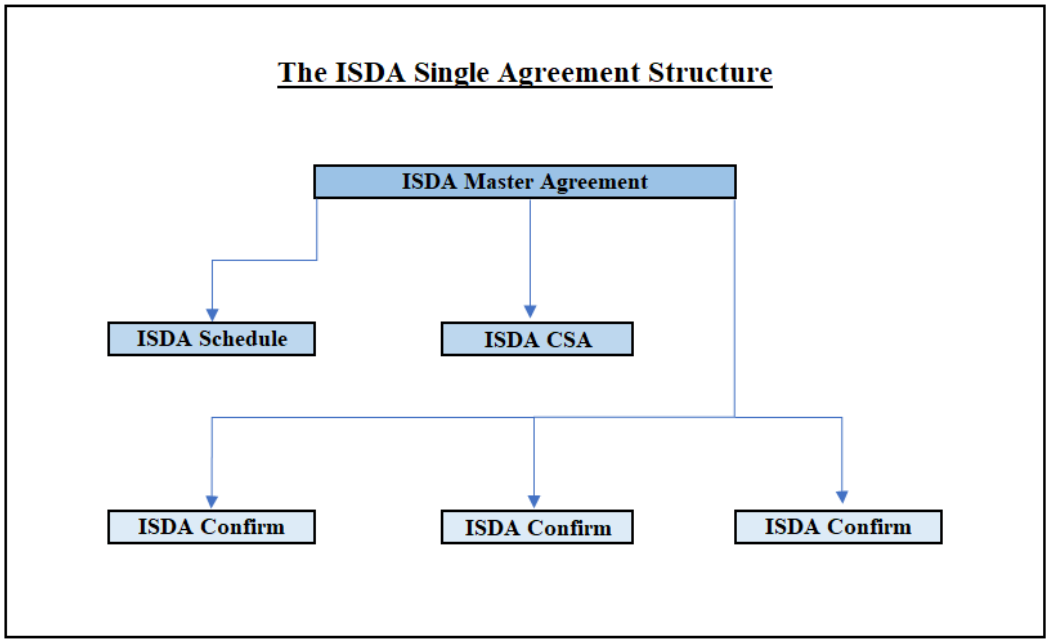


*Fig.16 The single agreement structure with the ISDA MA as the umbrella agreement under which sits the Schedule, Credit Support Annex (CSA) and often a large number of Confirmations for each trade (only three are illustrated here).*

As part of the descriptive and doctrinal analysis of this chapter, it is worth setting out some of the main provisions of each document, starting with the ISDA Master Agreement.[548] This will provide a more holistic picture of the framework which ISDA has built and will lead us into discussions on future iterations of its suite of documents.

## 6.6 ISDA Master Agreement

[548] The 2002 ISDA Master Agreement is appended to this thesis at Appendix B.

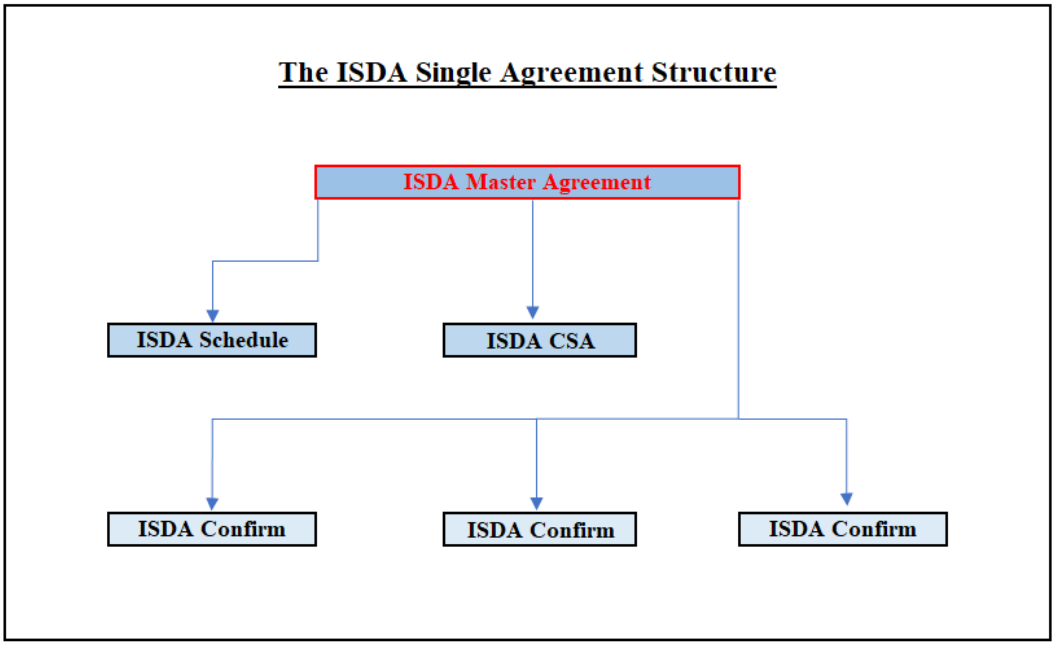


*Fig.17 The single agreement structure with the ISDA MA as the umbrella agreement. In this section, the ISDA Master Agreement – highlighted red – will be discussed.*

As one industry participant put it: "The Master [Agreement], after the Bible and the Koran, is probably the most scrutinised document out there."[549] Hyperbole aside, this statement does represent a feeling in the industry over just how important the ISDA MA is to the OTC derivatives market. This feeling, in less frivolous terms, has been echoed in the courts, most notably in the case of *AWB (Geneva) SA v North America Steamships Ltd*,[550] in which it was stated that:

> *The ISDA Master Agreement is widely used in all types of derivative transactions on the international markets and thus plays an important role in the efficient functioning of the international financial markets and their financial stability*.[551]

[549] Stacy-Marie Ishmael, 'Lehman, Metavante and the ISDA Master agreement' (30 September 2009) *The Financial Times, FT Alphaville* < https://www.ft.com/content/68435840-d5d8-3dd6-bc18-7280bab63612 > accessed 19 December 2020.

[550] *AWB (Geneva) SA* (n 6).

[551] Ibid, 37.

Moreover, in *Lomas v JFB Firth Rixson Inc*[552], the MA was described as 'probably the most important standard market agreement used in the financial world'.[553] This chapter will not provide an exegesis of the MA because such clause-by-clause analyses have been carried out by other commentators,[554] many of whom have provided insights which this thesis utilises here as part of its descriptive assessment. The purpose of this section is to highlight those main clauses dealing with payment and termination as the clauses of particular importance in the MA.[555]

### 6.6.1 Section 1(c) – The Single Agreement

As a starting point in terms of endeavouring to explicate some of the main provisions of the MA, it is worth noting the single agreement structure. As we shall see, the MA is an agreement to which there are a number of connecting agreements. Section 1(c) confirms that connection rather than relying on tenuous implication and potential cherry-picking by insolvency practitioners.[556] As stated by the court in *Videocon Global Ltd v Goldman Sachs International,*[557] this section 'provides that all transactions (and all Confirmations of such transactions), along with the Master Agreement itself,

[552] *Lomas* (n 63).

[553] Ibid, 53.

[554] *Hudson* (n 25); *Firth* (n 343); Paul C. Harding, *Mastering the ISDA Master Agreements (1992 and 2002)* (Pearson, 2010, Third Edition).

[555] *Bliss and Kaufman* (n 455), p.1: discussing the particular provisions which are the subject of special treatment under bankruptcy.

[556] *Cranston* (n 343), p.291.

[557] [2016] EWCA Civ 130.

form a single agreement between the parties'.[558]

There has been some contention over this point as illustrated by Alastair Hudson and the case of *Inland Revenue Commissioners v Scottish Provident Institution*[559] in which it was held that the 'collateral agreement was a separate contract from the two options which it was created to secure, and so it was held that it was not a 'single agreement''.[560] However, this particular transaction did involve creating an artificial tax loss so the courts were looking to the substance of the transaction[561] rather than a literal interpretation of the contract. Meanwhile, in the case of *BNP Paribas v Wockhardt EU Operations (Swiss) AG*,[562] the court referenced the work of Alastair Hudson and it was held, with subsequent positive judicial consideration, that Section 1(c) was sufficiently clear in its intention and could create 'that link by their agreement, as they were entitled to do. Their intention, as manifested in the language which they have used, is that the Master Agreement and all Confirmations shall form a single agreement between the parties'.[563]

It has since been consistently held by the courts that the ISDA MA, along with the Schedule, CSA, Definitions and Confirmations, as applicable, form a 'detailed contractual regime, incorporating industry norms and practices and intended to be a single comprehensive contract for all subsequent

[558] Ibid, 10.

[559] [2003] S.T.C. 1035.

[560] *Hudson* (n 25), p.1212.

[561] Ibid, p.1213.

[562] [2009] EWHC 3116 (Comm).

[563] Ibid, 49.

transactions'.[564] Therefore, one of the most vital elements to the MA infrastructure remains judicially supported, meaning that Section 1(c) remains a constituent part of the close-out netting provisions in allowing the parties to determine a single, net amount in the event of early termination of the MA.[565] ISDA supplements this by providing a library of legal opinions from a multitude of jurisdictions confirming that netting is recognised and enforceable under the insolvency laws of those countries.[566]

### 6.6.2 Section 2(a)(iii) – Payment Obligations

Payment under the MA is an integral part of the analysis carried out under this thesis. It is proposed by ISDA that such provisions are potentially open to automation under their current proposals for smart contracts and such clauses appear, it is contended in this thesis, to lend themselves to discrete categorisation given the logic that underpins the exchange of margin.[567] On this basis, it is important to understand how section 2(a)(iii) of the MA works.

Section 2(a)(iii) has been a particularly contentious provision. The clause involves the payment obligation under section 2(a)(i) which is qualified by section 2(a)(iii) which states that the payment obligation is subject to 'the condition precedent that no Event of Default or Potential Event of Default

[564] *CFH Clearing Limited v Merrill Lynch International* [2020] EWCA Civ 1064, 41.

[565] *Tanna* (n 9), p.94.

[566] ISDA, 'Opinions Overview' < https://www.isda.org/opinions-overview/ > accessed on 3 March 2024.

[567] The exchange of margin will be discussed at chapter 6.8 of this thesis.

with respect to the other party has occurred and is continuing'.[568] In essence, what this created was a situation where non-defaulting parties, owing money to the defaulting party at the date of default could, if one interpreted the MA in such a way, withhold payment for as long as the default continued or until the non-defaulting party elected a termination date, meaning that the non-defaulting party's obligation could quite conceivably be left unfilled indefinitely or that the non-defaulting party would wait, if its position was out-of-the-money, for the price of that position to swing in its favour before electing a termination date. The main problem though was that there was dissonance between suspending or extinguishing the obligation to make payment on the part of the non-defaulting party with the utility and purpose of netting which only works if the payment obligations work bilaterally. This fundamental problem has been highlighted by Alastair Hudson:

> *There is a logical inconsistency in that the parties expect to set off amounts owed between them, but that set-off only applies if the amounts are "payable". And yet, s.2(a)(iii) provides that no amounts are payable if there is an event of default in existence. So, if a party has failed to make payment, then that constitutes an event of default, which means that there is no amount "payable" which means that set-off cannot apply. Therefore, the non-defaulting party cannot set off amounts it owes against amounts owed to*

[568] Section 2(a)(iii) 2002 ISDA English Law Master Agreement; 'Events of Default' are discussed at chapter 6.6.3 of this thesis. A 'Potential Event of Default' is defined in Section 14 of the 2002 ISDA English Law Master Agreement as: 'any event which, with the giving of notice or the lapse of time or both, would constitute an Event of Default'.

*it. It fell to the courts to unravel this problem.*[569]

One of the first cases to address this thorny issue was in Australia, in the case of *Enron Australia Finance Pty Ltd (in liquidation) v TXU Electricity Ltd*.[570] The court in that case held that TXU, the non-defaulting party, was not obliged to make payments to Enron in relation to open trades between the parties until the condition precedent under Section 2(a)(iii) was satisfied.[571] This approach follows what is referred to as the 'suspensory interpretation',[572] meaning that the non-defaulting party's obligations are suspended until an Event of Default or Potential Event of Default is cured.

In the U.K., the courts did not initially follow this suspensory interpretation, instead contending that payments were only required when there was a 'current enforceable obligation to pay'[573] as stated in Section 2(c). It was therefore held that the non-defaulting party had no obligation at all to make payment to the defaulting party nor did the wording of the MA suggest that the obligation would be restored if the condition precedent was later cured.[574]

Meanwhile, a third approach was being taken in the U.S. Bankruptcy Court for Southern District of New York in the case of *re Lehman Brothers Holdings,*

[569] *Hudson* (n 25), p.1232.

[570] [2003] 204 ALR 658.

[571] GuyLaine Charles, 'OTC Derivative Contracts in Bankruptcy: The Lehman Experience' (2009) Vol. 13 No.1 *NY Business Law Journal* 14, p.17.

[572] *Hudson* (n 25), p.1234.

[573] *Marine Trade SA v Pioneer Freight Futures Co Ltd BVI* [2009] 2 C.L.C. 657, 670.

[574] Ibid, 680.

*Inc*.[575] (hereinafter referred to as the *Metavante case*) in which the court, taking a more contextual approach, held that on the default of Lehman Brothers, the non-defaulting party, Metavante, must either continue to pay any amounts owed under the contract or terminate the contract within a reasonable time and settle any amounts owing on the date of termination. On this basis, the court considered not just the MA but the U.S. Bankruptcy Code which did not permit withholding payment. The court in this case looked beyond the terms of the contract[576] and given that both parties were headquartered in the U.S. the application of the U.S. Bankruptcy Code was understandable. ISDA, in its own words found that this 'decision was neither surprising nor material to the enforceability of close-out netting'.[577] However, it showed that the MA was vulnerable to any incongruity with national legislation, diminishing somewhat its viability as a transnational regulatory instrument. It also demonstrated what Lord Denning had articulated about language more generally, that it 'is not an instrument of mathematical precision'.[578] The terms of the MA were not unassailable, a realisation that had not been highlighted at scale before 2008; the effects of the GFC were now throwing up various attempts by parties to perforate this carefully crafted legal document.

[575] Case No. 08-13555 et seq. (JMP) (jointly administered).

[576] Richard A. Posner, 'The Law and Economics of Contract Interpretation' (2004) Vol. 83 *Texas Law Review* 1581, p.1606.

[577] ISDA, 'The legal enforceability of the close-out netting provisions of the ISDA Master Agreement and their consequences for netting on financial statements', 30 September 2009 < https://www.isda.org/a/FgiDE/the-effectiveness-of-netting.pdf> accessed 12 April 2021.

[578] *Seaford Court Estates Ltd v Asher* [1949] 2 KB 481, 499.

After the *Metavante* case in the U.S., the courts in England and Wales took yet another turn. In the High Court case of *Lomas and others v JFB Firth Rixson Inc.,*[579] the court applied the suspensory interpretation of Section 2(a)(iii) but with the condition that the payment obligation of the non-defaulting party for each transaction will only last for the duration of the transaction; if the event of default was not cured before the expiry of the transaction, the payment obligation would expire.

The arguments made in this case were that, in the event that the non-defaulting party does not elect a termination date, either the payment obligation must expire along with the transaction or the payment obligation is suspended indefinitely, assuming the default could not be cured.[580] Interestingly, ISDA at the time argued in favour of indefinite suspension, saying that if the non-defaulting party was concerned with such outstanding contingent obligations, it can elect to terminate.[581] The court was not persuaded by this approach, stating:

> *…it seems to me to be wholly inconsistent with any reasonable understanding of the Master Agreement that payment obligations arising under a Transaction could give rise to indefinite contingent liabilities, because of the possibility that an Event of Default may be cured long after the expiry of a Transaction by effluxion of time.*[582]

[579] *Lomas* (n 63).

[580] Ibid, 75 and 76.

[581] Ibid, 77.

[582] Ibid, 78.

This case, along with three others[583] concerning Section 2(a)(iii), were appealed in the Court of Appeal case of *Lomas v JFB Firth Rixson Inc.*[584] In this case, in the matter so discussed, the court held in favour of the argument put forward by ISDA previously,[585] and which it put forward again in this case as an intervener, that the suspension of payment obligations on the part of the non-defaulting party applies indefinitely until either the Event of Default is corrected or the non-defaulting party elects to terminate.[586] This case also rejected a number of implied terms which were aimed at clarifying gaps in the language of the MA. While it was stated that the wording of certain provisions of the MA was 'non-ideal' and 'inelegant',[587] the court fell back on the *Attorney General of Belize v Belize Telecom Ltd*[588] judgment in which it was held, inter alia, by Lord Hoffmann that, as part of the implication of terms forming part of the wider construction of contracts, when contracts do not expressly provide for what is to happen under certain events the 'most usual inference in such a case is that nothing is to happen. If the parties had intended something to happen, the instrument would have said so. If the event has

[583] *Lehman Brothers Special Financing Inc v Carlton Communications Ltd* [2011] EWHC 718 (Ch); *Pioneer Freight Futures Company Ltd v Cosco Bulk Carrier Company Ltd* [2011] EWHC 1692 (Comm); *Britannia Bulk plc v Pioneer Navigation Ltd* [2011] EWHC 692 (Comm).

[584] [2012] EWCA Civ 419.

[585] Ibid, 77; ISDA, 'Guidance Note on the form of Amendment to ISDA Master Agreement for use in relation to Section 2(a)(iii)' (2014), p.1 < https://www.isda.org/a/GDMDE/Guidance_Note_amendment_agreement.pdf > accessed 16 August 2021.

[586] Lomas (n 584), 19, 62, and 63.

[587] Ibid, 53: referring to the first instance judge who was discussing the 1992 MA.

[588] [2009] 1 WLR 1988.

caused loss to one or other of the parties, the loss lies where it falls'.[589] It seems, therefore, that while there may be gaps in the wording of the MA, however hard they may be to close, the courts will endeavour to find meaning from the words used.

Jo Braithwaite has explained that, because section 2(a)(iii) involves the interpretation of an important term of the MA, 'cases have proven highly controversial, and the practitioner literature about them has, for the most part, ranged from fairly to very critical of the English courts' approach. This is principally because the courts are seen as not having reflected the 'market view' of the meaning of certain aspects of the provision.'[590]

In December 2009, the U.K. Treasury had already consulted with ISDA in order to amend Section 2(a)(iii) of both the 1992 and 2002 versions of the MA by inserting a time limit on its operation.[591] This shows the interconnected web of decision-making that forms part of the regulatory and contractual instruments in this area of law; the different legal spaces and actors which, in the words of Edward Cohen create 'complex and often overlapping sources of power and authority…in a globalizing and market-oriented world'.[592]

ISDA formed a working group which included the U.K. Treasury, the Bank of

[589] Ibid, 17.

[590] *Braithwaite* (n 72), p.799.

[591] *ISDA, 'Guidance Note on the form of Amendment to ISDA Master Agreement for use in relation to Section 2(a)(iii)'* (n 585), p.1.

[592] *Cohen*, (n 338), p.684.

England, and the Financial Services Authority.[593] This group discussed the amendments that should be made to the MA,[594] demonstrating the MA's importance in the market and the interconnectivity between government or quasi-government institutions and ISDA as regulatory decision-makers. The culmination of these talks was the release by ISDA of an Amendment which it published and which counterparties could agree between themselves if they wished to amend their MA.

The amendment allowed for a time period – the default was 90 days[595] and the FCA indicated that it did not want, as far as it could stipulate, parties electing a time period any longer than this[596] - to be elected if an Event of Default had occurred and the non-defaulting party had not elected a termination date.[597] In this case, the payment obligation is suspended until the non-defaulting party

[593] The Financial Services Authority was replaced by the Financial Conduct Authority and Prudential Regulation Authority from 1st April 2013 pursuant to the Financial Services Act 2012.

[594] *ISDA, 'Guidance Note on the form of Amendment to ISDA Master Agreement for use in relation to Section 2(a)(iii)'* (n 585), p.1.

[595] ISDA, 'Amendment to the ISDA Master Agreement for use in relation to Section 2(a)(iii) and explanatory memorandum' (2014) < https://www.isda.org/book/amendment-to-the-isda-master-agreement-for-use-in-relation-to-section-2aiii-and-explanatory-memorandum/> accessed 14 October 2021: Definition of 'Condition End Date" means, with respect to an Event of Default, the day falling [90] days after a notice given by the Defaulting Party under Section 2(f)(i) or Section 2(f)(ii) is effective if the Event of Default is still continuing on that day'.

[596] *ISDA, 'Guidance Note on the form of Amendment to ISDA Master Agreement for use in relation to Section 2(a)(iii)'* (n 585), p.4.

[597] *ISDA, 'Amendment to the ISDA Master Agreement for use in relation to Section 2(a)(iii) and explanatory memorandum'* (n 595).

elects a termination date or 90 days after the notice of the default.

### 6.6.3 Section 5 - Events of Default and Termination Events

Section 5 of the MA embodies the bimodal nature of the MA, with some events that can be pinned to demonstrable action or inaction with the associated amenability to automation, while other, less mechanical, events require manual and perhaps contextual or relational inputs. Take the mechanics of Events of Default, for example. As discussed below, the parties to an MA may choose in the ISDA Schedule whether they want automatic termination to apply or whether the non-defaulting party has to provide notice. If one party to an MA fails to make payment (constituting an Event of Default under the MA), the execution of termination of the agreement could either be discrete and automatic or it could be relational and manual.

Section 5 sets out *Events of Default* and *Termination Events*, which provide options for *Early Termination* (set out in Section 6 of the MA and discussed below). They are both important concepts given that, as Alastair Hudson describes, the MA is primarily, albeit not exclusively, 'concerned to provide the parties with pretexts for terminating all of the derivatives outstanding between them and to provide mechanisms for calculating how the outstanding transactions should be cancelled out'.[598]

An Event of Default as described by the MA is essentially an event for which there can be some kind of apportionment of fault or blame on the part of the defaulting party. These are enumerated in the MA as failure to pay or deliver,

[598] *Hudson* (n 25), p.1224.

breach of the agreement, credit support default,[599] misrepresentation, a default under a specified transaction,[600] cross-default,[601] bankruptcy, or a merger without assumption.[602] The most notorious of these, and the one which has brought so much litigation before the courts, is bankruptcy given the dissonance between the preferential treatment given to derivatives in bankruptcy and the fiduciary duties of liquidators to collect and maximise the size of the estate for the benefit of all creditors.[603]

While there may be an element of blame on the part of the defaulting party in the case of an Event of Default, Termination Events may be seen more generally as somewhat outside the parties control.[604] The Termination Events

[599] A 'Credit Support Default' occurs when there is a 'failure by the party or any Credit Support Provider of such party to comply with or perform any agreement or obligation to be complied with or performed by it in accordance with any Credit Support Document if such failure is continuing after any applicable grace period has elapsed' (2002 ISDA Master Agreement, section 5(a)(iii)).

[600] A 'Specified Transaction' is a group of transactions which are either broadly defined or specifically defined in the Schedule and which are made between the parties (and any associated Credit Support Providers or Specified Entities).

[601] 'Cross-Default' gives a party an automatic right to terminate the MA in the event that it becomes aware that the other party has defaulted under another agreement (a debt agreement or instrument) and the default exceeds the Threshold Amount in the Schedule to its MA.

[602] A 'Merger Without Assumption' arises when one of the parties merges with another entity and the resulting entity does not assume the obligations of that party.

[603] Kimberly Summe, 'Misconceptions About Lehman Brothers' Bankruptcy and The Role Derivatives Played' (2011) Vol. 64 *Stanford Law Review* 16, pp.20-21; John A. E. Pottow, 'Fiduciary Duties in Bankruptcy and Insolvency' (2018) *Law & Economics Working Papers* 135.

[604] *Harding* (n 554), p.200.

enumerated in the MA are: illegality,[605] force majeure,[606] tax event,[607] tax event upon merger,[608] credit event upon merger,[609] and any additional termination events agreed by the parties in the Schedule.

Both Events of Default and Termination Events are closely linked to the defined terms of *Specified Entity*[610] and *Credit Support Provider*[611] which

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[605] 'Illegality' will arise where it becomes unlawful for one of the parties, or an associated credit support provider, to continue to perform material obligations under the agreement. This may arise due to, for example, a change in the law.

[606] 'Force majeure' will arise when an act occurs outside of either party's control and which materially affects one or both parties ability to perform material obligations under the agreement.

[607] A 'Tax Event' will arise when a 'change in tax law occurs and results in a party becoming (or very likely to become burdened by a withholding tax which leads to a payer being required to gross up or a payee receiving a lower payment net of withholding with no gross up. A termination right arises in these cases because neither party is regarded as sufficiently "at fault" for it to be burdened by an unexpected tax charge until the maturity of the transaction,' (*Harding* (n 554), p.233).

[608] A 'Tax Event Upon Merger' will arise when a 'withholding tax is charged which results in a merging party having to increase its payment or a non-merging party receiving any payment due to it net of withholding tax with no gross up. Such a transaction could result in the charging of withholding tax, for example, if the buyer's tax jurisdiction is different from that of the business being acquired,' (*Harding* (n 554), p.235).

[609] A 'Credit Event Upon Merger' will arise when a party merges with another which causes the creditworthiness of that new counterparty to deteriorate.

[610] A *Specified Entity* is another member of a counterparty's group which is included in the Schedule so that it joins the counterparty as part of specific Events of Default and Termination Events set out in the Schedule. For example, if a Specified Entity is set out in the Schedule as being subject to the bankruptcy Event of Default, it means that the bankruptcy of the counterparty or any Specified Entity linked to it, will permit the other party to terminate the MA in accordance with Section 6 of the MA.

[611] A *Credit Support Provider* is a 'third party providing security or a guarantee' (*Harding* (n 554), p.56) for one of the parties to the MA and so the other party will generally request that the third party is added as a Credit

means that, if specified in the ISDA Schedule, such third parties[612] can form part of the MA so that if they default or if they are subject to particular termination events under certain circumstances, this can affect the functioning of an MA between two counterparties one of whom has agreed to be inextricably linked to those third parties. The importance of such provisions was exemplified during the bankruptcy of Lehman Brothers as its derivatives business was primarily run out of its trading arm, Lehman Brothers Specialty Financing (LBSF) which remained healthy despite the bankruptcy filing of its ultimate parent company, Lehman Brothers Holding Inc., on 15th September 2008.[613] For those counterparties that had not included the Lehman Brothers parent company as a Specified Entity, it was an anxious wait – during which positions could deteriorate in value - until LBSF filed for bankruptcy on 3rd October 2008.[614] In contrast, those counterparties which had included Lehman Brothers Holding Inc. as a Specified Entity or a Credit Support Provider were able to elect to terminate their transactions even though LBSF did not file for bankruptcy until 3rd October 2008.[615]

Insolvency or failure to pay may serve as examples of those clauses which,

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Support Provider which means that if it: (i) defaults under the Credit Support documents (as discussed below), (ii) defaults under a specified transaction, (iii) cross-defaults, (iv) is subject to bankruptcy proceedings, or (v) is subject to a merger without assumption, then this will qualify as an Event of Default under the MA. This also applies to certain Termination Events: illegality, force majeure event, or credit event upon merger.

[612] Not uncommonly part of the same corporate group.

[613] Christian M. McNamara and Andrew Metrick, 'The Lehman Brothers Bankruptcy F: Introduction to the ISDA Master Agreement' (2019) Vol. 1 Iss. 1 *The Journal of Financial Crises* 137, p.142.

[614] Ibid, p.143.

[615] Oonagh McDonald, *Lehman Brothers: a Crisis of Value* (Manchester University Press, 2015), p.121.

under the bimodal contract rubric, can be automated based on certain events being programmable, namely the date a party enters insolvency or a date which falls after a payment is due. Alternatively, misrepresentation could be seen as requiring more context and an understanding of the underlying relationship between the parties. Such distinctions may manifest assertions that contractual construction is a:

> *…unitary exercise in which the court must consider the language used and ascertain what a reasonable person, that is a person who has all the background knowledge which would reasonably have been available to the parties in the situation in which they were at the time of the contract, would have understood the parties to have meant. In doing so, the court must have regard to all the relevant surrounding circumstances. If there are two possible constructions, the court is entitled to prefer the construction which is consistent with business common sense and to reject the other.*[616]

This thesis applies this unitary process to contract construction as part of the discrete-relational spectrum - a process which may, in relation to certain contracts such as the MA, highlight their bimodal elements.

### 6.6.4 Section 6 – Early Termination; Close-Out Netting

Early Termination and the method for calculating the close-out netting amount show how discrete and relational terms can coexist within the MA. While it may seem logical for parties to want to institute automatic termination and that

[616] *Rainy Sky SA v Kookmin Bank* [2011] 1 WLR 2900, 21.

the calculation of amounts owed should be a mechanical process, the reality is often more intricate.

#### 6.6.4.1 Early Termination

The mechanics of what the MA refers to as Early Termination are set out in Section 6 and the particulars of such termination are bifurcated between Events of Default or Termination Events. In general, the occurrence of an Event of Default will lead to automatic termination or the right of the non-defaulting party to elect to terminate the MA and all (not some) of the transactions falling under it; for Termination Events the general approach is to find a reasonable resolution between what the MA refers to as the *Affected Party* and the *Burdened Party* which allows for either, as applicable, to terminate those transactions.

There has, however, been controversy surrounding Early Termination in relation to Events of Default. The first relates to whether the amount(s) payable on Early Termination can be considered penalties and so are therefore unenforceable; the second relates to the calculation of the amount payable on termination, introducing two concepts - commercial reasonableness and good faith – both of which can produce contention.

The question of whether the effects of Early Termination operated as a penalty clause was tested in the case of *BNP Paribas v Wockhardt EU Operations (Swiss) AG.*[617] A penalty clause was described in this case

[617] *BNP Paribas* (n 562).

in the terms originally set out by Lord Dunedin in *Dunlop Pneumatic Tyre Co Ltd v New Garage and Motor Co Ltd,*[618] in which he described a penalty clause as that which stipulates a pre-defined sum payable on a breach of contract and the amount payable is 'extravagant and unconscionable in amount in comparison with the greatest loss that could conceivably be proved to have followed from the breach'.[619]

In the case of Section 6 of the MA, the court recognised that the clause 'pre-defines not the sum, but the method by which a sum…is to be determined and by whom,'[620] but the fact that the amount does not contain a pre-defined sum does not necessarily mean that it must be penal.[621] The court held that the two options offered as part of the MA - that the defaulting party must make a payment equivalent to replacing the terminated transactions or a calculation must be made to determine the present value of those terminated trades at the Termination Date – are neither extravagant nor unconscionable.[622]

The second major issue which has arisen from Section 6 of the MA is the method of calculation. This is where we see the adaptation of ISDA in its iterations of the MA. In the case of *Peregrine Fixed Income Ltd v. Robinson Department Store Public Co. Ltd*[623] the 1992 MA was

[618] [1915] AC 79.

[619] Ibid, 87; *BNP Paribas* (n 562), 26.

[620] Ibid (*BNP Paribas*), 27.

[621] Ibid, 27.

[622] Ibid, 32.

[623] *Peregrine v Robinson* (n 416).

under consideration and it was cases such as this which led to one of the changes set out in the 2002 MA. In the 1992 MA, although confusingly worded, there were, essentially four methods of calculating payment under clause 6(e):

- First Method and Market Quotation
- First Method and Loss
- Second Method and Market Quotation
- Second Method and Loss

The parties could elect for any one of these four methods to apply to them as set out in the Schedule and if no election was made the Second Method and Market Quotation would apply by default.[624]

The parties in this case chose the Second Method and Market Quotation. For clarity, the difference between the First Method and the Second Method hinges upon the idea that the Defaulting Party does not recover any loss of bargain even if it was 'in the money',[625] which is the approach taken in the First Method and by English law following repudiation of a contract,[626] against the idea that a payment can be made either way – to the Defaulting Party or the Non-Defaulting Party depending in whose favour the net gain falls - on the occurrence of an Event of Default which is the approach taken with the Second Method.

[624] 1992 ISDA Master Agreement, section 6(e)(i).

[625] *Peregrine v Robinson* (n 416), 23.

[626] Ibid, 23.

In relation to Market Quotation and Loss, the former involves obtaining no fewer than three market valuations from leading dealers in the relevant market (referred to as *Reference Market Makers*) in order to obtain quotations to replace the Defaulting Party in the transaction, the latter involves the Non-Defaulting Party reasonably determining in good faith its total losses and costs from the terminated transactions. However, there is an important caveat to all this and that is the definition of *Settlement Amount* which is found in Section 6 of the MA. This Settlement Amount states that the Loss approach will be used where a 'Market Quotation cannot be determined or would not (in the reasonable belief of the party making the determination) produce a commercially reasonable result'.[627]

In *Peregrine Fixed Income Ltd v. Robinson Department Store Public Co. Ltd*,[628] by choosing the Second Method, the amount payable for loss of bargain could sway either way, not just necessarily from the Defaulting Party to the Non-Defaulting Party. In this case, *Peregrine* was the Defaulting Party but it happened to be 'in-the-money' as to those transactions for which *Robinson* was determining the amount it was liable to pay to *Peregrine*. The Market Quotation approach was used alongside the Second Method meaning that the parties had effectively agreed that the Non-Defaulting Party would obtain at least three quotations and take the median value as the amount payable by

[627] 1992 ISDA Master Agreement, Section 14 (Definitions) definition of Settlement Amount.

[628] *Peregrine v Robinson* (n 416).

*Robinson* which amounted to just over USD ('United States Dollars') 9.5m. The problem was that using the Loss method, which *Peregrine* had also calculated in order to determine a benchmark against which to measure the reasonableness of the market quotations received, would have resulted in a liability of USD 87.3m payable by *Robinson*.

This discrepancy could be answered in part because, even though it was the liquidation of *Peregrine* which had triggered the termination, *Robinson* itself was going through difficulties and when market-makers are asked to determine quotations, the financial standing of the counterparty they would be facing – in this case, *Robinson* – would be a material factor in how they determine how they value the transaction(s).[629]

However, the court held, in accordance with an earlier case - *Australia and New Zealand Banking Group Ltd v Société Général*[630] - that the 'Market Quotation measure and the Loss measure were intended to lead to broadly the same result'[631] and, ergo, that the Market Quotation, which was materially detached from both the nominal value of the amount owed at the termination date and the Loss approach, did not produce a commercially reasonable result.

While this case has received positive judicial treatment, it was censured by ISDA, or at least indirectly by ISDA through one of its

[629] *Peregrine v Robinson* (n 416), 20.

[630] Court of Appeal, 29th February 2000, unreported.

[631] *Peregrine v Robinson* (n 416), 30.

advisory law firms. In a memorandum published on ISDA's website and directed to ISDA Members, law firm Allen & Overy made it clear that the facts of the case were highly unusual[632] and that it considered the ratio decidendi of the case to be unclear,[633] illogical[634] and erroneously held.[635] It was made clear that:

> *…it seems unlikely that other potentially affected counterparties and ISDA users would have accepted that the highly unusual facts of this particular case were an appropriate basis for a decision on the interpretation of the Agreement generally. Whatever label is put on it, this case only determines the position (subject to any appeal) between the two actual parties to the case.*[636]

The discrepancy that the court found between Market Quotation and Loss could be explained by the fact that the quotations derived from the market had taken account of the Non-Defaulting Party's creditworthiness whereas that approach had not been used for the Loss measure. [637] Furthermore, the problem had become, as Allen & Overy noted,[638] that if the market and the courts followed *Peregrine*, Market

[632] *Allen & Overy* (n 381), p.5.

[633] Ibid, p.5.

[634] Ibid, p.6.

[635] Ibid, p.7.

[636] Ibid, p.1.

[637] Ibid, p.6.

[638] Ibid, p.6.

Quotation was at all times benchmarked against Loss which was not the intention, nor was it found under a literal reading, of the 1992 MA.

As Edmund Parker and Marcin Perzanowski describe, while many market participants preferred Market Quotation as it was more objectively determined than Loss, the approach was sub-optimal during periods of market turbulence. However, the Loss methodology had also provided some unexpected outcomes during the Lehman Brothers bankruptcy[639] and was the subject of protracted litigation on whether Loss (as defined in the MA) had been determined reasonably or in good faith.[640]

One particular example of the perverse results arising from Market Quotation and Loss could be found when Nomura, a financial services firm, entered into OTC derivatives transactions with Lehman Brothers. Prior to the termination of these transactions, Nomura owed Lehman USD 484m; following Lehman's bankruptcy, Nomura shifted from using Market Quotation to Loss which, it contended, meant that Lehman owed it USD 217m.[641] That USD 700m swing evidenced the dangers of approaching the problem in the way the judge had in *Peregrine*: if Market Quotation was benchmarked to Loss, a Defaulting Party would always be disadvantaged by the imposition of the Non-Defaulting Party's subjectivity. However, it also raised concerns

[639] *Usher* (n 487), p.120-121.

[640] *Lehman Brothers Finance AG* (n 74); *Fondazione Enasarco* (n 74).

[641] Rosalind Z. Wiggins and Andrew Metrick, 'The Lehman Brothers Bankruptcy G: The Special Case of Derivatives' (2019) Vol. 1 Iss. 1 *Journal of Financial Crises* 151, p.161.

around the MA more generally given that termination and determining amounts payable on termination are its raison d'etre.

Given that Market Quotation was found to break down in times of market stress and/or produce commercially unreasonable results during such times, and Loss was highly subjective and involved a greater risk of manipulation by the Non-Defaulting Party (despite the fact that it was supposed to be determined in good faith),[642] ISDA was forced to find an alternative solution.

#### 6.6.4.2 Close-Out Netting

In an effort to address some of the aforementioned complications around the two methods of calculating a Settlement Amount (as defined in the MA), ISDA proposed an alternative solution whereby it published a revised clause 6(e) as part of its 2002 MA in which the Market Quotation and Loss approaches were replaced with a Close-Out Amount approach. Under this approach a Non-Defaulting Party must act in good faith in order to determine any gains or losses using commercially reasonable procedures. The two concepts of good faith and commercially reasonable remain but, as McNamara, Metrick and Wiggins observe of the calculation:

> *This may include using one or more of firm or indicative quotations and/or relevant market data such as rates, prices, yields, yield curves, volatilities, and correlations, whether from third parties or*

[642] *McNamara & Metrick* (n 613), p.144.

*internal sources. Thus, the Close-Out Amount is in many ways a hybrid of the Market Quotation and Loss approaches, requiring the non-defaulting party to use more objective sources of information than required under the Loss approach, but not necessarily dealer quotations when such quotations cannot be obtained due to market stress.*[643]

The Close-Out Amount is a detailed defined term which sets out considerations for the determining party as part of its calculation, such as using market quotations and market data, if such information is readily available and will produce a commercially reasonable result.[644] This informative definition applies, by way of the text of the MA, a fetter to a discretionary power which otherwise may be open to a Socimer[645] duty in which 'a decision-maker's discretion will be limited, as a matter of necessary implication, by concepts of honesty, good faith, and genuineness, and the need for the absence of arbitrariness, capriciousness, perversity and irrationality'.[646] Such a duty may be implied based on, inter alia, the language of the contract and the balance of power between the parties.[647] The MA, it can be argued, makes it clear on the first point and, generally speaking and in

[643] Ibid, p.144; *Wiggins & Metrick* (n 642), p.157.

[644] Section 14 of the 2002 ISDA Master Agreement, definition of 'Close-Out Amount'.

[645] *Socimer International Bank Ltd v Standard Bank London Ltd* [2008] EWCA Civ 116; also referred to as a 'Braganza Duty' following the case of *Braganza v BP Shipping Limited* [2015] UKSC 17.

[646] Ibid *(Socimer),* 66.

[647] *UBS AG v Rose Capital Ventures Ltd* [2018] EWHC 3137.

relation to the second point, the MA will be entered into by corporate entities which will both often be viewed as sophisticated. The calculation is, therefore, fettered by both duties to act in good faith and a commercially reasonable manner as well as market objectivity to determine the close-out netting amount. The language of the MA, therefore, appears to pre-empt the possibility of implying a term into it in order to control the actions of one party exercising a discretionary power in a way, as occurred in the case of *BHL v Leumi ABL Ltd*,[648] that could produce 'commercially absurd interpretation[s]'.[649] Moreover, it could be said that, beyond entitlement to 'a bona fide and rational exercise' by the non-defaulting party in calculating amounts owed on termination, 'there is little scope for intensive scrutiny of the decision-making process' by the courts[650] and, on that basis, the non-defaulting party is fairly 'entitled to have regard to its own commercial interests'.[651]

However, the MA does contain, as described in a slightly different formulation by Alastair Hudson,[652] what the courts have referred to in terms of relational contracts as, 'many infelicities and oddities'.[653] The

[648] *BHL v Leumi ABL Ltd* [2017] EWHC 1871 (QB).

[649] Ibid, 35.

[650] *Braganza* (n 645), 57.

[651] *Lehman Brothers International (Europe) v Exxonmobil Financial Services BV* [2016] EWHC 2699 (Comm), 287.

[652] *Hudson* (n 25), p.1232: referring to the 'number of defects' in the MA.

[653] *Amey Birmingham Highways* (n 185), 93.

MA may demand a uniform approach to its interpretation as an international instrument but that does not mean that the wording of it is unerring as challenges to the meaning of 'Loss' under the 1992 version of the MA have showed. In the case of *Fondazione Enasarco v Lehman Brothers Finance SA,*[654] it was held that 'in considering whether the non-defaulting party has "reasonably determined" its Loss, that party is not required to comply with some objective standard of care as in a claim for negligence, but, expressing it negatively, must not arrive at a determination which no reasonable non-defaulting party could come to. It is essentially a test of rationality'.[655] As explained by Lord Sumption in the case of *Hayes v Willoughby*:[656]

> *Rationality is not the same as reasonableness. Reasonableness is an external, objective standard applied to the outcome of a person's thoughts or intentions… A test of rationality, by comparison, applies a minimum objective standard to the relevant person's mental processes. It imports a requirement of good faith, a requirement that there should be some logical connection between the evidence and the ostensible reasons for the decision, and (which will usually amount to the same thing) an absence of arbitrariness, of capriciousness or of reasoning so outrageous in its defiance of logic as to be perverse.*[657]

[654] *Fondazione Enasarco* (n 74).

[655] Ibid, 53.

[656] [2013] 1 WLR 935.

[657] Ibid, 14.

A non-defaulting party will not, therefore, be judged upon what the court thinks is reasonable but how that party would have decided the matter 'had it made a valid determination, honestly and rationally'.[658] However, in the case of *Lehman Brothers Special Financing Inc v National Power Corporation*,[659] it was held that both rationality and wholly objective reasonableness 'allow for a result that falls within a range [but]…the fact that there is a range does not mean that the [non-defaulting party] can simply take the result that suits it best at one end of the range'.[660] The test for the non-defaulting party, especially using the 2002 MA rather than the 1992 version,[661] will therefore be one which may resemble the *Wednesbury*[662] public law test of reasonableness sometimes imported into commercial law in that the non-defaulting party will need to 'use procedures that are, objectively, commercially reasonable in order to produce, objectively, a commercially reasonable result.'[663]

[658] *Westlb AG v Nomura Bank International Plc* [2012] EWCA Civ 495, 58.

[659] [2018] EWHC 487 (Comm).

[660] Ibid, 79.

[661] *Braithwaite* (n 10), p.264: 'Looking back to the ISDA MA cases, it also informed the conclusions on the different express standards applicable under the 1992 and 2002 MA express controls on the decisions of a non-defaulting party, with 'rationality' applying to the disputed express controls in the former, and 'reasonableness' in the latter case'.

[662] *Associated Provincial Picture Houses Limited v Wednesbury Corporation* [1948] 1 K.B. 223.

[663] *Lehman Brothers Special Financing Inc v National Power Corporation* (n 659), 81.

## 6.7 ISDA Schedule

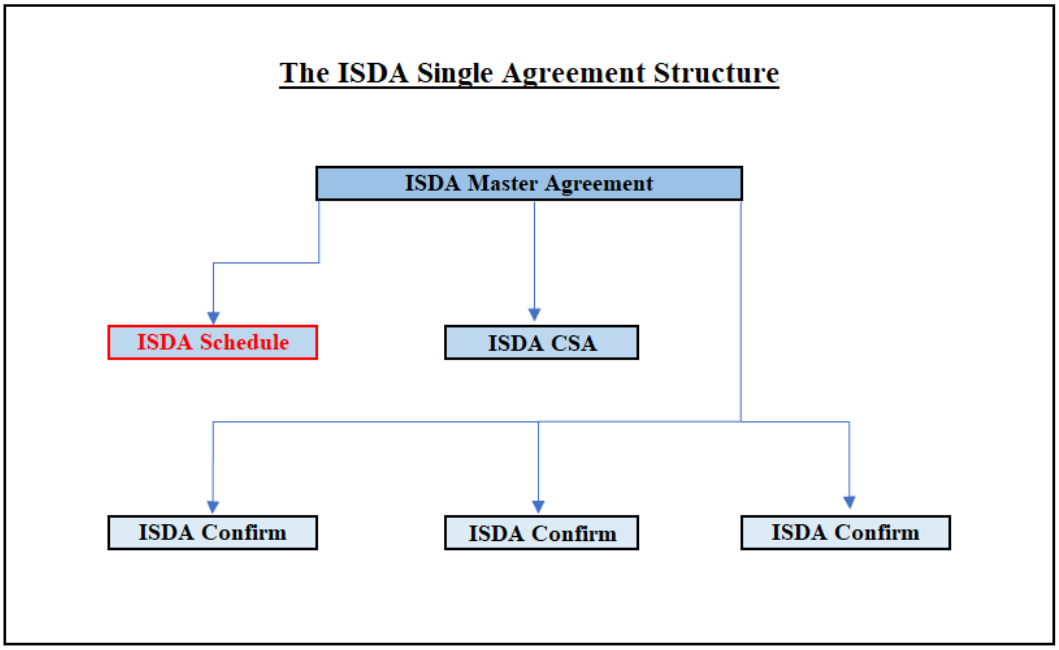


*Fig. 18 The single agreement structure with the ISDA MA as the umbrella agreement. In this section, the ISDA Schedule – highlighted red – will be discussed.*

The ISDA Schedule ('the Schedule') provides the parties with their first controlled opportunity to amend or add to the MA. While the parties may account for specific terms of their deal in the Schedule, [664] it is controlled in the sense that ISDA publishes a standard-form version of the Schedule. Therefore, the parties will generally make standardised amendments or additions which should not affect the substance of the MA, rather the Schedule fills in peripheral matters.

Mr Justice Moore-Bick, in the case of *Peregrine Fixed Income Ltd v. Robinson Department Store Public Co. Ltd*,[665] described the MA and the Schedule as 'highly complex documents which give the parties the opportunity to choose how the contract is to operate under certain defined circumstances. The parties exercise that

[664] *Lubben* (n 303), p.68.

[665] *Peregrine v Robinson* (n 416).

choice through the Schedule'.[666]

Frank Partnoy compares the MA and the Schedule to a corporation's articles and by-laws[667] and goes on to describe them as the 'body of private law governing the derivatives transaction'.[668] As McNamara and Metrick observe, while the Schedule can include some important modifications to the MA, 'the optional terms that can be selected using the Schedule are not essential to the functioning of the [MA] but are rather a reflection of the parties' preferences for how their transactions will be governed'.[669]

Maciej Konrad Borowicz categorises the terms of the MA which can be altered by the Schedule, Credit Support Annexes and Confirmations as relational; whereas those terms which cannot be so easily modified are regulatory in nature.[670] This kind of bifurcation is raised in this thesis between discrete and relational terms, especially when discussing smart legal contracts and those terms of the MA which are amenable to automation and those which are not.

As the MA is designed to be unalterable, the Schedule acts to allow parties to make

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[666] Ibid, 5.

[667] Frank Partnoy, 'The Timing and Source of Regulation' (2014) Vol. 37 *Seattle University Law Review* 423, p.429.

[668] *Partnoy* (n 468), p.6.

[669] *McNamara & Metrick* (n 613), p.141.

[670] *Borowicz*, (n 125), p.77: 'The crucial structural feature of the modularity of ISDA's contracts is that certain elements of a modular contract are more difficult or costly to adapt than other elements. At a basic level, we can distinguish between elements that can be adapted easily and elements that cannot, at least not without the adaptation being considered 'off-market' and, therefore, costly to make. We can refer to the former as relational and the latter as regulatory elements.'

certain changes which may be necessary given the particular bilateral arrangement. The most common changes allow the parties to elect which provisions, or amendments thereto, will apply to which parties. This is usually where the more powerful party to the arrangement may wish to ask for certain additional assurances from the weaker party.

While the parties can select in the Schedule, inter alia, the choice of governing law and jurisdiction for the MA, the main provisions of the Schedule relate to termination. Related to that is the idea of pulling certain parties – generally, parent entities or other closely associated companies – into the remit of clauses 5 and 6 of the MA.[671] Part 1(a) of the Schedule[672] lists out certain provisions of the MA under which a *Specified Entity*[673] can effectively form part of the obligations of a party to the MA and Part 4(f) of the Schedule deals with including and defining a *Credit Support Provider*[674] to fall under the terms of the MA.

The Schedule also asks the parties whether they want certain termination provisions to apply. As with a lot of the terms of the Schedule, in its standardised form, it essentially requests the parties to specify whether terms will or will not apply. One of those termination provisions – more specifically, an Event of Default, is found under Part 1(c) which asks the parties whether they want clause 5(a)(vi) to apply;

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[671] Clause 5 deals with Events of Default and Termination Events; clause 6 deals with Early Termination if an event under clause 5 occurs.

[672] I am using the 2002 ISDA Schedule to the 2002 ISDA Master Agreement as the basis for these comments. Generally speaking, when it comes to those provisions mentioned, there may only be a slight deviation from the numbering and content of those provisions in older or alternative versions.

[673] See chapter 6.6.3 of this thesis.

[674] Ibid.

this clause relates to Cross Default whereby a Non-Defaulting Party may terminate all transactions under an MA where it becomes aware that its counterparty has defaulted under another debt agreement or instrument (or other agreement as specified by the parties) and the default exceeds the Threshold Amount.[675]

Essentially, this means that Party A will be able to terminate its MA with Party B if Party B commits a breach under another qualifying agreement with Party C.[676] The Threshold Amount is also specified in the Schedule and effectively sets a limit on how much a Non-Defaulting Party is willing to accept a counterparty's debt default before it triggers its close-out rights under the MA.[677]

Historically, this provision caused some friction between two types of systemically important counterparties: commercial banks and investment banks. The commercial banks were used to strict default terms such as cross default which allowed them to efficiently exit long-term lending relationships if the creditworthiness of the borrower deteriorated, while the investment banks were used to shorter credit exposures and so did not face the same kind of risks which meant that they did not want cross-default to form part of their MA. As Sean Flanagan explains, this led to the Cross Default provision being added as an elective contractual term in the Schedule.[678] Moreover, as Flanagan explains:

> *This resolution illustrates the three-tiered approach to standardization adopted by ISDA's drafters in their attempts to codify consensus to the degree it existed in the*

[675] *Harding* (n 554), p.425.

[676] *Hudson* (n 25), p.1277.

[677] *Harding* (n 554), p.67.

[678] *Flanagan* (n 70), 244.

*market. First, if a single consensus*[679] *existed, or could be reached through discussion and negotiation between market participants, the drafters would capture the consensus and make it a standard definition or contract term. Second, if a consensus did not exist but a majority view did, drafters would codify that majority view and make it a presumption out of which the parties were free to opt. Finally, if there was a spectrum of views in the market, each of those views was codified, and the set of options was presented as a menu from which contracting parties could choose.*[680]

The Schedule permits parties to specify whether they want automatic termination to apply, meaning that on the default of a party all applicable transactions falling under an MA will be terminated. As Wiggins and Metrick observe, this automatic termination provision was fortuitously selected by a number of Lehman Brothers counterparties, resulting in automatic termination of 733,000 transactions by 12th November 2008[681] even though the mechanics of identification, verification, and calculation of claims falling thereunder caused protracted legal wrangling.[682]

If automatic early termination is not selected in the Schedule, the early termination provision at clause 6 of the MA 'may or may not be exercised by the non-defaulting counterparty, in its sole discretion'.[683] It was this discretion which led to the discord discussed above under the analysis of *Section 2(a)(iii) – Payment Obligations*, in which it was argued that Non-Defaulting Parties were using s.2(a)(iii) to avoid their

[679] Ibid, 244.

[680] Ibid, 245.

[681] *McNamara & Metrick* (n 613), p.159.

[682] Ibid, p.160.

[683] Ibid, p.142.

obligations under the MA indefinitely by not electing an Early Termination Date, meaning that any of their out-of-the-money positions could not be recovered by the administrators of a Defaulting Party. However, as Firth tersely puts it, if the parties had wanted to ensure recovery they could have opted for automatic early termination in the Schedule, by failing to do so it appears that the parties had either not given the provision much thought or were content for the suspension to continue indefinitely.[684]

## 6.8 ISDA Credit Support Annex

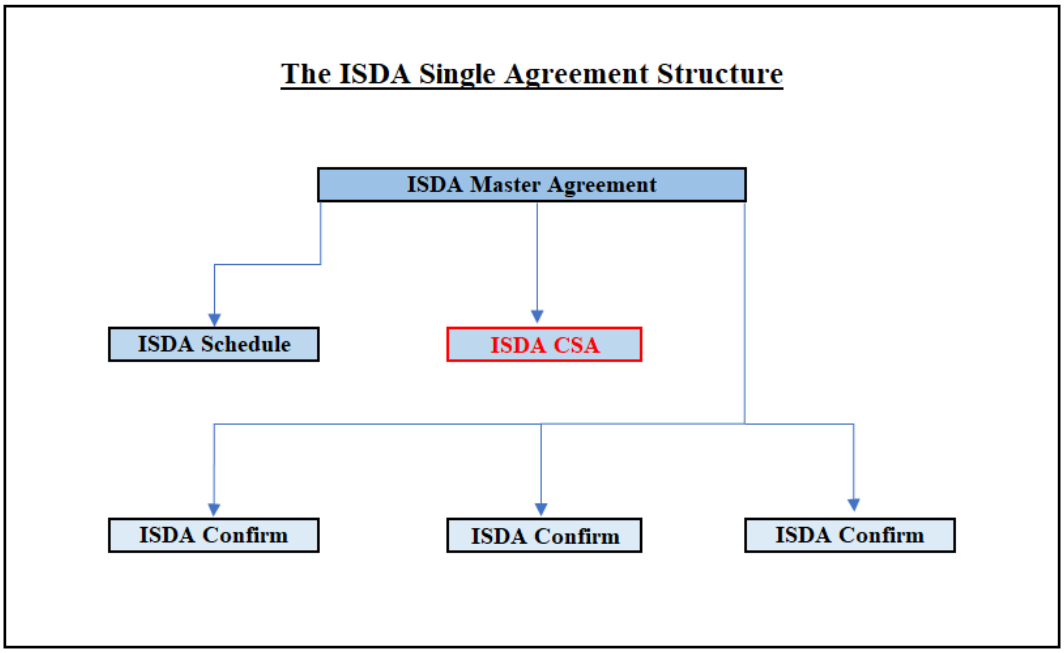


*Fig. 19 The single agreement structure with the ISDA MA as the umbrella agreement. In this section, the ISDA Credit Support Annex – highlighted red – will be discussed.*

[684] *Firth* (n 343), 11.012/2: 'If the parties had wanted to ensure that an insolvency official would be able to obtain the economic benefit of the outstanding transactions, they could have opted for Automatic Early Termination. The fact that they did not do so suggests that they were content for the suspension to continue indefinitely.'

The Credit Support Annex (CSA), simply put, governs all collateral arrangements between the parties.[685]

Because derivatives are executory contracts, with obligations to pay or deliver only arising in the future, they afford the parties utilisation of leverage. Leverage, in this context, refers to the relatively small outlay required to open a much larger position. In some earlier markets, such as the Dutch tulip market in 17th Century, there was often no initial outlay at all, leading to what Richard Bookstaber describes as traders buying and selling 'commodities they did not own, had no intention of owning, and indeed did not even have the money to purchase outright'.[686] Since then, markets have tried to systematise the initial and continuing provision of funds to support a position but leverage still plays a key role.

As Paul Harding and Christian Johnson describe, collateral exchange to cover exposure for OTC derivatives began in the U.S. in the mid-1980s and in Europe in the early 1990s; in both cases, it was initially a 'manual and laborious'[687] process. Despite incremental improvements in delivery and execution, there are a surprising amount of relatively rudimentary practices still in force today which make the process of settling payments inefficient, such as e-mail confirmations and spreadsheet processing.

Collateral, or margin, plays a significant role in derivatives markets because, as alluded to earlier, such markets consist of executory contracts, meaning that

[685] *Biggins and Scott* (n 88), p.325.

[686] *Bookstaber* (n 283), p.177.

[687] Paul C. Harding and Christian A. Johnson, *Mastering the ISDA Collateral Documents* (Pearson, 2012, Second Edition), p.4.

obligations will arise in the future when either cash settlement of the position, novation of the contract, and/or delivery of the underlying takes place. The executory nature of these contracts is important because it is what has for so long protected derivatives contracts from insolvency proceedings. If an Event of Default arises or even if there is, to use ISDA nomenclature, a *Potential Event of Default* under a derivatives contract,[688] the Non-Defaulting Party may terminate the contract – more commonly referred to as *closing out* – and seize collateral held.[689] Parties to non-executory contracts, on the other hand, are often exposed to potential cherry-picking by an insolvency practitioner,[690] which is where the insolvency practitioner will claim the benefit of contracts which are advantageous to the insolvent party's estate and disclaim those which are not.[691]

Between the time that the contract is made[692] and the future date for performance, the underlying instrument will often be subject to market volatility. Collateral, therefore, operates to mitigate the risk of a position moving too far away from the maturity price or the credit extended to the other party. There are two forms of collateral which are commonly used in derivatives trading: initial margin and variation margin. Initial margin is either a percentage taken up front – acting like a

[688] This is defined in the 2002 MA at Section 14 as 'any event which, with the giving of notice or the lapse of time or both, would constitute an Event of Default.'

[689] *Edwards & Morrison* (n 296), p.129.

[690] *Cranston* (n 343), p.291.

[691] Philip Wood and Jacques Terray, 'Foreign Exchange Netting in France and England' (1989) Vol. 8 No. 10 *International Financial Law Review* 18, p.20.

[692] The 'contract' referred to here is more specifically an ISDA Confirmation, discussed below. These Confirmations contain the main terms of each transaction and, together with the MA and all the other ancillary contracts, form one single agreement.

deposit – or a percentage of a rolling, worst-case move, for example, over the next two business days. Variation margin, sometimes referred to as maintenance margin, is based on daily market volatility. Both forms of margin are designed to cover the market risk and the credit risk arising from the price of the position moving against the party which is out-of-the-money.

Collateral can be cash or various other assets, such as bonds, gold, or shares. These forms of collateral are referred to in the CSA as *Eligible Credit Support*. Cash, especially major currencies,[693] will generally be exchanged free of any discount whereas other assets will be subject to a predefined discount, referred to in the industry as a *haircut* and in the ISDA documentation as a *Valuation Percentage*. For example, let's say Party 1 (P1) is due to pay margin of USD 100,000 to Party 2 (P2) and the CSA between them specifies that the Valuation Percentage for cash is 100% and for gold it is 95%. This means that P1 can satisfy its obligation to P2 by either transferring USD 100,000 (or equivalent in another permitted currency) to P2 or it can transfer gold with a spot value of USD 105,000. This methodology is designed to represent the volatility of other assets compared to cash.

Collateral will either be exchanged one-way or two-way; the former indicates that one party is essentially extending credit to other party, the latter indicates that the

[693] The major currency, at the time of writing, is United States Dollars. Some counterparties may apply a haircut/valuation percentage to any currency or asset that is not United States Dollars. Using currency trading, the major currencies, also referred to as the 'majors' in currency pairs, are generally considered to be: United States Dollars, Euros, British Pounds, Japanese Yen, Swiss Franc. For commodities, the Australian Dollars, Canadian Dollars and New Zealand Dollars are also important currencies. However, the parties are free to choose which currencies are free of any haircut/valuation percentage, recognising that cash is generally more fungible than assets.

parties are trading with each other on a relatively equal footing and so margin will flow back-and-forth depending on the direction of the market.

Under the CSA, there are certain boilerplate clauses which are often reproduced for completeness. However, the main negotiable terms, albeit still standardised, relate to the currencies to be used, the transactions covered, the haircuts to be applied, and the thresholds applied for the payment of collateral.

The main variable provisions relating to collateral are found under paragraph 11 of the CSA which deals with elections and variables. The particular terms relating to the provision of collateral are entitled 'Thresholds' and include three particular terms which are often used to determine the credit extended to the other party.

(a) Thresholds: Thresholds essentially provide a credit line to one or both parties (depending on one-way or two-way margining). For example, if both parties are subject to a Threshold of USD 250,000, that means that if a position moves against Party 1 (P1) by USD 240,000, Party 2 (P2) cannot call for margin. If the position continues to move against P1 so that the exposure is now USD 260,000, the maximum that P2 can call for, subject to any Minimum Transfer Amount also specified, is USD 10,000 (the excess over the Threshold).

(b) Minimum Transfer Amounts (MTAs): MTAs are used to avoid de minimis claims for payment. They can be used alongside Thresholds or on their own. They differ from Thresholds in that once an exposure exceeds an MTA, the other party can call for the entire amount rather than just the excess. For example, if both parties are subject to an MTA of USD 250,000, that means that if a position moves against Party 1 (P1) by USD 240,000, Party 2 (P2) cannot call for margin. If the position continues to move against P1 so that the exposure is now USD

260,000, P2 can call for the full amount, i.e., USD 260,000.

(c) Independent Amounts: this is a confusing term which can either refer to initial margin or variation margin,[694] however, it is commonly interpreted as referring to initial margin. Prime brokers,[695] for example, will often set an Independent Amount which will reflect a percentage of the total trading limit imposed on their counterparties - this amount is taken as an upfront payment before trading begins and will have to be maintained as a minimum margin balance. In other relationships, parties will not specify an Independent Amount in the VM Credit Support Annex. They will instead, whether stipulated by regulation[696] or if the parties agree independently of any regulatory requirements, agree to set out all initial margin arrangements within a bespoke agreement or in an ISDA Credit Support Deed which forms part of the ISDA contractual infrastructure but is a stand-alone security document.[697]

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[694] *Harding & Johnson* (n 687), p.15.

[695] Prime brokers are intermediaries which, through a multitude of client relationships, are able to connect their clients to one another with the prime broker acting as the counterparty to each client but linking them together so that the bilateral relationship remains with one counterparty but, through the services offered, their clients can access a wide range of services and liquidity.

[696] For example, the European Markets and Infrastructure Regulation (EMIR), more formally referred to as Regulation (EU) No 648/2012 and which specifies that if parties to OTC derivatives transactions exceed a predefined threshold, they must exchange initial margin (referred to as 'Regulatory IM').

[697] The Credit Support Deed is not discussed in detail in this thesis. The general idea is that the CSA, under English law, transfers margin via title transfer collateral arrangements (i.e. the receiving party receives full legal title in the cash or assets transferred to it which it can use as its own) whereas the Credit Support Deed will transfer margin on a security interest basis (i.e. legal title remains with the transferring party). Both documents, however, strive to achieve a similar result as it pertains to the exchange or payment of collateral.

While parties may utilise thresholds and minimum transfer amounts together, as David Murphy explains, typical inter-dealer CSAs will include a zero Threshold and make only small adjustments for the Minimum Transfer Amount.[698]

There are other considerations, such as a particular distinction between the way collateral is held under the English law CSA and the New York law CSA but, for the purposes of this project (other than what is stated below), such discussions do not add anything to the substance of the arguments being made. Interestingly, despite the elaborate and technical solutions devised by ISDA, Annelise Riles has observed that when interviewing staff dealing with such documents, at least in terms of disputes, she was told that '[n]o one actually followed those procedures'.[699] However, when it comes to the day-to-day operation of collateral management in firms, Independent Amounts, Thresholds and Minimum Transfer Amounts, along with auxiliary concepts, are often closely followed by each party to an ISDA CSA.

## 6.9 ISDA Confirmations

[698] David Murphy, *OTC Derivatives: Bilateral Trading & Central Clearing: An Introduction to Regulatory Policy*, *Market Impact and Systemic Risk,* (Palgrave Macmillan, 2013), p.189.

[699] Annelise Riles, 'The Anti-Network: Private Global Governance, Legal Knowledge, and the Legitimacy of the State' (2008) *Cornell Law Faculty Publications* Paper 36, p.623.

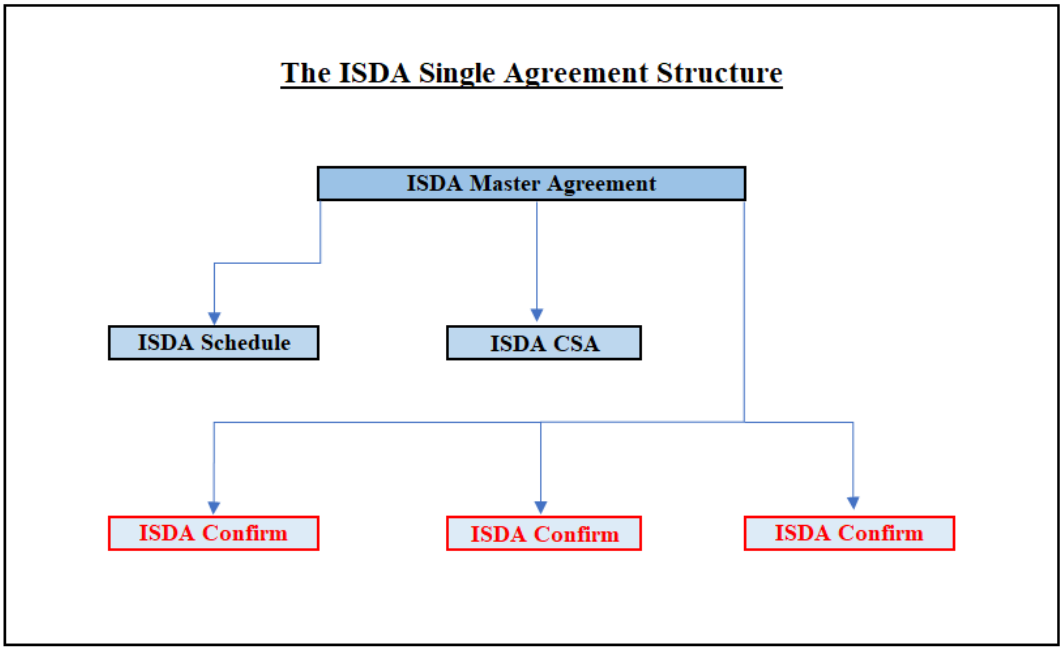


*Fig. 20 The single agreement structure with the ISDA MA as the umbrella agreement. In this section, the ISDA Confirmations – highlighted red – will be discussed.*

Confirmations or 'Confirms' operate on a transactional level. While the MA is the broad umbrella agreement, the economic terms of individual transactions, as Simon Firth explains, are contained in a series of Confirmations.[700] These documents, as the name suggests, 'confirm' that a transaction has taken place and the particular terms of that transaction. As Stephen Choi and Mitu Gulati describe, while the MA contains the immutable, non-economic terms, the Confirmations formalise the economic terms for each transaction, such as price, volume, notional amount, and maturity.[701] In reality, firms may not use Confirmations to document transactions, rather they will use the MA as a contractual framework and use internal systems to cover the individual economic terms of each transaction.

The MA underpins each Confirmation by stating, at sections 2(a)(i) and (ii),

[700] *Firth* (n 343), at 10A.003.

[701] *Choi & Gulati* (n 26), p.1140.

respectively, that payments must be made in accordance with the terms of the corresponding Confirmation. Confirmations come in two forms: long-form and short-form.

As the name suggests, long-form versions are designed to provide what could be called a *contract-lite* document which will include terms which can make it legally enforceable without an MA in place. Such long-form Confirmations can be used to include a fuller range of definitions applicable to the transaction[702] or they can be used when there is no MA in place. While the MA is lauded for its efficiency, both economic and operational,[703] Henry Hu has reported that 'one informal survey found that half of master agreements were still undocumented one year after the transaction,' with some banks exhibiting a 'persistent tendency to commit verbally to swap transactions and document them later'.[704] The implacable avidity of sales staff and traders, many of whom command a lot of respect given their financial importance to firms, will sometimes mean that a long-form Confirmation is the best the legal team can hope for in documenting not only a particular transaction but also, in the absence of an agreed MA, the business relationship as it relates to each transaction.

If long-form Confirmations are the *contract-lite*, short-form Confirmations are akin to a heads of terms which, without the MA supporting document structure, don't carry a lot of legal weight. These Confirmations more accurately satisfy the initial description provided at the start of this section, confirming the economic terms of

[702] Ibid, p.1140.

[703] *Borowicz* (n 125), p.80.

[704] Henry T. Hu, 'Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism' (1993) Vol. 102 Iss. 6 *Yale Law Journal* 1457, p.1491.

the transaction and leaving everything else to fall under the MA and other ancillary documents which together form one single agreement.[705]

As Sean Flanagan describes, counterparties may exchange a vast number of Confirmations, corresponding to a multitude of transactions; without an MA in place there would be a significant burden on both sides to exchange individual payments for each transaction, however, the MA provides for payment netting, as well as 'cross-transaction payment netting' which means that amounts due may not only be netted by each transaction set but across all transactions made under the MA.[706]

When Confirmations fall under the MA, forming a single agreement, this provides a number of benefits, namely: reducing time, cost, and risk by utilising the terms of the MA which are used throughout the market to document the provisions which remain constant throughout the relationship,[707] as well as avoiding – in theory, at least – the problems often encountered under various bankruptcy codes whereby such contracts would fall prey to cherry-picking by insolvency practitioners and/or the problem of netting multiple contracts with a single counterparty.[708]

The single agreement approach was assailed in the case of *BNP Paribas v Wockhardt EU Operations (Swiss) AG,*[709] in which Wockhardt contended that the connection between the MA and, inter alia, the Confirmations was merely an 'artificial link'. However, the court dismissed this claim, as per Mr Justice

[705] *CFH Clearing Limited v Merrill Lynch International* [2019] EWHC 963 (Comm), 26; *Videocon Global Ltd* (n 557), 10.

[706] *Flanagan* (n 70), p.9.

[707] *Jomadar* (n 535).

[708] *Bliss and Kaufman* (n 455), p.5.

[709] *BNP Paribas* (n 562).

Christopher Clarke:

> *The fact is, however, that the parties have created that link by their agreement, as they were entitled to do. Their intention, as manifested in the language which they have used, is that the Master Agreement and all Confirmations shall form a single agreement between the parties… there is nothing artificial about the agreement of the parties. They have by agreement produced a situation which, in the absence of their agreement, would not have arisen; but their agreement prescribes the substance of the legal relations into which they have freely chosen to enter.*[710]

## 6.10 ISDA Definitions

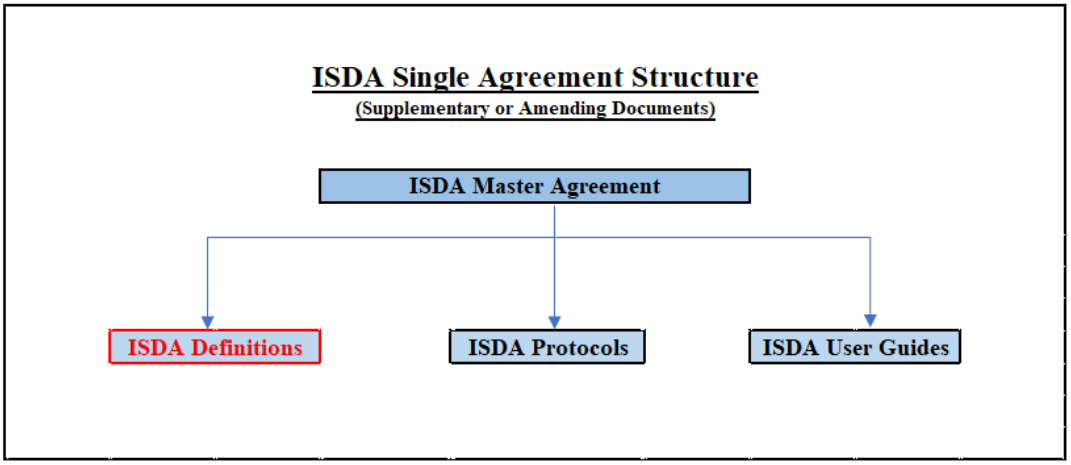


*Fig. 21 The MA single agreement structure with supporting documents or guides shown as linked. In this section, the ISDA Definitions – highlighted red – will be discussed.*

In addition to the aforementioned documents, ISDA produces booklets of definitions which the parties can incorporate into their agreements, more broadly through the ISDA Schedule or more directly through the ISDA Confirmations. For example, if the parties intended to trade foreign exchange (FX) and commodities, then they

[710] Ibid, 49.

would probably incorporate the 1998 ISDA FX and Currency Option Definitions and the 2005 ISDA Commodity Definitions, respectively.

In ISDA's own words, it publishes these booklets of Definitions in order to 'assist the smooth and efficient functioning of privately negotiated derivatives activity by providing a common set of terms for parties to use in preparing Confirmations'.[711]

As Philip Wood has observed:

> *ISDA has produced booklets of definitions to save the parties having to write things out each time. These definitions range from mechanics such as a definition of a business day for when payments can be made, to intricate legislation of adjustments to shares which change their character. These are a financial dictionary of short-hand phrases carrying a great weight of significance, a specialist argot, a language comprehensible only to those in possession of the bible.*[712]

An interesting example of how these Definitions work is found in the OTC interest rates market which is by far the largest OTC market.[713] The 2021 Interest Rate Definitions (2021 Definitions) show how this particular component of the ISDA documentation has evolved, as well as the role of ISDA in bilateral agreements between counterparties which utilise ISDA documentation.

The 2006 ISDA Definitions (2006 Definitions) were commonly used by

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[711] ISDA, 'Introduction to the 2006 ISDA Definitions' < https://www.isda.org/a/3sMDE/2006isdadefs-INTRO.pdf> accessed on 29 December 2021.

[712] *Wood* (n 8), 13-004.

[713] Bank for International Settlements, 'OTC derivatives statistics at end-December 2022' (2023) < https://www.bis.org/publ/otc_hy2305.pdf > accessed on 3 June 2023.

counterparties, not only as part of interest rate transactions but more broadly to other transactions. They were, and continue to be, widely used in the market. As part of using these Definitions, the parties were incorporating the Definitions as amended and supplemented by ISDA, meaning that any amendments made by ISDA would automatically form part of the parties' agreement if they had incorporated the 2006 Definitions, unless such amendment was specifically excluded by the parties.[714]

As of September 2021, ISDA had published 70 Supplements to the 2006 ISDA Definitions. Therefore, as Jonathan Martin and Rick Sandilands describe:

> *...counterparties entering into a swap under the 2006 Definitions on January 1, 2015 would have needed to read through 45 supplements to understand the terms of their trade. If those counterparties executed an identical swap five years later, they would need to trawl through an additional 17 supplements to determine if any important changes had been made to the terms.*[715]

This made the 2006 Definitions 'gradually more unwieldy and difficult to read'.[716] The 2021 Definitions are designed to consolidate these Supplements and, instead of producing individual hard copy versions, will instead utilise a new electronic platform which will provide for easier amendment and tracking for parties to know what amendments were in force at certain dates. Moreover, ISDA will include certain parts of the 2021 Definitions in its Common Domain Model – a platform discussed below – which establishes a 'single, common digital representation of

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[714] *ISDA, 'Introduction to the 2006 ISDA Definitions'* (n 711).

[715] Jonathan Martin and Rick Sandilands, 'Transformational Change', IQ: ISDA Quarterly (February 2021), p.34 < https://www.isda.org/a/6VITE/IQ-ISDA-Quarterly-February-2021.pdf > accessed 4 December 2022.

[716] Ibid.

derivatives trade events…[facilitating] interoperability across firms and platforms, providing a bedrock upon which new technologies (such as DLT and smart contracts) can be applied'.[717] Smart contracts are discussed in greater detail at chapter 9 and form an important element of the investigation made in this thesis. In brief, such innovations mean that ISDA's documents will work together more seamlessly and automation will mean that some of these terms will apply without particular input from either counterparty to a transaction.

## 6.11 ISDA Protocols

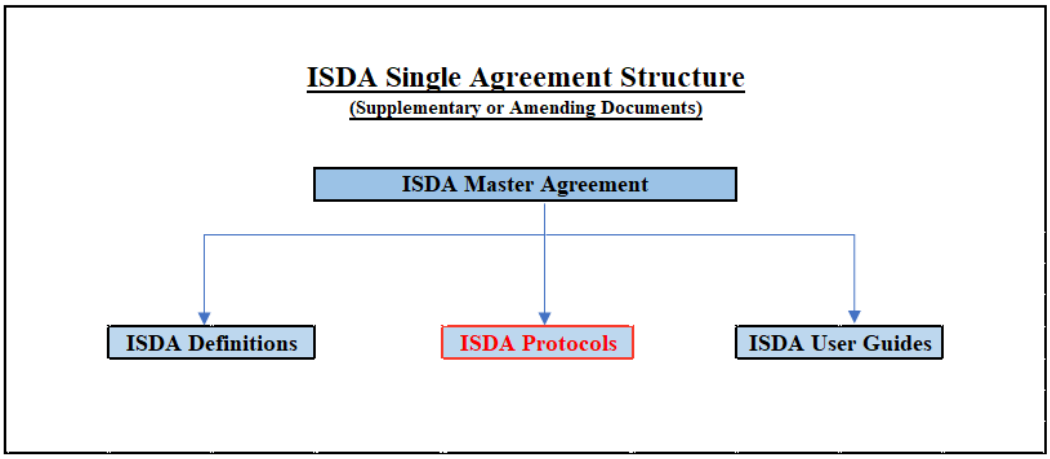


*Fig. 22: the ISDA Protocol can form part of the MA by way of addition or amendment if signed by two parties which have entered into an MA with each other.*

In addition to the suite of contracts published by ISDA for use by parties, it has also developed some innovative systems which draw together these contracts with technological solutions. One such solution is the ISDA Protocol. Protocols enable ISDA to make changes to its documentation – specific or wide-ranging – and parties

[717] ISDA, 'ISDA Legal Guidelines For Smart Derivatives Contracts: Introduction' (2019) < https://www.isda.org/a/MhgME/Legal-Guidelines-for-Smart-Derivatives-Contracts-Introduction.pdf> accessed on 30 September 2021.

then sign-up to the protocol agreeing that any ISDA contracts that they have in place with any other parties signing up to the protocol will be amended accordingly.

One of the problems faced by many widely-used standard-form agreements, as observed by Catherine Mitchell, is that, while they are effective vehicles to standardise industry norms and practices, such 'practices will inevitably change over time much like language itself'.[718] For parties with multiple Master Agreements in place, ISDA Protocols allow parties to 'update their contracts with counterparties without the thankless task of renegotiating each one'.[719] For some, it would require the issuance of a new version. This explains, to a certain extent, the 1987, 1992, and 2002 versions of the MA. However, given the MA's ubiquity, separately published iterations cause problems in terms of consistency – many of which remain to this day in relation to the MA – this is where ISDA Protocols can play an important role in the OTC derivatives market.

The protocol is, as Maciej Konrad Borowicz describes, 'a multilateral mechanism to amend the documentation…[in which] market participants are asked to sign on to a multilateral contract under which all of their past and future agreements with counterparties who have also adhered to the relevant protocol will be affected…As such, the protocols establish a contractual link between virtually all market participants.'[720] This mechanism illustrates how users of the ISDA MA can form networks of connected contracts, in this case as part of sub-networks linked together by those parties which have adhered to particular protocols.

[718] *Mitchell* (n 52), Loc 4713.

[719] Ibid, Loc 4713.

[720] *Borowicz*, (n 125), p.83.

As Philip R. Wood has observed, the protocol offers a 'flexible way of updating huge numbers of standard documents…[by publishing] the text to document the agreed changes and a prescribed form of adherence letters. Market participants are invited to send duly executed copies of the adherence letters to ISDA which publishes a list of letters received on its website. The adherence letter includes a commitment to be bound by the changes for each bilateral agreement between the signatory and any other person adhering to the protocol on those terms'[721] and such changes are irrevocable other than if an adhering party submits a revocation notice to ISDA and from the revocation date the party will no longer adhere to the particular protocol but in relation to those agreements for future adhering parties not those with other adhering parties in force before the revocation date.[722]

The protocol is therefore a combination of old with new; a side letter which amends the terms of the standard-form agreement which is in use bilaterally between parties but which is executed at scale by centralising the process on ISDA's website and publishing a list of adhering parties so that parties can see which of their counterparties have also agreed to the changes and which of their ISDA agreements are therefore amended with the terms of the protocol. There are legal opinions which accompany each protocol, confirming – at least in the chosen firm's opinion - that this method of contractual amendment is legally sound and that the protocol

[721] *Wood* (n 8), 13-007.

[722] ISDA, ISDA 2014 Collateral Agreement Negative Interest Protocol, FAQ, Question 8 'Can I revoke my participation in the Protocol?' (2014) <https://www.isda.org/protocol/isda-2014-collateral-agreement-negative-interest-protocol/ > accessed 14 August 2021.

'operates as a mutually agreed modification to their existing contractual arrangement.'[723]

The protocol mechanism is often particularly useful when there are either 'incoming public regulatory reforms'[724] or material changes or clarifications which ISDA wants to implement without necessarily publishing a new version of the MA. An example of the latter is the ISDA 2014 Collateral Agreement Negative Interest Protocol;[725] examples of the former include: the ISDA 2020 IBOR Fallbacks Protocol[726] and the ISDA 2018 U.S. Resolution Stay Protocol.[727]

The design of the protocol system allowed regulatory authorities – along with the public at large – to view which parties had adhered to the protocol as the lists of

[723] ISDA, ISDA 2020 IBOR Fallbacks Protocol: Opinion—English Law, Mayer Brown International LLP (2020) < http://assets.isda.org/media/3062e7b4/72c32a80-pdf/ > accessed on 5 August 2021.

[724] *Biggins and Scott* (n 88), p.340.

[725] The ISDA 2014 Collateral Agreement Negative Interest Protocol was introduced to address a market problem of how negative interest rates should be calculated on cash collateral in the ISDA CSA documentation.

[726] The ISDA 2020 IBOR Fallbacks Protocol was introduced as part of the LIBOR rigging scandal and the replacement for this important benchmark.

[727] The ISDA 2018 U.S. Resolution Stay Protocol was introduced as part of U.S. regulator struggles during the global financial crisis of 2008, especially during the U.S. bailout of the financial and insurance conglomerate, American International Group (AIG). U.S. regulators were keen to impose a special resolution regime which restricted the close-out netting rights under the MA. As described by *Borowicz*, (n 125), p.86: 'The Resolution Stay Protocol transformed the close-out mechanism provided for under the MA through coordinated efforts of ISDA and public regulators into an explicit regulatory mechanism embedded in a contract. The problem was solved through a contract rather than public regulation because it was easier to implement the regulatory solution through a contract on a transnational basis… The solution amounted to forcing parties to agree to something contractually that regulators felt would take too long or be too difficult to achieve through legislation around the world'.

adhering parties to each protocol are publicly available on ISDA's website. Given the attempts to improve the transparency of the OTC derivatives markets, authorities in each jurisdiction have a much better understanding of the systematically important institutions in their country and OTC position reporting to regulators provides a better picture of the exposures between parties.[728]

Once the authorities have the information on which parties have adhered to the protocol along with the position data to measure exposures, pressure can be applied to those parties which have not adhered to the protocol. This is where ISDA's network effect takes hold. While there are some parties that may be independent and powerful enough to resist adhering to a protocol if it does not suit their objectives, for many members and non-members such resistance is difficult in the ISDA network. For example, if the U.S. regulators are stipulating that U.S. financial institutions are required to sign-up to such measures, the dominance of U.S. institutions (as evidenced, in relation to ISDA, at chapter 5 of this thesis) would mean that they could leverage their power in the market to persuade their counterparties to adhere. Those counterparties will often then require the same from their counterparties and this continues until the network has fulfilled its job of adherence through persuasion rather than coercion. Even though a lot of those counterparties can ill-afford to refuse when powerful parties request such adherence; as Lisa Pollack has described, signing up to a number of these protocols is 'hardly a choice for most market participants'.[729]

[728] For example, in the U.K., this manifested in EU regulations and directives (see *MiFID* (n 324) and *EMIR* (n 695)) which, recently, have been supplanted by, inter alia, the Financial Services and Markets Act 2023.

[729] *Borowicz* (n 97), p.60.

The protocol is another example of ISDA providing market and cross-border solutions. As Colleen Baker explains, ISDA 'has been an extremely rapid and successful governance innovator,' exemplified by the protocols 'which quickly respond to market exigencies.' [730]

## 6.12 ISDA User's Guides and Best Practice Statements

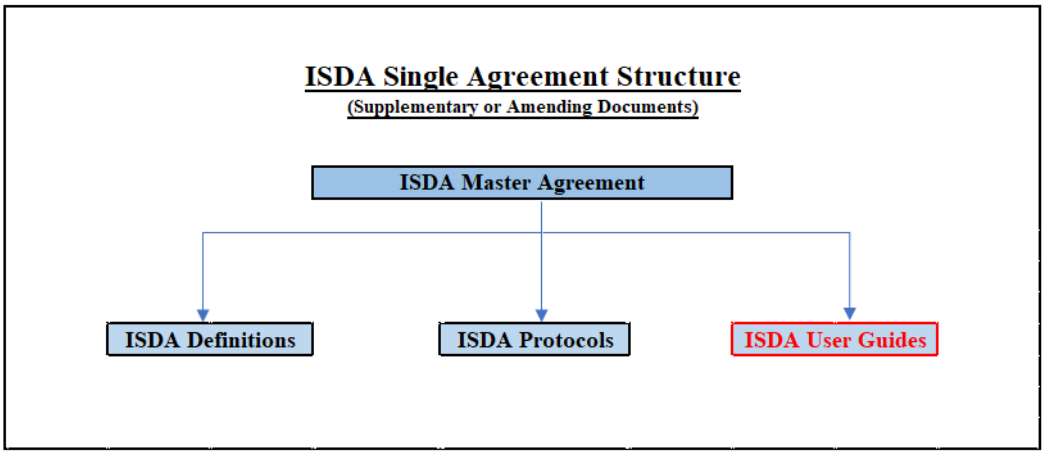


*Fig. 23: unlike the Definitions and Protocols, the User Guide – represented by the dashed line connecting it to the MA – is supplementary to the MA rather than forming part of it per se.*

The ISDA User's Guide provides section-by-section commentary on ISDA's documentation, designed to assist in the use and interpretation of such documentation and, as evidenced in *Lehman Brothers Finance AG v Klaus Tschira Stiftung GmbH*,[731] this guide has been referred to as 'the first and most obvious source to which the Court can legitimately look for guidance as to the meaning of the ISDA Master Agreement'.[732] This was affirmed in the case of *The State of the*

[730] *Baker* (n 304), p.177.

[731] *Lehman Brothers Finance AG v Klaus Tschira Stiftung GmbH* (n 74).

[732] Ibid, 160.

*Netherlands v Deutsche Bank AG*[733] in which the User's Guide was accepted as being 'admissible factual matrix in relation to the interpretation of the CSA.[734]

The ISDA User's Guide is designed to address a number of issues, including: highlighting significant changes from the last version of the MA, section-by-section commentary, guidance on entering Confirmations without an MA in place, tax considerations, additional guidance on assurances, guarantees and assignment, and particular modifications to the MA.[735]

The User's Guide does not form part of the MA, it is designed to help parties with certain interpretational issues which cannot be accommodated within the contractual documentation. As Simon Firth points out, the User's Guides for both the 1992 and 2002 MAs contain 'explanations about the terms used in the Agreements and various additional provisions which the parties can incorporate into them if they wish'. [736] Firth also references the fact that while the Guides do not have contractual force, the courts have described them as 'an admissible and useful tool in the interpretation of the agreements'.[737]

The publication of the User's Guide and its use by the courts as a tool of interpretation raises interesting questions around how to interpret standard-form agreements such as the MA. As Choi and Gulati describe, '[n]ot only is ISDA

[733] [2019] EWCA Civ 771.

[734] Ibid, 11.

[735] ISDA, User's Guide to the 2002 ISDA Master Agreement: Introduction < https://www.isda.org/a/KAEDE/2002MasterUGINTRO1.pdf > accessed 14 May 2021; *Choi & Gulati* (n 26), p.1140.

[736] *Firth* (n 343), at 11.002.

[737] *Re Lehman Brothers International (Europe) (No.8)* [2017] 2 All E.R. (Comm) 275, 28.

present to clarify the meaning of its terms, but ISDA also publishes a detailed User's Guide detailing the purpose and operation of its terms. In other situations, determining historical understandings is more difficult'.[738]

Along with the User's Guide, ISDA will publish Best Practice Statements which assist with the construction and interpretation of the MA.[739] The Best Practice Statements are an attempt by ISDA to diffuse equivocation as it builds in the market. However, the conclusions to these Statements often try to find a middle ground which is sometimes unsatisfactory for market participants. As was the case with the issue of negative interest rates, ISDA begun the process by considering that if interest rates were negative then a floor of zero should be applied or that 'parties should bilaterally agree the handling of interest accruals'[740] but subsequently issued a 2013 Best Practice Statement on the subject[741] which advised that 'market participants should review and follow more detailed ISDA guidance that may be published on this topic' but that 'negative interest amounts may be computed'.[742] Obfuscation on the matter led to the publication of the ISDA 2014 Collateral Agreement Negative Interest Protocol.[743]

[738] *Choi & Gulati* (n 26), p.1170.

[739] *Biggins and Scott* (n 88), p.326.

[740] ISDA, 'ISDA 2011 Best Practices for the OTC Derivatives Collateral Process' (2011) < https://www.isda.org/a/6LDDE/2011-isda-best-practices-for-the-otc-derivatives-collateral-process-30-nov-2011-final.pdf > accessed 1 August 2021.

[741] Ibid.

[742] Ibid, Principle 11.2.

[743] *ISDA 2014 Collateral Agreement Negative Interest Protocol* (n 725).

Best Practice Statements are now used more frequently by ISDA to provide guidance on how firms should approach reporting OTC trades, providing a column-by-column guide to how ISDA sees the reporting requirements under the appropriate regulations.[744] The courts have shown that they will use Best Practice Statements as part of the interpretation of the contract. In *The State of the Netherlands v Deutsche Bank AG,*[745] the court stated that 'whilst it would not normally be possible to look at post-contractual documentation as being indicative of factual matrix…[the Best Practice Statement was] informative as to the thinking when the CSA was drafted…[and] it has some significance in that it shows ISDA's thinking at or around the time of the CSA'.[746]

This encapsulates the power of ISDA's User's Guide and Best Practice Statements as tools of interpretation not only for users but for the courts. The aim is that, over time, with the publication of the User's Guide and Best Practice Statements, 'vague terms and uncertain interpretations of the standard form contract will disappear'.[747] This may be a chimera but it helps to further standardise the terms and the expectations behind the terms, as well as solidifying ISDA's place as the gatekeeper of the MA and the transnational regulatory framework it has helped to create.

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[744] ISDA, 'ISDA EMIR reporting Industry Best Practices Matrix' (2020) < https://www.isda.org/2020/03/03/emir-reporting-best-practices/ > accessed 15 August 2021; ISDA, 'ISDA, EFAMA, EVIA, FIA and GFXD Publish EMIR Reporting Best Practices' (2020) < https://www.isda.org/a/VuoTE/Industry-Associations-Publish-EMIR-Reporting-Best-Practices.pdf > accessed 15 August 2021.

[745] *The State of the Netherlands* (n 733).

[746] Ibid, 56.

[747] *Austen-Baker and Zhou* (n 50), p.119.

## 6.13 ISDA Systems

While ISDA is involved in a number of technologically innovative solutions, for the purposes of this thesis, the two particular ISDA systems of interest here are: ISDA Create and the ISDA Common Domain Model, the former has recently been integrated with the latter[748] but each will be discussed individually.

### 6.13.1 ISDA Create

In the words of ISDA, 'ISDA Create allows users to produce and agree documentation completely online, as well as digitally catch, process and store legal data from these documents.'[749] This is a platform which allows parties to interact digitally rather than flounder between hard copy versions of their documentation.

The platform also enhances ISDA's standardisation of its documents further by including the ISDA Clause Library which is a tool that provides a range of ISDA standard clauses which are most often negotiated and so provides a range of variants which allow the parties to tailor the MA to their needs while maintaining standardisation and ensuring the MA remains predictable and certain. The aim, as ISDA sets out, 'is to cut down on instances of differently worded clauses that

[748] ISDA/Linklaters, 'Common Domain Model Integrated into ISDA Create' (2021) < https://www.isda.org/a/XUegE/Common-Domain-Model-Integrated-into-ISDA-Create-Press-Release-Final.pdf > accessed on 2 January 2022.

[749] ISDA/Linklaters, 'ISDA Master Agreement and ISDA Clause Library Added to ISDA Create' (2021) < https://www.isda.org/a/PxCTE/ISDA-Master-Agreement-and-ISDA-Clause-Library-Added-to-ISDA-Create-Release-Press-Release.pdf > accessed on 15 November 2021.

essentially achieve the same outcome, making contract negotiation more efficient and improving the consistency and accuracy of legal agreement data'.[750]

Designed and implemented in collaboration with the law firm Linklaters LLP, this platform was initially created for parties subject to Regulatory IM exchange, allowing users to 'deliver IM documentation to multiple counterparties simultaneously, and then negotiate and execute those documents completely online.'[751] However, its use expanded given the appetite for digitising this contractual documentation.

ISDA, Linklaters >Nakhoda,[752] and Kinetix Trading Solutions have also collaborated on a project called MyLibrary which the ISDA Chief Executive Officer describes as providing ISDA Members with:

> *…up-to-date digital versions of ISDA's documentation and definitions. Firms will be able to source and reference key documents, terms, legal clauses and definitions via a search-enabled online platform, with the ability to compare different*

[750] ISDA, 'ISDA Launches Clause Library' (2020) < https://www.isda.org/a/CXbTE/ISDA-Launches-Clause-Library.pdf > accessed on 12 July 2021.

[751] ISDA/Linklaters, 'ISDA and Linklaters Launch Full Version of ISDA Create – IM' (2019) < https://www.isda.org/a/nwgME/ISDA-Publishes-Full-Version-of-ISDA-Create-press-release.pdf > accessed on 3 February 2020.

[752] 'A cross-functional team [within Linklaters LLP] of product managers, designers and developers working closely alongside our lawyers and our clients to design bespoke technology solutions', < https://www.linklaters.com/en/about-us/nakhoda > accessed on 14 December 2021.

*versions of documents side by side. Using the platform means members will always be able to easily construct a full legal representation of a trade consistent with the terms applicable at the time the transaction was executed.*[753]

These platforms are designed around greater standardisation and enhanced efficiency, and they are ultimately geared towards a more automated MA. This will then feed into more advanced steps towards more complex technological innovations.

### 6.13.2 ISDA Common Domain Model

When parties transact with each other off-exchange, they will employ their own systems which creates a number of divergences and inefficiencies. The ISDA Common Domain Model (CDM) is a platform which Members can use in order to standardise and digitise certain processes which are involved in OTC derivatives trading. ISDA signed a memorandum of understanding (MOU) on 2 August 2021 with the International Capital Market Association[754] (ICMA) and the

[753] ISDA, 'ISDA Launches MyLibrary Digital Documentation Platform' (2021) < https://www.isda.org/a/5DEgE/ISDA-Launches-MyLibrary-Digital-Documentation-Platform.pdf> accessed on 14 December 2021.

[754] An organisation which, in its words, 'promote[s] the development of the international capital and securities markets' and has, amongst other things, created the Global Master Repurchase Agreement (GMRA) which, like the ISDA MA for OTC derivatives, creates a standard-form agreement for entities to use when entering into Repurchase Transactions or Buy/Sell Back Transactions < Global Master Repurchase Agreement (GMRA) » ICMA (icmagroup.org) > accessed 5 June 2023.

International Securities Lending Association[755] (ISLA) in which the three organisations agreed to collaborate on a CDM in order to establish a 'cross-industry initiative...to define and promote the development of a digital future for financial markets'.[756] These organisations have, at the time of writing, appointed FINOS[757] as a third-party repository in order to, inter alia, maintain the code underpinning CDM with a view to it being 'distributed on an Apache license standard for open-source software'.[758]

CDM provides a platform for parties to record trade details, provide settlement information, exchange confirmations, manage collateral and credit risk, and standardise reporting information. The collaborative effort between ISDA, ICMA, and ISLA is designed to establish a 'single, digital representation of trade events and actions across the lifecycle of financial products'.[759] While this collaboration between organisations in different (and complementary) areas of the financial

[755] An organisation which, in its words, 'fosters the growth of the securities lending and financing industry, and actively represents the long-term interests of all stakeholders' and has, amongst other things, created the Global Master Securities Lending Agreement (GMSLA) which, like the ISDA MA for OTC derivatives, creates a standard-form agreement for entities to use when entering into securities lending transactions < About - International Securities Lending Association (ISLA) (islaemea.org) > accessed 5 June 2023.

[756] ISDA, 'ISDA, ICMA and ISLA Sign MoU on the Common Domain Model' (2021), p.1 < ISDA-ICMA-and-ISLA-Sign-MoU-on-the-Common-Domain-Model.pdf > accessed 3 June 2023.

[757] 'A Fintech Open-Source Foundation' < FINOS, Fintech Open Source Foundation > accessed 4 June 2023

[758] ISDA, 'ISDA, ICMA and ISLA Appoint FINOS for CDM Repository' (2022) < ISDA-ICMA-and-ISLA-Appoint-FINOS-for-CDM-Repository.pdf > accessed 4 June 2023.

[759] *ISDA, ICMA, and ISLA Sign MoU* (n 756).

services industry is important, this thesis focuses on ISDA for the purposes of CDM so references throughout may refer to 'ISDA's CDM' which includes the collaboration with ICMA and ISLA.

ISDA reasons that members which have to continually reconcile their trades are failing to recognise the profligacy and resulting operational risk. Moreover, CDM, ISDA says, 'creates a foundation for long-term process transformation using emerging technologies like cloud, distributed ledger and artificial intelligence.'[760]

The interoperability and standardisation which is created by the implementation of common standards which is then connected by automation generates a platform which encourages consistency and sets the foundation for a move towards a range of technologies mentioned above, the most pressing of which, for the purposes of this project, is distributed ledger technology (DLT). DLT is explained in more detail at chapter 9 but, essentially, it is the decentralisation of any database that is required in a network so that the participants, as part of what is commonly referred to as a blockchain, are able to verify and monitor activity. This is done in a way that anonymises a lot of the data, replacing such information with cryptographic keys. On such networks, smart contracts can form the legal basis of arrangements between parties. ISDA plans to utilise its Definitions booklets[761] as part of

[760] ISDA, 'What is the ISDA CDM?' < https://www.isda.org/a/z8AEE/ISDA-CDM-Factsheet.pdf> accessed 3 February 2020.

[761] As discussed at chapter 6.10.

embedding those terms in smart contracts. As part of this initiative, ISDA has released Digital Asset Derivatives Definitions which 'initially cover non-deliverable forwards and options on Bitcoin and Ether, but could be expanded in future to cover additional product types'.[762]

ISDA is looking towards utilising its CDM to provide the basis for DLT with the most recent proposals including a partnership with FINOS[763] and R3.[764] However, it is antithetical to the notion of DLT to have one institution (or even an oligarchy if CDM is viewed through the collaborative efforts of ISDA, ICMA, and ISLA) at the heart of the network. The control exerted by a centralised authority may be at odds with the ideal of decentralised technology, however, this control may have some justification. Take, for example, anonymity, security, and regulatory compliance. As will be discussed at chapter 9, anonymity and security may be compromised on a fully decentralised network – even if transactions are anonymised, parties may quickly extrapolate the identities and trading patterns of certain other parties. On regulatory compliance and in contradistinction with the previous issues of anonymity and security, if you do not know the identity of the counterparty with whom you trade, this poses serious risks to your

[762] ISDA, 'ISDA Launches Standard Definitions for Digital Asset Derivatives' (2023) < ISDA-Launches-Standard-Definitions-for-Digital-Asset-Derivatives.pdf > accessed 10 September 2023.

[763] *ISDA, ICMA and ISLA Appoint FINOS* (n 758).

[764] 'ISDA, Common Domain Model and Barclays Hackathon' (2018) < https://corda.net/blog/isda-common-domain-model-and-barclays-hackathon/ > accessed on 2 September 2023.

> business in relation to, inter alia, dealing with the proceeds of financial crime and general requirements around knowing your clients. While decentralisation may have provided the impetus behind a smart contract version of the MA, ISDA has understood that there may be compromises which must be made if there is to be a transition from cryptocurrency trading to the execution of legally enforceable contracts or performance mechanisms related thereto.

## 6.14 Conclusion

The purpose of this chapter was to provide: (i) an analysis of the purpose behind the MA, with its focus on payment and termination, alongside (ii) a description of the key payment and termination provisions of the MA accompanied by doctrinal analysis.

There is a paradox at play with the MA in that it is a contract engineered for termination but which will often support a considerable number of transactions over long periods of time.[765] These two concepts – termination and preservation – may appear antithetical but, in a market with demonstrable systemic risk, this apparent incompatibility is also rational. The OTC derivatives market thrives under conditions of high liquidity – where there is an abundance of buyers and sellers – so the MA needs to support ongoing trading between parties; the MA simultaneously needs to protect non-defaulting market participants against the threat of counterparties – often those with whom a non-defaulting party has a large number of open trades – defaulting on their obligations causing market instability.

[765] *Flanagan* (n 70), 230.

This apparent disjunction forms part of the second level cascading analysis ('The terms of the MA and the parties using it'), as explained at chapter 1.3, in which this standard-form agreement is explored as both discrete and relational. It is the distinct transactional elements coupled with those more cooperative terms, as well as the equivocal nature of some terms and the contract's incompleteness, which causes, it is contended in this thesis, such agreements to contain both discrete and relational elements.

The purpose of analysing some of the key payment and termination terms, as well as the supporting documentation, is twofold: (i) to show that the terms of the MA, despite the MA being what the English judiciary may describe as a 'sophisticated agreement', are not impervious to ambiguity and, in some cases, to demonstrate cross-border inconsistency on analogous matters, and (ii) to form the foundation of later discussions in this thesis around the MA in terms of party intentions, the MA network, and the operational and non-operational clauses of a smart contract version of the MA.

# 7 ISDA and Party Intentions

## 7.1 Introduction

The aim of this chapter is to analyse the proposition that standard-form contracts should be viewed more akin to statutes or treaties and that it is the intentions of the drafters, rather than the parties using these contracts, which should prevail in questions of interpretation. The purpose of this analysis is to understand where the MA sits on the discrete/relational contract spectrum and how the substitution of the intentions of the parties with the intentions of ISDA can affect the MA's

categorisation.

Staughton LJ wrote, extrajudicially, that 'Rule One is that the task of the judge when interpreting a written contract is to find the intention of the parties. In so far as one can be sure of anything these days, that proposition is unchallenged.'[766] However, when it comes to standard-form agreements, there are arguments that it is the intentions of the drafting party which should take precedence over the intentions of the parties utilising it.[767] With standard-form agreements, especially those as successful as the ISDA MA and in which the drafter still has so much involvement, the courts may well substitute the intentions of the parties to the agreement with the intentions of the drafter. While it may seem, prima facie, illogical to give ISDA's intentions precedence over the parties to the agreement,[768] it must be born in mind that the effects of litigation will reverberate far beyond the dispute between the two parties in court.[769] As James J. Spigelman observes, 'this challenges the general idea

[766] *Mitchell* (n 52), Loc 1308; with this being said, there are some who note that: 'In what has become the standard formulation of the legal test, the basic aim of contractual interpretation is said to be to determine what a reasonable person would have understood the parties to have meant by the language they used. In this essay I will argue that this standard test is inadequate. The test is insufficiently objective because it suggests that interpretation involves, even if carried out from the viewpoint of a "reasonable person", an inquiry into the states of mind of the contracting parties. I will show that such a "psychological theory" is untenable' (*Leggatt*, n 31, p.454).

[767] *Choi & Gulati* (n 26).

[768] *Hudson* (n 25), p.1235.

[769] *Lehman Brothers Bankhaus AG I. Ins v CMA CGM* [2013] EWHC 171, 75: 'The ISDA master agreement was widely used in all types of derivative transactions on the international markets'; *Videocon Global Ltd* (n 557), 50; *Re Sigma Finance Corporation* (n 527), 37; *Re Lehman Brothers International (Europe) (In Administration),* [2016] EWHC 2417 (Ch), 48 '…particular care is necessary not to adopt a restrictive or narrow

that a contract of commercial significance consists only of a relationship between two parties'.[770] For an agreement which is so ubiquitous, it may appear incumbent upon the courts to consider the impact on the market more generally rather than focussing parochially on the intentions of the parties to the dispute which may cause deleterious outcomes.[771]

## 7.2 Designated Legislative Body

Legal systems, both civil law and common law, often demand that, in any question of interpretation, the intentions of the parties should be considered as part of the context of the words they have used to form their contract. Many legal systems have either codified the idea that courts must interpret contracts in accordance with the intention of the parties[772] or such ideas have permeated legal thinking over time.[773]

Choi and Gulati argue, in their article 'Contract as Statute',[774] that certain standard-form contracts should be interpreted in a way that more closely resembles statutory interpretation, meaning that the courts should consider the intentions of the drafting party – in this case, ISDA – rather than the intentions of the parties who have

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construction which might make the form inflexible and inappropriate for parties who might commonly be expected to use it.'

[770] James J. Spigelman, 'From Text to Context: Contemporary Contractual Interpretation' (2007) Vol. 81 Iss.5 *Australian Law Journal* 322, p. 322.

[771] *Choi & Gulati* (n 26), p.1132.

[772] For example, the *French Civil Code* (n 114), Art. 1188; *DCFR* (n 114), Chapter 8: Interpretation Section 1: Interpretation of contracts, II. – 8:101.

[773] For example, under English common law*: BMA Special Opportunity Hub Fund Ltd* (n 115), 24.

[774] *Choi & Gulati* (n 26).

entered into a contractual relationship using the standard-form contract. Echoing the type of language associated with the operation of legislative functions, Choi and Gulati refer to the drafting party in such instances as the 'designated legislative body'. [775]

To a certain extent, the 'contract as statute' approach fits within judicial views that, given the MA's importance in the market,[776] it is axiomatic that the MA is interpreted in order to reflect the intentions of the 'framers' of the MA.[777]

Despite judicial recognition of the importance of the MA and the need to maintain consistency and predictability in the market, Choi and Gulati's idea of using ISDA as a 'designated legislative body'[778] provokes counter-arguments from those who believe that such moves would imbue transnational organisations with even more illegitimate power.[779] Moreover, as mentioned above, the idea that the intentions of ISDA should take precedence in bilateral contracts between private parties would appear to subvert both civil[780] and common[781] law contractual interpretation

[775] Ibid, p.1162.

[776] *Lomas* (n 63), 53: the MA is 'probably the most important standard market agreement used in the financial world'.

[777] Ibid, 53.

[778] *Choi & Gulati* (n 26), p.1162.

[779] Susan George, *Shadow Sovereigns: How Global Corporations are Seizing Power*, Polity Press, (2015), p.145.

[780] *French Civil Code* (n 114).

[781] For example, under U.S. common law: *Bob Pearsall Motors, Inc. v. Regal Chrysler-Plymouth, Inc*. Tenn. [1975] 521 S.W.2d 578, 580: 'The cardinal rule for interpretation of contracts is to ascertain the intention of the parties and to give effect to that intention, consistent with legal principles'.

practices.

To some, this does not pose insuperable problems in terms of contractual interpretation, the question for judges to consider not being one of the intention of the parties but of the meaning of the words they have used.[782] In addition, determining intention is problematic for many reasons, not least because intentions may change and this then leads to different interpretations of the same words. During the Supreme Court hearing of *Wood v Capita*[783], Lord Mance epitomised the prevailing incertitude when he said: "it's even difficult to talk about meaning of words here. It's more a question of…a jigsaw or which order you put the dominoes and which connects to which…whether you put two down at the same time or put them down individually." [784] To put it more succinctly, the problem with 'so many issues of contractual interpretation is that the obvious pattern that one person sees in the tapestry of the carpet may be different from the theme which the next person clearly discerns.'[785]

To this extent, the intentions of ISDA, as the drafting party, are much easier to discern than two parties which have decided to take legal action to enforce an agreement which neither has drafted but which both are convinced is worded in their favour. It is legitimate to ask why the parties' intentions, in such cases involving the MA as the agreement between the disputing parties, are relevant when the words they have used to formally bind themselves are not their own. It may be argued that this happens often in contractual relationships but it is far more common that, in

[782] *Rickman v Carstairs* (1833) 5 B & Ad 651 at 663; 110 ER 931, 935.

[783] *Wood v Capita* (n 106).

[784] Ibid, Video Hearing, https://www.supremecourt.uk/watch/uksc-2015-0212/070217-am.html 4:34 – 4:49.

[785] *Pioneer Freight Futures Company Ltd v TMT Asia Ltd* [2011] EWHC 1888 (Comm), 48.

those instances, one of those parties is responsible for the terms and presents them to the other party (often on a take it or leave it basis)[786] even if the original words are predominantly off-the-shelf, boilerplate provisions.

The MA, being such a widely used standard-form contract,[787] causes, as Friedrich Kessler describes, the individuality of parties 'which so frequently gave colour to the old type of contract', to fall away, reflecting 'the impersonality of the market'.[788] The importance of the 'market' in libertarian capitalist thinking which has dominated Western commercial thought in the last four decades[789] has heightened the significance of the principle of 'freedom of contract' and has enabled associations such as ISDA to 'legislate by contract'.[790] As Kessler continues, 'freedom of contract has remained one of the firmest axioms in the whole fabric of the social philosophy of our culture'.[791] He also points out that, as many legal pluralists will affirm, contract has become another form of law, reducing any monopoly the state may have over the law-making process. [792]

What kind of contract is created out of this milieu, where the parties enter into a contract, worded by a third party, for the purposes of entering into arrangements which are personal to them? Prima facie, it is a much more discrete contract in

[786] *Kessler* (n 427), p.632.

[787] *Lomas* (n 63), 5.

[788] *Kessler* (n 427), p.631.

[789] Peter Geoghegan, *Democracy for Sale: Dark Money and Dirty Politics* (Apollo, Kindle Edition, 2020), p.290.

[790] *Kessler* (n 427), p.640.

[791] Ibid, p.641.

[792] Ibid, p.641.

which predictability surmounts relational notions of justice or fairness.[793] This fits, on two particular levels, with standard-form contracts and financial contracts. In terms of standard-form contracts, one of the main benefits of their implementation and utilisation is the reduction of costs[794] which, it can be argued, outweighs the disadvantages of parties using a contract which is not tailor-made to their circumstances. As for financial contracts, there has long been an assumption that finance is often a speculative pursuit[795] which creates clear winners and losers and, therefore, the idea that, for example, relational notions of good faith should be implied is incongruous under such discrete and transactional circumstances. Moreover, a number of financial contracts are between large financial counterparties which, as Nicholas Shaxson observes, risk 'their own money less and less, and [are] gambling more and more with what people in the markets call OPM – other people's money'; [796] putting moral judgement to one side, this 'heads I win, tails they lose' formula would suggest that relational concepts of fairness would be incongruously applied between parties which are making speculative bets with other people's money.

## 7.3 Intentions and Classifications

Under these assumptions, it appears clear that the MA's standard-form and its role in the financial markets would beget a discrete contract, one which was developed due

[793] *Goode* (n 326), p.14.

[794] *Collins* (n 5), p.231; *Kessler* (n 427), p.632.

[795] Michael J. Sandel, *The Tyranny of Merit*, Allen Lane (Penguin) (2020), p.218.

[796] *Shaxson* (n 323), p.143.

to the 'lack of unified laws, to bring a degree of predictability to existence'.[797] This would also fit into the modus operandi of ISDA which is threefold: reducing counterparty credit risk, increasing transparency, and improving the industry's operational infrastructure.[798] The MA and collateral documents (which include but are not limited to the ISDA Schedule, Credit Support Annexes, Confirmations and Definitions) are designed to create standardisation which produces consistency and certainty; the ISDA standard form cannot therefore be subjected to any manipulation of the language used because of the potential impact on other transactions governed by it.[799]

On this basis, the MA should be interpreted, as far as possible, in a way that serves the objectives of certainty and predictability.[800] The importance of these standard forms is that they promote uniformity of approach, and therefore consistency and certainty in the markets concerned.[801] Using ISDA as the 'designated legislative body' because of its role as the drafting party fits with the idea that the MA is a discrete contract, one which should be viewed through the intentions of ISDA and not through the parties' relationship.

However, this idea is difficult to reconcile with two realities: (1) the MA includes express relational provisions, and (2) the parties will often enter into many

[797] *Reda* (n 543), p.25.

[798] < https://www.isda.org/about-isda/ > accessed on 4 April 2024.

[799] *LSREF III Wight Ltd* (n 108), 42.

[800] *Scandinavian Trading Tanker Co, v. Flota Petrolera Ecuatoriana* (n 253): per Robert Goff LJ at 540: '…the English courts have time and again asserted the need for certainty in commercial transactions - for the simple reason that the parties to such transactions are entitled to know where they stand, and to act accordingly'.

[801] *Calnan* (n 542), Loc 3003.

transactions with each other over a long period of time and will not always be doing so, as assessed in chapter 3.2, for the purpose of speculation.

The MA expressly refers to certain standards of behaviour expected from parties using the MA. The 2002 MA expressly references 'good faith' twelve times and 'commercially reasonable' eleven times, respectively.[802] In the case of *Mid Essex Hospital Services NHS Trust v Compass Group UK and Ireland Ltd*,[803] it was held that where specific references are made to concepts such as good faith, 'care must be taken not to construe a general and potentially open-ended obligation such as an obligation to "co-operate" or "to act in good faith" as covering the same ground as other, more specific, provisions, lest it cut across those more specific provisions and any limitations in them'.[804] While this may ostensibly limit recognition of relational concepts in the MA to those express references in isolation and while such references in the MA may predominantly relate to the calculation of amounts owed (and methods related thereto),[805] the inclusion of such relational expectations itself is redolent of something more than a simple exchange. Moreover, even with any hostility towards good faith under English law,[806] as Gerrard McMeel observes, 'the

[802] Matthew Armitage, 'Trust, Confidence, and Automation: the ISDA Master Agreement as a Smart Contract' (2022) Vol. 43 Iss. 2 *Business Law Review* 56, p.59.

[803] *Medirest,* (n 252).

[804] Ibid, 154.

[805] The references to good faith in the MA, for example, relate to calculation of amounts owed on termination (clauses 6(f) and clause 14), the currency to be used in making payment (clause 8(a) and clause 14), and the payment of interest (clause 9(h)(i)(2) and clause 14).

[806] See, for a more recent example, *MSC Mediterranean Shipping Company SA v Cottonex Anstalt* [2016] EWCA Civ 789, 45: 'There is in my view a real danger that if a general principle of good faith were established it would be invoked as often to undermine as to support the terms in which the parties have reached agreement'.

sceptical approach to policing good faith cannot stand in the light of the proliferation of express clauses requiring good faith or cooperation, and the courts' enforcement of them.'[807] To this end, but clearly controversial, it could be argued that gap-filling in standard-form contracts is preferable given that the words of the contract will not possess the kind of personalisation so prominent in individually negotiated contracts.

Further to there being express terms setting out relational expectations, the MA will often be put in place by parties transacting over a long period of time. Economist, Oliver Williamson, has suggested that discrete contracts operate well for high certainty, low complexity, low dependency situations,[808] which does not align with the market volatility, high complexity, and systemic risk associated with OTC derivatives markets. Moreover, scholars such as Jeffrey Golden and Maciej Konrad Borowicz, see the MA - or, in the case of Borowicz, the amendable parts thereof -[809] as a relational contract because, inter alia, it cannot possibly fit all possible scenarios and it is necessarily *incomplete* on the basis that it is designed to 'establish a framework for a course of dealing over a (usually extended) period of time' and so 'the need to fill in meaning may be more to the fore.'[810] Given that all contracts can be seen as incomplete,[811] the question then becomes how to reconcile this assertion that contracts cannot ever fully reflect the relationship between the parties with the

[807] Gerard McMeel, 'Foucault's Pendulum: Text, Context and Good Faith in Contract Law' (2017) Vol. 70 No. 1 *Current Legal Problems* 365, p.397.

[808] *Frydlinger et al.* (n 15), p.65.

[809] The amendable parts of the MA referred to by Borowicz as 'relational' are found in, for example, the ISDA Schedule, ISDA CSA, and ISDA Confirmations: *Borowicz*, (n 125), pp.77-78.

[810] *Golden* (n 20), p.301.

[811] *Gillette* (n 17), p.87.

reluctance of the courts, for the reasons enumerated above, to interfere too much with the terms of the MA.[812]

## 7.4 Conclusion

These dichotomous ideas, one which promotes a discrete reading of the MA and another which suggests a relational undercurrent in the MA, leads to the idea of contracts containing both discrete and relational terms. These bimodal contracts can be seen as both discrete and relational.[813]

The analysis in this chapter forms part of the second level of cascading analysis ('The terms of the MA and the parties using it'), as explained at chapter 1.3, in which the MA, or ideas around it, can induce incongruity. This apparent dissonance is the basis for bimodal contracts, with this chapter exploring the idea of the intentions of the parties to an MA alongside the intentions of ISDA as the drafting party.

In terms of whether the intentions of the parties to a contract or the intentions of the drafting party of the contract should take precedence could also be viewed as a case of subjectivity versus objectivity. However, this is not always a means to an end. As Lord Sumption has observed, while 'subjective opinion is no guide to the common intention of the parties, objective construction may not be much better'.[814]

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[812] *Braithwaite* (n 10), p.257: 'The cases involving arm's-lenth commercial transactions, and the financial markets in particular, suggest that the English courts still approach the process of implying terms with great reluctance, for fear of being seen as alleviating a bad bargain'.

[813] Or neither relational nor discrete.

[814] *Sumption* (n 42), p.2.

The idea put forward in this chapter is built upon the work of Choi and Gulati who put forward the idea of interpreting contracts as statutes and, therefore, it is the intentions of ISDA, as the drafting party, which should take precedence in questions of intention. However, this idea does not fit neatly with the current notion of interpreting contracts based on the intentions of the parties as objectively assessed.[815]

However, international organisations promulgating private law principles and guides, such as the International Institute for the Unification of Private Law (UNIDROIT) with its 2016 Principles, do set out fallback options for standard form contracts, recognising their 'special nature and purpose'.[816] Article 4.1 of the 2016 Principles sets out that a contract shall be interpreted in accordance with the common intention of the parties (subjective test) and, if that cannot be established, according to a reasonableness test (objective test). However, in its comments to Article 4.1, UNIDROIT writes that the subjective or the objective test may not be appropriate in the case of standard terms. Such contracts should instead 'be interpreted primarily in accordance with the reasonable expectations of their average users irrespective of the actual understanding which either of the parties to the contract concerned, or reasonable persons of the same kind as the parties, might

[815] *ABC Electrification Limited* (n 113), 18: 'When interpreting a written contract, the court is concerned to identify the intention of the parties by reference to what a reasonable person having all the background knowledge which would have been available to the parties would have understood them to be using the language in the contract to mean'; while 'objectively assessed' would provide some scope to incorporate ISDA's intentions, the approach is still anchored to the parties intentions.

[816] *UNIDROIT Principles 2016* (n 383), Article 4.1 and Comments.

have had'.[817]

It is, therefore, already commonly held that standard-form contracts are a separate class of contract which require a unique approach to interpretation which is based more on the 'average user' or, as the next chapter discusses, the network of users. This recasting of intention in the contractual construction process underscores that the English law governed MA should be viewed at the discrete end of the discrete/relational spectrum for it is 'common ground that there is no general duty of good faith in commercial contracts but such a duty may be implied where it is in accordance with the presumed intention of the parties'.[818] The omission of the intention of the parties in the contractual construction process may suggest that there should be a simultaneous elimination of any duties of good faith being implied into the contract which, given that relational contracts have become tethered to implied duties of good faith under English law, would suggest that a relational reading of the MA becomes difficult.

While this does not end the conversation on where the MA sits on the spectrum – especially given that the implication of duties of good faith is not a prerequisite under the definition of 'relational contracts' used in this thesis – the preclusion of implied duties of good faith because of its standard-form does make it difficult to make the case that it sits at the relational end of the spectrum. Moreover, the MA as a discrete contract, would fit more neatly with the current judicial treatment of standard-form contracts and the need for consistency in their interpretation which

[817] Ibid, Article 4.1 and Comments.

[818] *Myers v Kestrel Acquisitions* [2015] EWHC 916 (Ch), 40.

was addressed by Lord Diplock in the case of *The Nema*:[819]

> *… it is in the interests alike of justice and of the conduct of commercial transactions that those standard terms should be construed … as giving rise to similar legal rights and obligations in all [cases] in which the events [that] have given rise to the dispute do not differ from one another in some relevant respect. It is only if parties to commercial contracts can rely upon a uniform commercial construction being given to standard terms that they can prudently incorporate them in their contracts without the need for detailed negotiation or discussion.*[820]

It is often held that with standard-form agreements, there is a stronger imperative to stick to the 'plain meaning' of the words used or from what Lord Cozens-Hardy described as 'the ordinary grammatical meaning of the words used therein'.[821] However, there have also been exhortations against using a 'literalistic and national approach'[822] to the interpretation of certain standard form agreements which should instead be construed in accordance with the agreement's 'underlying aims and purposes reflecting international practice and…expectations'[823] and that 'commercial contracts assume such good faith, which is why express language requiring it is so rare'.[824]

The problem with the plain meaning approach was aptly described by Lord

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[819] *Pioneer Shipping Ltd v BTP Tioxide Ltd ("The Nema")* [1982] AC 724.

[820] *Ibid,* 737; truncated quote taken from *GSO Credit v Barclays Bank Plc* 2016 EWHC 146 (Comm), 2.

[821] *Mitchell* (n 52), Loc 1178 (from *Lovell and Christmas Ltd v Wall* [1911] 104 LT 85).

[822] *Fortis Bank SA/NV v Indian Overseas Bank* [2011] EWCA Civ 58, 29.

[823] Ibid, 29.

[824] *Socimer* (n 645), 113.

Hoffmann in *Charter Reinsurance Co. Ltd. Respondents v Fagan*[825], albeit when discussing the interpretation of contracts more generally:

> *I think that in some cases the notion of words having a natural meaning is not a very helpful one. Because the meaning of words is so sensitive to syntax and context, the natural meaning of words in one sentence may be quite unnatural in another. Thus, a statement that words have a particular natural meaning may mean no more than that in many contexts they will have that meaning. In other contexts, their meaning will be different but no less natural.*[826]

However, context will often necessitate establishing intention. As the European Draft Common Frame of Reference (DCFR) advises, a contract should be 'interpreted according to the common intention of the parties even if this differs from the literal meaning of the words'.[827]

However, there are, in the words of Alastair Hudson, a 'number of defects'[828] with the MA and that also raises questions about not only the plain meaning approach but also about using the intentions of the parties - given their propensity to stick slavishly to the terms of the MA[829] - or using the intentions of ISDA as the original

[825] [1997] A.C. 313.

[826] Ibid, 391.

[827] Christian von Bar, Eric Clive and Hans Schulte-Nölke (eds.) *Principles, Definitions and Model Rules of European Private Law, European Draft Common Frame of Reference* (Sellier: European Law Publishers, 2009), p.216 < https://www.law.kuleuven.be/personal/mstorme/2009_02_DCFR_OutlineEdition.pdf > accessed 3 May 2023.

[828] *Hudson* (n 25), p.1232.

[829] Ibid, p.543.

drafter of the MA to answer interpretational issues given that 'when ISDA had failed so clearly to generate a watertight agreement, it is odd to rely on them for the proper analysis of their work'.[830]

It then falls on an objective approach which does not necessarily endorse the plain meaning approach or the intentions of ISDA (or the parties). In the words of Treitel, it is 'what a reasonable person in the position of the parties would have understood the words to mean'.[831] Given that the MA requires specialist knowledge to understand, it would appear reasonable to agree with Choi and Gulati that its terms should be interpreted in accordance with the drafter's intentions, fulfilling in this instance the role of reasonable person in the position of the parties. While there are legitimate concerns around ISDA's ability to remain impartial given what we know of its membership base and arguments like that from Hudson above around unsatisfactory drafting, in terms of how the courts approach its interpretation - as we have seen with their acceptance of the user's guide as a tool of construction – it appears that the intentions of ISDA are a bona fide part of the process of contractual interpretation of the MA.

The next chapter builds upon this idea that the intentions of the parties evanesce when they use standard-form contracts. In this case, the intentions of the parties are substituted with the goals of the contractual network. While this may lead us back to ISDA as the designated legislative body, there would appear to be a strong case to be made that the 'average user' takes on more significance under the contractual network approach. As Marc Amstutz writes, while it is true that when using

[830] Ibid, p.1235.

[831] Edwin Peel, *Treitel on The Law of Contract* (Sweet & Maxwell, 2015, 14th Edition), paragraph 6-009.

standard-form contracts 'the true meaning of the agreement reached by the parties can no longer be deduced from the declarations of intent contained in each of the individual contracts' it is argued that it can instead 'only be inferred by considering them in conjunction with each other, as elements in a contractual network'.[832]

# 8 The ISDA Master Agreement Network

## 8.1 Introduction

The aim of this chapter is to continue the analysis carried out in chapter 7 with the idea that the intentions of the parties to standard-form contracts, such as the MA, may be superseded by the intentions of exogenous parties such as the drafting party or, as discussed in this chapter, the network of users of it. In terms of networks and the MA, the English courts have shown a proclivity to undertake a discrete (or textualist) reading of the MA with the idea that this produces the certainty which is indispensable to the network of parties using it.[833] This has been referred to as the recognition of a latent contractual network[834] which may work to align the user network of the MA but does so at the expense of more nuanced and contextual interpretation which would otherwise more accurately reflect the intention of the parties.

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[832] Marc Amstutz, 'The Nemesis of European Private Law: Contractual Nexus as a Legislative Conundrum' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law),* Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.), (Routledge, 2013, First Edition), p.346.

[833] *Lomas* (n 63), 53.

[834] *Armitage* (n 116).

This chapter forms part of the second level of cascading analysis ('The terms of the MA and the parties using it'), as explained at chapter 1.3. It is a continuation of the idea that discrete and relational concepts co-exist to form a contract which, as this thesis contends, is bimodal. The contractual network created by the ISDA MA can be facilitated by both textual or contextual readings of the MA which, it is posited here, also fits within the idea that the MA is both discrete and relational.

## 8.2 The ISDA Network

ISDA's large membership base, as discussed at chapter 5, coupled with its MA, which is used not only by Members but by parties more generally wanting to transact in OTC derivatives, has created a significant network of parties linked by the MA and the infrastructure ISDA has put in place. In this sense, ISDA forms part of a financial system composed of an increasingly complex network of institutions[835] which, when fused, contribute to what Douglas Kellner describes as 'the juggernaut of globalisation'[836].

The systematic deregulation of the OTC derivatives market which started to emerge in the U.S. and the U.K. in the 1980s,[837] meant that the terms of the MA between the parties formed not only the contractual basis of their relationship but also served as the regulatory basis in lieu of diminishing regulation.[838] Maciej Konrad Borowicz has discussed how ISDA, as 'the preeminent global industry association for OTC

[835] Sol Picciotto, 'Networks in International Economic Integration: Fragmented States and the Dilemmas of Neo-Liberalism' (1997) Vol. 17 Iss. 1 *Northwestern Journal of International Law and Business* 1014, p.1053.

[836] Douglas Kellner, 'Globalization, Technopolitics and Revolution' (2001) No. 98 *Theoria* 14, p.180.

[837] *Shaxson* (n 323), p.143.

[838] *Awrey, Das* (n 10).

derivatives markets,' uses its 'persuasive authority to encourage the users [of the MA] to adhere to the rules and specific meaning of those rules'.[839]

In this sense, ISDA could be seen as engaging in what Janet Kovin Levit describes as 'bottom-up law-making' which is based upon 'on-the-ground practices of myriad transnational actors (private individuals, corporations, and highly specialised governmental technocrats) [which] are constitutive of law'.[840] John Biggins and Colin Scott consider the characterisation of 'private law-making' to describe the capacity of ISDA to affect ISDA members and non-members alike and which has the 'effect of law'.[841]

This idea is propounded more generally by legal pluralists such as Gunther Teubner, Paul Schiff Berman, and Neil Walker who propose that law-making is 'created mainly in the peripheries, by non-state communities, not by invoking an authority, but by using the code of legal/illegal'.[842] Legal pluralism can explain the complicated farrago of state and non-state entities which interact and overlap in the law-making process. However, John Biggins and Colin Scott see ISDA as occupying a dichotomous position in the market, having played a key role - as part of sustained lobbying efforts - in the public deregulation of the OTC derivatives market while simultaneously pioneering the standardisation of its suite of contractual documents which acted to enhance legal certainty and, arguably, mitigate certain risks.[843]

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[839] *Borowicz*, (n 125), p.78.

[840] Janet Koven Levit, 'A Bottom-Up Approach to International Lawmaking: The Tale of Three Trade Finance Instruments' (2005) Vol. 30 *Yale Journal of International Law* 125, p.178.

[841] *Biggins and Scott* (n 358), p.12.

[842] *Michaels* (n 87), p.4.

[843] *Biggins and Scott* (n 88), p.323.

Criticisms abound of the role played by private actors more generally in the market.[844] Edward Cohen explains that, in terms of financial law, the field is 'structured to empower resource-rich private actors' and that such private actors are 'crucial players in setting and enforcing the rules of global commerce'.[845] Moreover, as some commentators observe, such private actors suffer from a 'democratic deficit'[846] and represent the proliferation of illegitimate power in the form of transnational corporations.[847]

The trends of 'financial liberalisation and innovation', Eleni Tsingou writes, resulted in many institutions, and the markets in which they operate, becoming transnational, which is advantageous for those institutions but left a chasm because regulatory oversight remains, to this day, national.[848] Frank Partnoy picks up this point by highlighting that many of the innovations that came from OTC derivatives and the benefits they bestowed undermined the ability for regulators to properly oversee the market.[849] Moreover, as Annelise Riles contends:

> *...where the terms in ISDA's standardized documents conflict with the norms enshrined in national statutory or judge-made law, ISDA actively works to*

[844] *Braithwaite* (n 72), p.780, [on the rise of standard-form agreements as instruments of non-state law]: 'For example, if has drawn attention to what Calliess and Zumbansen have called a 'dramatic proliferation of norm-entrepreneurs', raising the pressing questions about legitimacy, democracy and the accountability of the trade associations that are the authors of these standard terms'.

[845] *Cohen*, (n 338), p.682.

[846] *Picciotto* (n 835), p.1056.

[847] *George* (n 779), p.145.

[848] *Tsingou* (n 361), p.3.

[849] David A. Skeel and Frank Partnoy, 'The Promise and Perils of Credit Derivatives' (2007) Vol. 75 *University of Cincinnati Law Review* 1019, p.1032.

> *supplant or change the latter so that it conforms to the former. ISDA hires local lawyers to investigate discrepancies between the terms of ISDA documents and national law, and where necessary, to lobby national governments to change national law to either conform to the terms of the Master Agreement or explicitly declare the ISDA documents enforceable.*[850]

In addition to its lobbying efforts, ISDA also offers 'Model Netting Laws'[851] which essentially provide national lawmakers with the wording for their own laws, leading John Biggins and Colin Scott to observe that ISDA's 'activity extends beyond producing boilerplate contracts to also offering boilerplate legislative provisions relating to aspects of the Master Agreement'.[852]

While ISDA's interactions with state bodies could be viewed cynically, it is the Janus-faced nature of these relations which make ISDA such a fascinating case study. Some of the inimical effects of political lobbying must be viewed alongside what Sean Flanagan has described as the constructive relationships which ISDA maintains with regulators around the world.[853]

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[850] *Riles* (n 699), p.614.

[851] *Biggins and Scott* (n 88), p.328: 'The Model Netting Law addresses both immunity from conventional insolvency procedures and exemptions from relevant gambling legislation'; *Braithwaite* (n 10), p.28: 'In response to the concern that local insolvency law might jeopardise the enforceability of close-out netting provisions…[ISDA] undertook a worldwide effort to persuade legislators to reform national netting laws to expressly permit such provisions, notwithstanding insolvency. Key to these efforts was ISDA's own Model Netting Act and its accompanying guidance for legislators'.

[852] Ibid, p.328.

[853] *Flanagan* (n 70), 253.

Following the rigging scandal and subsequent planned discontinuation of the London Inter-Bank Offered Rates (LIBOR)[854] - there were five currency versions of LIBOR[855] - national regulators turned to ISDA for solutions.

The Financial Stability Board's (FSB) Official Sector Steering Group (OSSG) coordinated international efforts on benchmark reform and the transition from LIBOR. In July 2016, the OSSG asked ISDA to take the lead on work to improve the robustness of derivatives contracts commonly regarded as referencing LIBOR.[856]

As the U.S. Department of Justice (Office of Public Affairs) recognised:

> *ISDA's process, including its cooperation with government regulators and its consultation-driven process for obtaining feedback from industry participants, has had the effect of clarifying the practical issues involved in planning for when LIBOR and other IBORs [Inter-Bank Offered Rates] are no longer available and preparing for a smooth transition away from IBORs to other reference rates.*[857]

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[854] A commercial interest rate which was, until its planned phase out, widely used as a key benchmark interest rate. By asking certain banks to submit rates in order to calculate LIBOR, it was essentially an indication of the borrowing costs between banks. This rate was used in a vast number of commercial agreements.

[855] U.S. Dollar, British Pound Sterling, Euro, Japanese Yen, and Swiss Franc.

[856] ISDA, 'ISDA Publishes Two Consultations on Benchmark Fallbacks' (2016) < https://www.isda.org/a/w0tME/ISDA-Publishes-Two-Consultations-on-Benchmark-Fallbacks.pdf> accessed on 19 July 2020.

[857] Office of Public Affairs, U.S. Department of Justice, 'Justice Department Issues Favorable Business Review Letter To ISDA For Proposed Amendments To Address Interest Rate Benchmarks' (2020) < https://www.justice.gov/opa/pr/justice-department-issues-favorable-business-review-letter-isda-proposed-amendments-address > accessed 8 August 2023.

ISDA was able to leverage its network of Members to develop a consensus on some of the obstacles which emerged from discontinuing these interest rates which have been so widely used in a vast number of commercial transactions.[858] This state and non-state cooperation, similarly seen as part of finding solutions to the confusion arising from section 2(a)(iii) of the MA (as described at chapter 6.6.2), is indicative of what Anna Gelpern and Mitu Gulati describe as 'having ISDA as an informal intermediary can be valuable to governments…ISDA can help limit overall economic damage from crisis and contagion by fixing an interpretation of its contracts across the market'.[859]

Globalisation appears to have reframed the role of sovereignty,[860] setting in motion a kind of de-territorialisation or at the very least highlighting the idea, as Paul Schiff Berman observes, that nation states are increasingly operating within a framework of multiple overlapping jurisdictional assertions by state, international and non-state communities.[861]

ISDA's MA has - to a certain extent and limited, of course, to the OTC derivatives market - filled the fissure which exists between transnational trade and national laws

[858] On the ISDA network: *Lomas* (n 63), 5; *AWB (Geneva) SA* (n 6), 37; on the wide-use and importance of LIBOR: 'sometimes coined 'the world's most important number'' (Alexis Stenfors and Duncan Lindo, 'Libor 1986–2021: the making and unmaking of 'the world's most important price'' (2018) Vol. 19 No. 2 *Journal of Social Theory* 170, p.170).

[859] Anna Gelpern and Mitu Gulati, 'CDS Zombies' (2012) Vol. 13 *European Business Organization Law Review* 347, p.34.

[860] *Woodley* (n 391), p.18.

[861] Paul Schiff Berman, *Global Legal Pluralism: A Jurisprudence of Law beyond Borders* (Cambridge University Press, 2012, Kindle Edition), p.5

by creating law between the parties.[862] This is then multiplied across a network of market participants all using the same standard form with relatively predictable and controlled variances. However, while contracts are often regarded as being at the heart of commercial law,[863] the notion that contracts, even as part of a large network, can create law is rebuked by others who contend that contracts cannot constitute a source of law, transnational or otherwise, without recognition by national legal systems.[864] This is why the inclusion by ISDA of national legal systems to govern the terms of the MA[865] allows ISDA to position the MA as an important transnational instrument linking together cross-border parties to form a network bound by contract.

## 8.3 Contractual Networks

In one of the most pithy conclusions in academic literature, Richard Buxbaum simply observes that '"Network" is not a legal concept'.[866] This is further compounded by the idea that 'network expectations' and other reflexive social and economic practices cannot simply be transferred into law.[867] Contract law, it is said,

[862] *Goode, Kronke, and McKendrick* (n 365), p.26.

[863] Ibid, p.22.

[864] Ibid, p.547.

[865] Options for arbitration were offered much later, see *Werner* (n 379).

[866] Richard M. Buxbaum, 'Is 'Network' a Legal Concept?' (1993) Vol. 149 No. 4 *Journal of Institutional and Theoretical Economics (JITE) / Zeitschrift Für Die Gesamte Staatswissenschaft* 698, 704.

[867] Marc Amstutz and Gunther Teubner (eds), *Networks: Legal Issues of Multilateral Co-operation* (Hart Publishing, 2009), ix; Catherine Mitchell, 'Network Commercial Relationships: What Role for Contract Law?' in *Contract and Regulation: A Handbook on New Methods of Law-Making in Private Law*, R. Brownsword, R. A. J. van Gestel, and H-W. Micklitz, (eds), (Edward Elgar Publishing, 2017), 208.

'is primarily concerned with bilateral relationships'[868] and, as Gunther Teubner observes, even though it is 'supposed to support private autonomy, it comes empty-handed when asked to provide for an organizational framework to deal with networks'.[869]

However, networks underpin both societal and economic interactions[870] and, as Manuel Castells describes, technological and organisational changes at the end of the twentieth century led to the rise of the 'network society'.[871] As Jean Nicolas Druey observes, while the 'law does not offer any ready-made cloth which could dress the network',[872] networks exist whether the law recognises them or not.[873]

The original economic models of organisation developed by Coase and then Williamson, investigated interconnections and focussed on the dichotomy between hierarchies and markets as alternative means for organising similar kinds of

[868] *Cafaggi* (n 459), p.117.

[869] Gunther Teubner, ''And if I By Beelzebub Cast out Devils,…': An Essay on the Diabolics of Network Failure' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law (Markets and the Law),* Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.), (Routledge, 2013, First Edition), p.115.

[870] *Grundmann* (n 110), 123: 'Without networks of contracts there is no market economy! They are the backbone of any value creation chain'.

[871] Simon Deakin, 'The Return of the Guild? Network Relations in Historical Perspective' in *Networks: Legal Issues of Multilateral Co-operation*, Marc Amstutz and Gunther Teubner (eds.), (Hart Publishing, 2009), p.66; However, the phrase 'network society' is not favoured by some (*Teubner* (n 78), Loc.2064).

[872] Jean N. Druey, 'The Path to the Law - The Difficult Legal Access of Networks' in *Networks: Legal Issues of Multilateral Co-operation*, Marc Amstutz and Gunther Teubner, (eds.), (Hart Publishing, 2009), 88.

[873] Ibid, 93.

transactions,[874] what can also be referred to as vertical and horizontal integration. The former is more often associated with a hierarchical organising principle inherent in firms, while the latter is constituted by separate and autonomous firms acting together. As Fernando Gomez observes, as a means of organising economic activity, networks of complex and extended relationships bound together by contract rather than by ownership, appear to be on the increase.[875] This is what can be described as 'vertical disintegration', the idea that activities which were once undertaken by one firm are now completed by 'inter-firm cooperation'.[876] This reflects the modern reality that, as Vaula Haavisto describes in relation to commercialising an innovation, commercial activity is very often 'located in a network of several actors and companies and not in one firm'.[877] However, there is also the contention, highlighted by Florian Idelberger, that 'companies are more and more evolving into conglomerates, connecting to networks, and this in turn leads to a dilution of the distinction between the market and hierarchy or, legally speaking, between contract

[874] Walter W. Powell, 'Neither Market nor Hierarchy: Network Forms of Organisation' (1990) Vol. 12 *Research in Organisational Behaviour* 295, 296

[875] Fernando Gomez, 'Cooperation, Long-Term Relationships and Open-Endedness in Contractual Networks' in *Contractual Networks, Inter-Firm Cooperation and Economic Growth*, Fabrizio Cafaggi (ed.) (Edward Elgar Publishing, 2011), 123.

[876] Fabrizio Cafaggi, 'Contractual Networks, Vertical Disintegration and Inter-Firm Cooperation' in *Contractual Networks, Inter-Firm Cooperation and Economic Growth*, Fabrizio Cafaggi (ed.) (Edward Elgar Publishing, 2011).

[877] Vaula Haavisto, 'Contracting in Networks' (2006) Vol. 49 *Scandinavian Studies in Law* 237, 246.

and society'.[878] This 'dilution' is described by Jeffrey Bradach and Robert Eccles as 'overlapping, embedded, intertwined, juxtaposed, and nested'[879] mechanisms and it can be said to be a continuation of Walter Powell's argument that such organisational distinctions – whether hierarchical or market-based – have become, in reality, a farrago, with neither vertical integration nor the traditional arm's length market transactions taking prominence.[880] It is what Marc Amstutz and Gunther Teubner described as an incompatibility between the rise of networks against the categories of market and hierarchy.[881] Instead, complex relationships are being formed, often underpinned by relational contracts, leading to what Maurizio Sciuto describes as 'a third route' between market and hierarchy which can be found in the recognition of the network contract.[882]

## 8.4 Types of Contractual Networks

Fabrizio Cafaggi describes four forms of contractual networks: (1) multilateral contracts, (2) linked and interdependent bilateral contracts, (3) a multilateral framework contract with bilateral contracts dealing with specific elements between specific parties in the network, and (4) contracts specifically executed for the benefit

[878] Florian Idelberger, 'Connect Contracts Reloaded – Smart Contracts as Contractual Networks' in *European Contract Law in the Digital Age (European Contract Law and Theory),* Stefan Grundmann (ed.), (Intersentia, 2018), 230.

[879] Jeffrey L. Bradach and Robert G. Eccles, 'Price, Authority, and Trust: From Ideal Types to Plural Forms' (1989) Vol. 15 *Annual Review of Sociology* 97, 116.

[880] *Powell* (n 874), 297.

[881] Deakin (n 871), 53.

[882] *Sciuto* (n 112).

of a third party.[883] This is where an analysis of the ISDA contractual network deviates from the existing literature because its MA does not necessarily fit cleanly into any of the above categorisations. There are multilateral mechanisms, rather than contracts per se, utilised within certain sub-networks (ISDA Protocols), there are linked but not necessarily interdependent bilateral contracts across the network, while the MA does form a type of industry framework, there is no overarching multilateral framework contract, and the MA is not a contract developed for the benefit of third parties. In effect, the MA creates a network, as Roy Goode tersely but precisely observes, which 'bolt[s] a mass of bilateral contracts onto a framework of standard terms, each participant undertaking to the others to observe the rules of the market'.[884] Each MA entered into between parties can be viewed, as Marc Amstutz describes, 'not as interlinked elements of a whole but as independent, autonomous units' which, at some point, 'reach a level of interdependence of organizational density'.[885]

In her provocatively titled article, 'The Anti-Network: Private Global Governance, Legal Knowledge, and the Legitimacy of the State', Annelise Riles puts forward the proposition that, practically speaking, the OTC market and the ISDA documentation does not necessarily create a 'tight-knit club' but, through the use and exchange of collateral as an example, it has developed routinised, private law solutions based on standardised forms to be filled and executed rather than complex webs of

[883] Fabrizio Cafaggi, 'Contractual Networks and the Small Business Act: Towards European Principles?' (2008) *EUI LAW* 2008/15.

[884] *Goode* (n 326), p.38.

[885] *Amstutz* (n 832), p.346.

participants contractually bound to one another or reliant on state resolution mechanisms.[886]

However, ISDA has created a network in a different form than currently emphasised under theories of economic organisation and contractual networks and not in a form that those working on the ISDA documentation would necessarily point to in order to solve disputes. This network is more latent and perhaps less revolutionary but it displays a quintessential network characteristic which distinguishes it from being described as solely 'discrete' or entirely 'relational' in that there is a mix of competition and cooperation[887] or what Marina Wellenhofer describes as a 'strained relationship of autonomy and rivalry on the one hand, and mutual integration into the network and a collective orientation on the other'.[888]

While there may be obvious competition between firms, especially between firms using the MA to formalise their agreement to transact in financial instruments which offer a zero-sum outcome,[889] there is also an element of cooperation which is both inherent in the terms of the MA[890] and required to transact under it. Counterparties will often carry out more than one transaction under the MA over a period of time

[886] *Riles* (n 699).

[887] *Gillette* (n 17), 242.

[888] Marina Wellenhofer, 'Third Party Effects of Bilateral Contracts within the Network' in *Networks: Legal Issues of Multilateral Co-operation,* Marc Amstutz and Gunther Teubner (eds.) (Hart Publishing, 2009), 120.

[889] Holger Spamann, 'Indirect Investor Protection: The Investment Ecosystem and its Legal Underpinnings' (2022) Vol.14 Iss. 1 *Journal of Legal Analysis* 17, 57.

[890] Matthew Armitage, 'Neither relational nor discrete: the ISDA Master Agreement as a bimodal contract' (2022) Vol. 17 Iss. 3 *Capital Markets Law Journal* 317, p.14: 'The English law version of the 2002 MA expressly references 'good faith' twelve times and 'commercially reasonable procedures' and 'commercially reasonable' are referred to eleven times, respectively.'

which, as Frydlinger, Vitasek, Bergman, and Cummins point out, 'creates informal incentives for parties to collaborate today to continue to do business tomorrow'.[891]

## 8.5 The Benefits of the Network

The network created by ISDA has enhanced liquidity in the market which essentially means that the market works more efficiently by having a larger pool of participants involved.[892] As David Murphy explains, this can only be attained by what he refers to as a 'club good'[893] which is achieved through coordination – in this case, by ISDA – and often without the need for regulatory intervention.[894] Liquidity could be said to be a major contributing factor behind the expansion of ISDA and its network. What started as a small group of banks soon developed into a broader network, those banks realising that a wider network could harness greater power than a smaller oligopoly over a closed-off market; the evolution of ISDA, Sean Flanagan describes, 'turned competitors into collaborators'.[895]

In this sense, the MA occupies the middle ground, or what Maurizio Sciuto describes as the 'third route' between markets and organisations.[896] While markets often involve contracts between parties with antagonistic interests, organisations are

[891] *Frydlinger et al.* (n 15), p.65.

[892] *Murphy* (n 698), p.26.

[893] Murphy (ibid) derives this term from James M. Buchanan, 'An Economic Theory of Clubs' (1965) Vol. 32 No. 125 *Economica* 1.

[894] *Murphy* (n 698), p.26.

[895] *Flanagan* (n 70), p.253.

[896] *Sciuto* (n 112).

often associated with cooperation. [897] In terms of the MA, solipsism is clearly present in market interactions where one party's gain is another's loss but this is in juxtaposition to the underlying cooperation needed between parties, not just for the benefit of the market as a whole but simply between them as they execute large numbers of trades with each other, gaining from some and losing on others. The zero-sum outcome, when viewed on small-scale activity is selfishly motivated and will be more likely to result in a winning party and a losing party but when large amounts of trades are executed between sophisticated financial participants over a longer period of time, the law of large numbers would suggest that the line between winning and losing becomes blurred. In the OTC derivatives market where there is no central exchange, the aim is often to find a counterparty with whom to trade. While the aim may be to win overall, the underlying priority is to find a lot of counterparties with whom to trade so that orders can be placed and filled efficiently and at competitive prices.

There may be those buy-side[898] users of the MA that argue that ISDA and its MA

[897] *Collins* (n 180), p.12: 'In markets, contracts for goods and services are made between parties with somewhat antagonistic interests in the sense that although both expect to be better off as a result of the exchange, their pay-offs from a particular transaction will depend to a considerable extent on reducing the benefit to the other party by for example paying a lower price for the goods and services provided by the other party. Within organisations, however, though there is a network of contracts that bind the parties together, such as contracts of employment, share ownership, and directorships, some of these contracts are supplemented by a mechanism that requires co-operation from everyone to maximise the profits of the organisation itself, the profits then being distributed according to the remuneration formula set by the contracts'.

[898] Buy-side participants, sometimes referred to as 'end-users', are generally purchasing and investing and may include institutions such as pension funds and asset managers.

are fundamentally built to protect the interests of sell-side[899] participants but the simplified argument being made here is that, intrinsic drafting partiality aside, the MA contractual network comprises all users of it. Even if such standard-form agreements are skewed to favour a particular group within the network, the users of the MA benefit from the shared knowledge involved in the development of the MA. As standard-forms proliferate in a certain market, distortions generally attenuate as its importance in the market raises its profile as well as the associated judicial, market, and academic commentary.[900]

These kinds of benefits have been highlighted by Kahan and Klausner who divide such benefits into two categories: *learning benefits* and *network benefits*.[901] Learning benefits describe the positive effects of using terms which have been commonly used in the past regardless of whether this will continue into the future, whereas network benefits describe the utility of adopting terms which a user knows simultaneously forms part of other users' contracts regardless of whether it has been used by others in the past.[902] It can be argued that MA users profit from both learning benefits and network benefits. Moreover, and as further described by Kahan and Klausner, while learning benefits may recede in the face of amendments or new versions, users of standard terms promulgated by organisations such as ISDA retain

[899] Sell-side participants are generally creating, selling, and/or trading and may include institutions such as investment banks and market makers.

[900] ISDA Research Study, 'Dispelling Myths: End-User Activity in OTC Derivatives' (2014) < https://www.isda.org/a/WPDDE/isda-dispelling-myths-final.pdf > accessed 28 April 2023.

[901] Marcel Kahan and Michael Klausner, 'Standardization and Innovation in Corporate Contracting (Or "The Economics of Boilerplate")' (1997) Vol. 83 No. 4 *Virginia Law Review* 713.

[902] Ibid, 718.

network benefits based on the idea that over time users will all adopt the new terms in order to continue to reap the benefits of being part of the network.[903]

By using the MA, parties agree to be bound by the standards set by ISDA and moulded by the industry over a period of almost four decades. The parties to an MA are therefore agreeing to forsake a certain amount of contractual independence in exchange for collective reliability[904] and expediency.[905] This is beyond the autonomy which would be forsaken in a simple bilateral contractual relationship because the parties substitute their intentions for the intentions of ISDA and the stability of the market.

Contracts such as the MA create an interconnected group of users, all operating off the same core terms. In this sense, there is a shared interest in the MA and its interpretation by the courts. Such class of contract, as Macneil has observed, 'no longer stands alone as in the discrete transaction, but is part of a relational web'.[906] The self-interest of the corporation is, to an extent, attenuated in favour of a common objective which, in the case of the MA, is the proper functioning of the OTC derivatives market.[907]

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[903] Ibid, 762.

[904] Pierre Schammo, 'Of standards and technology: ISDA and technological change in the OTC derivatives market' (2021) Vol. 15 *Law and Financial Markets Review* 3, p.17: '…the Master Agreement has undoubtedly been exceptionally successful in enabling coordination. Cementing its status is that it benefits from a critical mass of users and from self-reinforcing adoption dynamics'.

[905] *Peery*, (n 279), 196.

[906] *Campbell* (n 146), p.16.

[907] *Teubner* (n 869), p.122.

## 8.6 Conclusion

Stephen Choi and Mitu Gulati, as part of their analysis of interpreting certain standard-form agreements as statutes rather than contracts, describe such contracts as an interconnected part of a 'larger overall commercial network that ties market participants to one another'.[908] On this basis, it could be argued that the statute approach proffered by Choi and Gulati fits with the international network created around the MA. Much like principles seeking to harmonise international commercial contract construction, such as the CISG and UNIDROIT mentioned at chapter 4.3, the MA could therefore be viewed analogously in terms of its 'international character' and the 'need to promote uniformity'.[909] On this basis, the English courts have sought to limit any derogation from the natural meaning of the words used because of 'the high status of ISDA Master Agreements in the financial world' and the sentiment that the 'words were drafted after considerable thought and with the benefit of knowledge of the market'.[910] The rationale for a textualist approach is that it is the surest path to uniformity.

The MA's importance in the market and the recognition it has garnered has been reiterated by the English courts. In the case of *Lomas v JFB Firth Rixson Inc,*[911] Mr Justice Briggs stated that the ISDA MA is 'an extremely widely used standard

[908] *Choi & Gulati* (n 26), p.1173.

[909] United Nations Convention on Contracts for the International Sale of Goods (n 383), Chapter II, Article 7; UNIDROIT Principles (n 383), Article 1.6.

[910] *Lehman Brothers* (n 59), 87.

[911] *Lomas* (n 63).

form…[which] serves as the contractual foundation for more than 90% of over-the-counter derivatives transactions globally'.[912]

The courts therefore recognise that when interpreting the MA, there is a responsibility which goes beyond the parties involved in the dispute. While it may not be labelled a network, the latent network qualities of the MA appear real and affect the way judges react to any requirement to interpret its terms.[913] Indirectly, this treatment has fulfilled, if only in part, scholarly exhortations to formally recognise contractual networks as part of the judicial contractual construction process. These suggestions, made by scholars such as Roger Brownsword, include, inter alia, 'explicit doctrinal coding for networks' in order to 'develop the shape of contract thinking in a way that brings it more closely into alignment with networking forms of economic organisation and business practice'.[914]

This does not mean that parties completely relinquish their rights to the interests of the network. As Marc Amstutz has written, one way to think about possible contract law rules governing networks is to consider a conflict arising under a particular contract which forms part of a larger network and to determine that the network is 'governed by the provisions of that individual contract whose terms, in the case at hand, ensure the ability of the overall network to continue functioning'.[915] Such shifts in contract law thinking is required, as Roger Brownsword has highlighted, to

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[912] Ibid, 5.

[913] *Armitage* (n 116).

[914] Roger Brownsword, 'Contracts with Network Effects: Is the Time Now Right?' in *The Organizational Contract: From Exchange to Long-Term Network Cooperation in European Contract Law* (Markets and the Law), Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori (eds.) (Routledge, 2013, First Edition), p.139.

[915] *Amstutz* (n 832), p.352.

represent that 'the discrete exchange of the classical law has been eclipsed by more complex and shifting forms of dealing'.[916]

The contractual network described here is latent, for it is not currently described as a network in judicial decisions with any kind of doctrinal coding but the network underpins the judicial treatment of it. This textualist approach to interpretation would suggest a dichotomous approach in terms of the discrete/relational spectrum. Adopting a more textualist approach to interpretation would, ostensibly, suggest that the MA would sit more at the discrete end of the spectrum. However, the latent network underpinning the MA, and the courts' demonstrable recognition of it, would suggest that the textual approach is, at least in part, designed to uphold the expectations of the network which, it could be argued, moves the MA towards the relational end of the spectrum. This operates against the prevailing academic thought that the contextualist approach is more amenable to upholding network expectations and customs.[917]

Despite this incongruity with the method of categorisation, the MA network has fulfilled scholarly propositions for how to consider contractual networks as being 'mutually linked legal transactions as emanating from a multiparty consensus...which functions as a kind of master contract pulling all the various threads of the network together and to which all of the 'network participants' have (implicitly) declared their intent to be parties'.[918] This intent further promotes the intentions of ISDA as opposed to the intentions of the parties to a particular MA; the

[916] *Brownsword* (n 914), p.162.

[917] Ibid, p.156.

[918] *Amstutz* (n 832), p.350.

textualist approach to MA interpretation benefits the many rather than the few[919] – by favouring an approach which is 'very slow to reject the natural meaning of a provision as correct',[920] the market gets the predictability and certainty which it 'crave[s]'.[921]

The MA has been viewed in the academic literature as both a quasi- statutory instrument[922] and a network contract.[923] Informally, relational elements pervade how parties act towards each other with reputational and non-legal sanctions dictating, to a large extent, how they behave.[924] Formally, and in terms of treatment by the courts, the MA, as shown in this chapter 8, tends to be positioned at the discrete end of the spectrum or, using the textualist/contextualist spectrum, the courts tend towards a more textualist interpretation. However, as relational contracts become more a part of the judicial psyche and technology places different requirements on their expertise, this approach may begin to change. This thesis has discussed how relational contracts are starting to form part of judicial interpretations of contracts, now this thesis shall move on to contractual technological innovations, namely the potential introduction of a smart contract version of the MA.

[919] The 'few' in this case referring to the parties to a legal dispute.

[920] *ABC Electrification Limited* (n 113), 18.

[921] *Golden* (n 537).

[922] *Choi & Gulati* (n 26).

[923] *Borowicz* (n 125), p.73; *Armitage* (n 116).

[924] *Bernstein* (n 273), p.604.

# PART V - THE FUTURE OF THE MASTER AGREEMENT

## 9 Smart Contracts

### 9.1 Introduction

This chapter is designed to assess the MA in terms of its potential automation and the dichotomy that is created between what are referred to as 'operational' and 'non-operational' clauses which, it is suggested in this thesis, could embody the combination of discrete and relational terms as part of the concept of bimodal contracts. ISDA has already put in place a lot of the preparatory infrastructure for automation: as discussed in chapter 6, the MA's standard-form, associated booklets of Definitions, and User's Guide, makes the MA more predictable, allows it to be adapted to the needs of the parties without compromising the text of the agreement, and provides commentary much like programmers would use with non-functional comments inserted around executable code to describe its operation. Moreover, systems such as ISDA Create and ISDA CDM have helped to lay the groundwork for further automation.

The analysis in this chapter forms part of the third level of cascading analysis ('The MA and technological solutions'), as explained at chapter 1.3, in which the MA, as proposed by ISDA, is converted, at least in part, into a smart contract. This creates 'operational clauses' and 'non-operational clauses' which, it is put forward in this thesis, mirror, to a certain extent, discrete and relational terms, respectively. These terms, taken together even if the practical application is a smart contract and a natural language contract operating as a single agreement, form part of what is referred to as a *bimodal contract*.

A ‘smart contract’, as defined by Christopher Clack, Vikram Bakshi, and Lee Braine, is ‘an automatable and enforceable agreement. Automatable by computer, although some parts may require human input and control. Enforceable either by legal enforcement of rights and obligations or via tamper-proof execution of computer code’.[925]

‘Smart contract’ is perhaps a misnomer in the nomenclature, as ISDA admits when it refers to its proposition as a *smart derivative contract*,[926] the distinction being that a smart contract may not be a contract at all, because the idea was originally conceived by programmer Nick Szabo to describe a ‘set of promises, specified in digital form, including protocols within which the parties perform on these promises’.[927] In fact, developers have since rued naming smart contracts as such and have questioned whether a label such as ‘persistent scripts’, ‘smart code’ or ‘computerised protocol’, would have made it clearer from the outset that smart contracts were not necessarily intended to be contracts in the legal sense.[928] This

[925] Christopher D. Clack, Vikram A. Bakshi, Lee Braine, ‘Smart Contract Templates: foundations, design landscape and research directions’ (2017) *Cornell University, Computers and Society*, p.2.

[926] *ISDA, King & Wood Mallesons* (n 118), p.5.

[927] Nick Szabo, ‘Smart Contracts: Building Blocks for Digital Markets’ (1996) https://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html accessed on 23 January 2022.

[928] Agata Ferreira, ‘Regulating Smart Contracts: Legal Revolution or Simply Evolution?’ (2021) Vol. 45 Iss. 2 *Telecommunications Policy* 1, p.7.

friction between computer scientists and lawyers (and even within those groups) has meant that the term 'smart contract' remains difficult to define.[929]

Ironically, original smart contract developments were fuelled, at least in part, from a frustration with the legal profession[930] for its negative contribution to technological change and economic development, diverting 'resources from productivity and innovation into wasteful paper pushing'.[931]

T.J.de Graaf describes *smart contracts* as, "little programs that execute 'if this happens then do that'."[932] From a legal perspective, Kristian Lauslahti, Juri Mattila, and Timo Seppälä define smart contracts as 'digital programs, based on the blockchain consensus architecture, which will self-execute when the terms of the agreement are met, and due to their decentralised structure are also self-enforcing and tamper-proof'.[933]

A simplified definition is provided by Max Raskin who defines a smart contract as 'an agreement whose execution is automated'.[934] For some, the 'smart' element of

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[929] Jason Allen, 'Wrapped and Stacked: Smart Contracts and the Interaction of Natural and Formal Language' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.24.

[930] *Ferreira* (n 928), p.5.

[931] Lawrence Friedman, Robert Gordon, Sophie Pirie, and Edwin Whatley, 'Law, Lawyers, and Legal Practice in Silicon Valley: A Preliminary Report' (1989) Vol. 64 Iss. 3 *Indiana Law Journal* 555, p.555.

[932] T.J.de Graaf, 'From old to new: From internet to smart contracts and from people to smart contracts' (2019) Vol. 35 Iss. 5 *Computer Law & Security Review* 1, p.1.

[933] Kristian Lauslahti, Juri Mattila, and Timo Seppälä, 'Smart Contracts – How will Blockchain Technology Affect Contractual Practices?' (2017) No. 68 *ETLA Reports* 1, p.11.

[934] Max Raskin, 'The Law and Legality of Smart Contracts' (2017) Vol. 1 *Georgetown Law Technology Review* 305, p.309.

smart contracts, as Jason Allen has described, is related more to 'performance mechanisms' which are 'wrapped in a conventional contractual framework'.[935] This idea is pushed forward by Natasha Blycha and Ariane Garside who propose the 'conjoined method' through which a traditional, natural language contract forms the primary basis of the legal obligations arising between the parties and the coded elements exist to facilitate performance of those obligations.[936] This is what ISDA has defined as the 'external model' in which 'the source code implements aspects of the agreement, but does not define any aspect of the agreement'.[937] This sits in contrast to the 'internal model' by which the agreement is defined in whole or in part by the source code.[938]

Whether the external or the internal model is used, either the entire agreement or aspects relating to it will be written in programming code. As Kieron O'Hara describes, '[t]he code is the contract. Its execution is the undertaking'.[939] This also means that the language used for entire agreements or performance mechanisms

[935] *Allen* (n 929), p.25.

[936] Natasha Blycha and Ariane Garside, 'A Model for the Integration of Machine Capabilities into Contracts' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.158.

[937] Christopher D Clack, 'Languages for Smart and Computable Contracts' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.280.

[938] Ibid, p.280.

[939] Kieron O'Hara, 'Smart Contracts – Dumb Idea' (2017) Vol. 21 Iss. 2 *EEE Internet Computing* 97, p.97.

thereunder, unlike traditional contracts written in legal prose, will be 'completely unintelligible to the average lawyer or judge'.[940]

While there have been attempts to address this with the introduction of, for example, a legal mark-up language aimed at creating a readable but systematised language for contracts,[941] there is still a concern that the proposed efficiency (discussed below) of smart contracts may be offset by the requirement of a parallel traditional contract which has to detail what the code is doing as well as the details of what the parties intend.[942] Jason Allen describes this, or variants of it, as the 'contract stack'[943] in which speech acts, the written agreement, default rules, and elements of automation all form layers to produce contracts.[944] The code, Allen argues, can be executable and thought of as a technical appendix attached to the natural language contract.[945] This feeds into what Ian Grigg has described as a 'Ricardian Contract' which, while taking a variety of forms, in one iteration proposes a solution which retains the written legal prose of a contract but embeds within it computer code designed to execute terms which are open to automation.[946]

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[940] Mark Giancaspro, 'Is a 'smart contract' really a smart idea? Insights from a legal perspective' (2017) Vol. 33 *Computer Law & Security Review* 825, p.832.

[941] *Drummer & Neumann* (n 117), p.349.

[942] Ibid, p.344.

[943] *Allen* (n 929), p.25.

[944] Ibid, p.25.

[945] Ibid, p.25.

[946] *Grigg* (n 454), Grigg also emphasises what he sees as the importance of the *Rule of One Contract*, i.e. that it is most efficient and desirable to contain all terms, whether coded or not, in one contract (p.101).

As part of the developments in this fledging intersection between law and technology, ideas continue to proliferate as part of trying to solve the puzzle of how to integrate this exciting technology into a field such as law which is, as can be seen through the nature of precedent in deciding cases under common law, particularly mindful of tradition.

For the rest of this thesis, the terms 'smart contract', 'smart derivative contract', or 'smart legal contract' are used interchangeably to mean – in an attempt to harmonise the various definitions proposed above – a legally enforceable contract which utilises code and distributed ledger technology (defined below)[947] to automate 'some or all of the performance of the terms'[948] across a defined or undefined network of users.[949]

## 9.2 A Brief History of Smart Contracts

The concept of smart contracts, as first conceived by Nick Szabo, had been mothballed until the rise of blockchain technology as first proposed in a paper published by an anonymous author under the pseudonym Satoshi Nakamoto.[950] The

[947] Charlie Morgan, Dorothy Livingston, and Andrew Moir, 'Dispute Resolution for the Digital Economy: DLT as a Catalyst for Online Dispute Resolution?' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.421.

[948] Madeleine Maslin and Joshua Butler, 'Lawyer Meets Developer: How Interdisciplinary Collaboration Builds Smarter Legal Contracts' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.370.

[949] Referred to in chapter 9.5 below as a permissioned (private) or permissionless (public) network.

[950] Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' (2008) < https://bitcoin.org/bitcoin.pdf > accessed 18th November 2021.

idea proposed in the paper was the development of Bitcoin, what Nakamoto described as an electronic cash, more commonly referred to today as cryptocurrency. The idea was revolutionary and born out of a frustration with the banking system after the 2007/2008 global financial crisis.

The banks and large financial institutions had created a closed, centralised system over which they had control whereas the blockchain, as proposed by Nakamoto, was a digital, peer-to-peer, decentralised platform which derived its name from the blocks of data which act as a snapshot of transactions and which are linked together through each node (each computer system in the network) to create data chains, providing an unalterable public record.[951] Despite the idea being premised on decentralisation and the dethroning of the banks (and other large financial institutions) as the gatekeepers and intermediaries of the system, it is those very institutions which have so far invested substantial financial resources into creating and testing various smart contract prototypes and environments.[952]

The blockchain is effectively a register, or ledger, which records all the transactions which have occurred between participants transacting on it.[953] This ledger or common database is more generally referred to as 'Decentralised Ledger Technology' or 'Distributed Ledger Technology' (DLT)[954] which Jeremy M.

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[951] *Raworth* (n 392), p.187.

[952] Reggie O'Shields, 'Smart Contracts: Legal Agreements for the Blockchain' (2017) Vol. 21 *North Carolina Banking Institute* 177, p.180.

[953] Ibid, p.180.

[954] Jeremy M. Sklaroff, 'Smart Contracts and the Cost of Inflexibility' (2017) Vol. 166 No. 1 *University of Pennsylvania Law Review* 263, p.267; *Morgan, Livingston, & Moir* (n 947), p.424: blockchains are technically a subset of distributer ledger technology.

Sklaroff explains as a term which 'spans a group of cryptographic tools and protocols to exchange, verify, and secure data without the need for centralized intermediaries'.[955] DLT refers to the decentralisation of any register or database that is required in a network so that the participants, as part of, for example, a blockchain, are able to verify and monitor activity. This is done in a way that anonymises a lot of the data, replacing such information with cryptographic keys. On such networks, smart contracts can form the legal basis of arrangements between parties. It was this development which catapulted Nick Szabo's original, avant-garde concept into the realms of large-scale feasibility.

While Bitcoin is the predominant cryptocurrency, it was the creation of a new type of blockchain-based platform, developed by Vitalik Buterin, called Ethereum which provided additional impetus for the implementation of smart contracts. Whereas the Bitcoin blockchain is used as a ledger to record transactions, the Ethereum blockchain acts as a ledger for its cryptocurrency, Ether, as well as containing a more sophisticated scripting language allowing it to carry out a wider set of functions.[956] As Kristian Lauslahti, Juri Mattila, and Timo Seppälä explain:

> *As a significant advancement from Bitcoin, Ethereum finally offered a real opportunity for the decentralised performance of programs within the blockchain. These programs, which according to Buterin are cryptographic*

[955] Ibid (*Sklaroff*), p.267.

[956] *O'Hara* (n 939), p.98; David Koepsell, 'Beyond Human: Smart-contracts, Smart-Machines, and Documentality' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.331: 'Ethereum and other blockchains are being designed to be Turing-complete, which means they can function as programming languages upon which any conceivable set of instructions could ultimately be coded'.

*"boxes" containing value that only unlock where certain conditions are met, can also be called smart contracts.*[957]

## 9.3 Smart Contracts and the Law

As the technological development accelerated and the possibilities for facilitating more complex tasks increased, the discussions of whether smart contracts can be considered legal contracts started to take hold. The U.K. Jurisdiction Taskforce ('UKJT') has stated that smart contracts are capable of satisfying the traditional legal contract requirements of offer, acceptance, consideration, and the intention to create legal relations.[958] As Alexandros Papantoniou explains, 'smart contracts are able to uphold contractual certainty by incorporating legal provisions (wet code) into code (dry code), ensuring that counterparties abide by their duties and obligations under the contract'.[959]

There is also a spectrum, which the U.K. Law Commission has highlighted, which can be applied to smart contracts: from those contracts which involve basic elements of automation which may already exist (such as payment by direct debit) to those contracts drafted in code and recorded on a DLT.[960] Other commentators have tried to pinpoint various stages along the spectrum to demonstrate the range of automation. Firstly, there are contracts which are 'electronic in form',[961] these contracts may take the form of online terms and conditions which are sub-divided

[957] *Lauslahti, Mattila, & Seppälä* (n 933), p.12.

[958] *UKJT* (n 58), p.8.

[959] *Papantoniou* (n 123), p.14.

[960] *The U.K. Law Commission* (n 58), p.12-13.

[961] Kevin Werbach & Nicolas Cornell, 'Contracts Ex Machina' (2017) Vol. 67 *Duke Law Journal* 313, p.321.

between ‘clickwrap’ and ‘browsewrap’ agreements, the former requiring a user to click on a box in order to agree to the terms whereas the latter are simply posted on the website.[962] These electronic contracts, while making the process of acceptance more informal, fit neatly into the traditional concepts of contract law. The second type of agreement is what Harry Surden describes as ‘data-oriented’ and for which the parties express ‘some part of their contractual arrangement as computer-processable data’.[963] This may be in combination with a traditional legal contract with the legal consequence that the rights and obligations in the data-oriented form and the traditional written form operate as a single agreement like the MA. The third type, and the category into which smart contracts would fall, would be ‘computable contracts’ which are those contracts in which ‘the parties have arranged for a computer to make automated, prima-facie assessments about compliance or performance’.[964]

As part of this iterative process of defining smart legal contracts, Susannah Wilkinson and Jacques Giuffre have identified as part of six levels (from paper-based contracts to fully autonomous contracts) that the main characteristic of a smart legal contract is its inclusion on a common platform so that both parties utilise and record the contract at the same digital location.[965] This will be assessed further when discussing public and private blockchains below.

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[962] *O'Shields* (n 952), p.186.

[963] Harry Surden, ‘Computable Contracts’ (2012) Vol. 46 *U.C. Davis Law Review* 629, p.636.

[964] Ibid, p.636.

[965] Susannah Wilkinson and Jacques Giuffre, ‘Six Levels of Contract Automation: The Evolution of ‘Smart Legal Contracts’ in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter

While there are significant derogations from the form and agency involved in traditional contracts, smart contracts as digital agreements that are 'self-executing and self-enforcing',[966] do not appear to be incompatible with existing principles of contract law even if there are some who believe that contract law will have to undergo significant development requiring 'careful and imaginative consideration'.[967]

What is also important is the practical industrial acceptance of smart contracts in the OTC derivatives market.[968] Contracts are fluid and contract law, despite arguments to the contrary,[969] can be relatively flexible so it often comes down to the normative reality in which they operate and as Daniel Drummer & Dirk Neumann explain, '[r]egardless of the lack of full legal and regulatory clarity, businesses have…started to develop concrete solutions which could remedy some of the inherent shortcomings of smart contracts and pave the way for their broader acceptance across industries'.[970]

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Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.201: the six levels are defined against the Natasha Blycha and Ariane Garside model which defines smart legal contracts as having status (conforms to contract law rules), form (machine-readable or digital), contents (must contain a mix of natural language and computer code), active function (parties must agree how the coded elements will execute), and digital execution mechanism (the digital hosting and how that integrates with the active function).

[966] *Werbach & Cornell* (n 961), p.320.

[967] *Papantoniou* (n 123), p.23.

[968] Pacific Coast Bankers' Bancshares (PCBB), 'The Future of Contracts in Banking is Smart' (2023) *BID Daily Newsletter* < The Future of Contracts in Banking Is Smart (pcbb.com) > accessed on 14th July 2022.

[969] *Mitchell* (n 52).

[970] *Drummer & Neumann* (n 117), p.348.

## 9.4 The Advantages and Disadvantages of Smart Contracts

The benefits extolled by proponents of smart contracts are that such contracts could:

(a) save time and costs for the cumulative reasons set out below of their being less prone to manual error and input, improving certainty, and obviating the cost of ex-post adjudication; [971]

(b) reduce errors by replacing manual processes: this also builds upon the previous and following points in that humans are fallible whereas code, albeit potentially written by humans, is far more robust and, in the case of smart contracts, can execute operational functions instantaneously and with much less propensity for error;

(c) increase market participation by removing cumbersome operational requirements: this, again feeds into other benefits in that, beyond the early adopters who incur a large up-front cost and bear the risk, once operational, the time and costs to set-up and join such smart contract networks should reduce and so the existing manual processes which are costly and prone to error will fall away and allow more market participants to enter the market, thereby increasing liquidity; [972]

(d) improve certainty by replacing often ambiguous language with immutable code: the idea behind smart contracts is that they incorporate legal provisions (wet code) into code (dry code),[973] thereby crystallising rights and obligations

[971] *Ferreira* (n 928), p.4.

[972] Ibid, p.4.

[973] Aaron Wright and Primavera De Filippi, 'Decentralized Blockchain Technology and the Rise of Lex Cryptographia' (2015) *SSRN*, p.25.

in lieu of arguments arising from the elasticity of language.[974] However, this is perhaps an optimistic vision given that code is still a form of language. On that basis, the U.K. Law Commission has observed that ambiguity in the meaning of the code could be ascertained by asking what a 'reasonable coder', i.e. what a 'person with knowledge and understanding of code would understand the coded term'[975] to mean; and

(e) reduce the reliance on ex-post adjudication:[976] smart contracts are seen as a panacea to external enforcement of contracts.[977] This would be seen as progressive by many who criticise litigation as costly and inefficient[978] even if, as noted above, there may still be interpretational issues with the code.

Of course, each of these purported benefits can be refuted by those who think that the reality of implementation is perhaps not as sanguine. Some of the potential disadvantages associated with smart contracts are:

(a) security:[979] this is a concern, especially given the infamous hack of the Decentralized Autonomous Organization (DAO) in which a smart contract network structure was constructed to govern and execute the operations of an

[974] Ibid, pp.24 – 25; *ISDA, King & Wood Mallesons* (n 118), p.20: 'Programming languages are used to state things precisely. If a word is used incorrectly, or is not defined, then it either cannot operate or cannot operate in the manner intended. This means that a greater level of precision is required in preparing legal language for adoption for automation'.

[975] *The U.K. Law Commission* (n 58), p.80.

[976] *Ferreira* (n 928), p.4; *Wright & De Filippi* (n 973), p.50.

[977] *O'Shields* (n 952), p.177.

[978] *Papantoniou* (n 123), p.13.

[979] *Ferreira* (n 928), p.6.

investment entity set-up to show that such entities can be run without a management team. After raising USD 150m, a user hacked - or, more particularly, used the terms of, and the loopholes and bugs in - the smart contracts to divert USD 40m from the DAO;[980]

(b) difficulty to regulate:[981] this covers a number of areas including data protection where the right to be forgotten is unavailable, at least transactionally, and the usual financial crime prevention due diligence is problematic on anonymised users. In this way, the decontextualization provided by automation can be problematic.[982] As will be discussed below, this may be mitigated by private networks but this could possibly amplify data protection issues if parties can either see other party data or extrapolate from partial data. There are also legitimate concerns that those organisations that control the network become the de facto hegemons over the system; [983]

(c) difficulty in resolving disputes: there may be competing claims of governing law and property rights may be obfuscated by the indeterminate situs of the derivative instrument when part of a DLT platform. In addition, the resolution of disputes by either the code or by oracles (discussed below) makes the whole system less transparent.[984] For public blockchains, there is also the matter of

[980] *Raskin* (n 934), p.1087.

[981] *Wright & De Filippi* (n 973), p.20.

[982] *de Graaf* (n 932), p.7.

[983] Ibid, p.10.

[984] ISDA / Clifford Chance / R3 / Singapore Academy of Law, 'Private International Law Aspects of Smart Derivatives Contracts Utilizing Distributed Ledger Technology' (2020), p.3 <

anonymity which makes seeking redress from a counterparty particularly difficult;[985]

(d) its immutability: while the DAO 'hack' outlined above resulted in a retroactive fix being agreed between the nodes and 'standards for upgradable contracts that enable functions to be replaced after they have been deployed'[986] are being developed, the nature of blockchain technology means that once a transaction or contract forms part of the blockchain, it is currently difficult for its terms to be changed. This can cause particular issues if such smart contracts are to replace traditional contracts because the latter, accounting for the capricious nature of humans, organisations, and markets, are often amended for reasons outside of errors in the drafting; [987] and

(e) the difficulty in making code certain: while some advocate that code will make the terms of a contract more deterministic, there is a competing argument that the time and cost it takes (albeit a front-end cost which, for standard contracts, may be amortised over time) to make any contract certain enough that users are comfortable with its immutability, especially 'high-value, long-duration, and

https://www.isda.org/a/4RJTE/Private-International-Law-Aspects-of-Smart-Derivatives-Contracts-Utilizing-DLT.pdf > accessed 12 April 2021.

[985] *Xu* (n 96), p.239.

[986] Alfonso Delgado De Molina Rius, 'Smart Contracts: Taxonomy, Transaction Costs, and Design Trade-Offs' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.116.

[987] Christopher D. Clack, 'Smart Contract Templates: legal semantics and code validation' (2018) *The Centre for Blockchain Technologies Department of Computer Science University College London*.

highly-regulated financial contracts',[988] would surely offset any such gains made in its subsequent efficiency, not to mention that contracts, smart or traditional, are notoriously incomplete.[989]

## 9.5 Public and Private Blockchains

One of the important distinctions between the blockchain instituted for cryptocurrencies such as Bitcoin and the introduction of smart contracts to establish commercial relationships across a market is the public or private nature of the network. Bitcoin uses a public blockchain, otherwise referred to as a 'permissionless blockchain', whereas a lot of suggestions for the use of blockchain technology in the financial services industry have focussed on private blockchains, otherwise referred to as 'permissioned blockchains'. As the name suggests, such blockchains require users to be permitted to join the network and to access different transactions.[990]

This raises questions around the gatekeepers of such networks and may explain why banks have invested so heavily in this field.[991] In an article published by ISDA Assistant General Counsel Ciaran McGonagle, along with academic Christopher D. Clack, emphasise that participants in the financial services sector will not necessarily adopt peer-to-peer systems simultaneously so a centralised technology platform may

[988] Ibid.

[989] *Papantoniou* (n 123), p.22; *Werbach & Cornell* (n 961), p.365: 'And even when it offers a precise answer, something is lost in the process in the conversion from analog to digital.'

[990] Jack Gilcrest and Arthur Carvalho, 'Smart Contracts: Legal Considerations' *IEEE International Conference on Big Data (Big Data),* Seattle, WA, USA, pp. 3277-3281 (2018), p.3280.

[991] For example, Citibank, Barclays, Bank of America, Standard Chartered, and the Development Bank of Singapore (*Pacific Coast Bankers' Bancshares (PCBB)* (n 968)).

need to be conceived instead.[992] ISDA is intending to implement this centralised platform by way of the ISDA Common Domain Model - in partnership with, at the time of writing, other associations , such as ICMA and ISLA, and third party providers such as FINOS[993] and R3 (through R3's Corda DLT platform)[994] - which is governed by an executive committee of ISDA members.[995] ISDA also intends to embed its Definitions booklets into the proposed smart contracts and it has already worked on drafting those Definitions utilising an 'innovative drafting style, which uses conditional statements that can be translated into code'.[996] As part of the framework being developed by ISDA to facilitate smart contracts, CDM, in ISDA's words, 'could play an important role in ensuring that a shared, standardised representation of events and actions that occur through the derivatives lifecycle is applied across the industry'.[997]

CDM, as described in chapter 6.13.2, is a platform which Members can use in order to standardise and digitise certain processes which are involved in derivatives trading. It provides a platform for parties to record trade details, provide settlement information, exchange confirmations, manage collateral and credit risk, and standardise reporting information. In this sense, as ISDA explains, the 'CDM

[992] Christopher D. Clack and Ciaran McGonagle, 'Smart Derivatives Contracts: the ISDA Master Agreement and the automation of payments and deliveries' (2019) *Cornell University, Computers and Society*, p.3.

[993] *ISDA, ICMA and ISLA Appoint FINOS* (n 758).

[994] *ISDA / Clifford Chance / R3 / Singapore Academy of Law* (n 984), p.6: 'Corda is a blockchain platform for recording and processing financial agreements'.

[995] ISDA, 'ISDA CDM 2.0 FAQ' (2019), p.2 < http://assets.isda.org/media/649ca60c-2/b3dd70a2-pdf/ > accessed on 2 February 2021.

[996] *ISDA, (Digital Asset Derivatives)* (n 762).

[997] *ISDA, King & Wood Mallesons* (n 118), p.3.

framework is more in line with ISDA's work in developing operational standards than its work on legal documentation'.[998] However, with the support of technology providers such as FINOS or R3, ISDA's CDM could provide the basis through which smart contract versions of the MA and, more specifically, the operational provisions thereof, could be generated and through which counterparties could interact on those terms which are open to automation.

This all may not be as contrary to decentralisation as it first appears with scholars such as Alfonso Delgado De Molina Rius, highlighting that 'smart contracts can (and usually do) have a contract 'owner' with the ability to call certain reserved functions. For instance, a token issuer may grant themselves the ability to cancel the sale at any time or even to unwind transactions'.[999] Moreover, there are serious concerns of using public blockchains to execute financial transactions between financial firms – even with party anonymity (which itself may present financial crime prevention concerns), there would be concerns that inferences could be made about the parties behind a trade by corroborating public information, public anonymised data, and certain confidential information. In private blockchains, such as that proposed by ISDA using CDM, as Tian Xu explains, while the network is centralised, there is more control over remedying potentially illegal or erroneous consequences arising from autonomous performance and, because parties are identifiable, they can enter into a 'multi-layered contractual relationship which extends beyond code and can ultimately be arbitrated before a national court'.[1000]

[998] Ibid, p.9.

[999] *Rius* (n 986), p.116.

[1000] *Xu* (n 96), pp.241 and 245.

As alluded to above, ISDA has already begun the process of automating its standard-form suite of documents which, it points out, are 'smart *legal* contracts' or 'smart *derivatives* contracts' rather than 'smart contracts' – the distinction being that the former are legal contracts, or clauses therein, which are automated or coded, whereas the latter is not necessarily a legal contract at all, it can be code designed to execute tasks if certain conditions are met.[1001]

## 9.6 The Implementation of Smart Contracts

As ISDA has recognised, the main advantage of automation, at least ab initio, would be to streamline the process of payment obligations or collateral transfers[1002] under the MA.[1003] Payment and deliveries falling under the MA are heavily dependent on an if-then-else conditional logic and so have been highlighted by ISDA as 'fertile territory' for smart contract application.[1004] Many financial institutions still process margin payments via an e-mail exchange which is followed by a bank transfer. This administrative burden could be alleviated by the introduction of automatic processes which could execute these functions with minimal human intervention and shows how some clauses of the MA are already mechanical enough to warrant automation. Moreover, derivatives are distinctly open to this kind of automation especially those products deriving their value from a financial instrument traded on an exchange. By,

[1001] *ISDA, King & Wood Mallesons* (n 118), p.5.

[1002] *ISDA, 'Legal Guidelines for Smart Derivatives Contracts'* (n 717).

[1003] As mentioned, the MA is an umbrella agreement under which ancillary documents sit. Collateral payments, for example, are often dealt with under a Credit Support Annex which, while separately agreed, falls under the MA as a single agreement as defined under s.1(c) of the 2002 MA.

[1004] *ISDA, Linklaters* (n 27), p.19.

for example, embedding an application programming interface (API) from an exchange into a smart contract, any price-determined provisions, such as the payment of margin, would be automatically determined by independent, third-party data. Such provisions, reliant on price data from a third party, could provide significant and reliable efficiencies to the contractual relationship. These third-party data feeds are referred to as 'oracles'[1005] but this term also refers to any third-party input and may include, for example, the resolution of disputes either judicially, through arbitrators,[1006] or the use of online dispute resolution.[1007] More generally, and incorporating those two forms, oracles can be described as 'external data sources which transmit information to a computer program'.[1008]

This all has the potential of making contracts, and the transactions falling thereunder, much more efficient. However, there are practical concerns over the application of smart contracts. In relation to oracles, for example, there have been issues raised over the 'oracle problem' which is the problem of using a single source oracle which 'recentralises the blockchain by introducing a single point of failure and requiring trust in just one entry point'.[1009] This can be mitigated by using several sources but such dispersion could start to erode the potential cost and efficiency

[1005] Darcy W. E. Allen, Aaron M. Lane & Marta Poblet, 'The Governance of Blockchain Dispute Resolution' (2019) Vol. 25 *Harvard Negotiation Law Review* 75, p.81.

[1006] *Wright & De Filippi* (n 973), p.50.

[1007] *Morgan, Livingston, & Moir* (n 947).

[1008] *The U.K. Law Commission* (n 58), p.6.

[1009] Thibault Schrepel, 'Smart Contracts and the Digital Single Market Through the Lens of a "Law + Technology" Approach' (2021) *European Commission, SSRN*, p 28.

benefits with additional governance around how to deal with aggregation and/or discrepancies between oracles.

Discussing potential problems more generally, financial markets involve highly complex inter-relationships.[1010] The MA sits a layer deep within that complexity, in a subset of finance – OTC derivatives – which has become infamous for its inscrutability.[1011] Standardisation, which John Biggins and Colin Scott suggest, has arguably enhanced legal certainty and mitigated risks,[1012] also produces within the courts a desire to maintain consistency and stability when interpreting its terms.[1013] While standardisation creates fertile opportunities for automation, the inherent complexity of, for example, Events of Default, as defined in the MA, was emphasised during the Lehman Brothers bankruptcy.[1014] This convolution could inhibit progress in the automation of the MA but rather than recede, organisations, including ISDA, are looking at solutions which provide a compromise, accepting that there are certain impediments to implementation of full automation at this stage

[1010] *Rouch* (n 125), p.51.

[1011] *Partnoy* (n 297), p.53: a particular derivatives trade is described as '…too complex to describe without a mathematician and a psychotherapist'; *Tett* (n 263), p.9: 'When bankers talk about derivatives, they delight in swathing the concept in complex jargon. That complexity makes the world of derivatives opaque, which serves bankers' interests just fine.'

[1012] *Biggins and Scott* (n 88), p.323.

[1013] *Lomas* (n 63), 53: 'It is axiomatic that it [the ISDA MA] should, as far as possible, be interpreted in a way that serves the objectives of clarity, certainty and predictability, so that the very large number of parties using it should know where they stand.'

[1014] *Tanna* (n 9), p.98, discussing the inconsistency of approach to s.2(a)(iii) of the MA between the U.S. and the U.K.; *ISDA, King & Wood Mallesons* (n 118), p.14.

and recognising the importance of judicial or arbitral enforcement of such contracts.[1015]

The U.K. Jurisdiction Taskforce has opined on the potential reduction of legal intervention as part of using smart contracts, while highlighting the risk of faults in the code, incorrect inputs, or events external to the code which affect performance.[1016] Such risks, in their opinion, do not mean that smart contracts are incapable of creating binding legal obligations but they should be capable of adjudication.[1017] The ISDA / Linklaters paper specifically addresses this point by assuring market participants that smart legal contracts still require national court enforcement[1018] for those clauses which do not self-execute or to adjudicate on any issues with the performance of such self-executing provisions.

In a subsequent paper written with the international law firm Clifford Chance, the Singapore Academy of Law, and R3 (a DLT and blockchain technology company), ISDA reiterated the position on the freedom to choose the law which will govern the contract, 'the law' meaning 'the law of a country and not some non-national system of law, such as the lex mercatoria, 'general principles of law' or public international law'.[1019] However, it seems clear that DLT will blur the traditional geographical boundaries[1020] further than the global system has already obfuscated them. With smart legal contracts and the Common Domain Model, ISDA appears to be placing

[1015] *ISDA, '2018 ISDA Arbitration Guide'* (n 370).

[1016] *UKJT* (n 58), pp.35-37.

[1017] Ibid.

[1018] *ISDA, Linklaters* (n 27), p.20.

[1019] ISDA / Clifford Chance / R3 / Singapore Academy of Law (n 984), p.9.

[1020] Ibid, p.3.

itself at the forefront of not only technological change but potential legal and geopolitical transformation in the OTC derivatives market.

However, as Pierre Schammo describes, new technologies do not 'easily gain traction among market participants' in the presence of network effects.[1021] As Schammo observes, networks become more valuable as more participants join but, in already established networks, it is moving the herd towards the desired outcome which becomes problematic because you need a minority of early adopters to take the risk on this new technology and with banks creating their own environments there may be additional issues of incompatibility and competition. Furthermore, if smart contracts are to operate within the existing legal infrastructure – which some advocate is necessary for mainstream adoption of the technology[1022] - there may also need to be a legislative framework which provides enough flexibility for the technology itself to flourish and for the common law, which is a 'reactionary creature',[1023] to then adapt to the new technology and disputes which arise therefrom.[1024] Attempts at such legislative frameworks have started to take shape in

[1021] *Schammo* (n 904), 17.

[1022] *Vos* (n 452), p.56.

[1023] Justice Aedit Abdullah and Goh Yihan, 'Making Smart Contracts a Reality Confronting Definitions, Enforceability, and Regulation' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.78: 'The common law is of course a reactionary creature, in that it reacts to disputes brought before it but does not generally prescribe for scenarios that have not arisen. Thus, the certainty needed for smart contracts to flourish cannot be provided by the common law on its own but will require a legislative framework that addresses the fundamental issues clearly and unambiguously.'

[1024] Ibid, p.78.

various states in the U.S.[1025] whereas the UKJT has concluded that the English common law is capable of recognising smart contracts using its current flexibility.[1026]

If such obstacles can be overcome and infrastructural requirements can be satisfactorily met (whether new or existing), the development of a smart contract version of the MA would put it at the centre of a new form of network, one which is brought onto a digital platform, systematising certain terms to create mechanised responses which reverberate across the smart contract network. In this sense, the MA is still the mechanism by which the network is formed but its efficiency and power to connect users' increases with the implementation of technology. This may raise a potential conflict between how contracts are interpreted in order to maintain the MA network and how to maintain the MA smart derivative contract network. The former, as discussed in chapter 8, requiring potentially more of a contextual approach (at least in terms of open recognition of the network rather than latent recognition), whereas the latter may be dictated primarily by a discrete automaton approach which precludes any kind of additional contextual ambiguity.

[1025] *Gilcrest & Carvalho* (n 990), p.3280: for example, 'Arizona HB 24174 introduces basic provisions that declare the authenticity of fundamental aspects of blockchains and smart contracts'; Robert Herian, 'Techno-Legal Supertoys: Smart Contracts and the Fetishization of Legal Certainty' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), pp.248 and 253: such legislation has also been passed in Illinois and Wyoming, respectively.

[1026] *UKJT* (n 58).

## 9.7 Operational and Non-Operational Clauses

In a Whitepaper on Smart Contracts published by ISDA and the international law firm Linklaters, it was highlighted that there are two types of clauses in legal contracts, *operational* and *non-operational*; the former encompasses those clauses which are more process-driven and binary, for example, those clauses which are open to Boolean logic – the conditional statement in programming which states that if X happens then do Y, else do Z[1027] – whereas the latter are less open to such logic and can be found in clauses which require, for example, a term to be carried out in *good faith* or, using the MA terminology, a *reasonably commercial manner*.[1028] While a subsequent ISDA paper recognised that the distinction between operational and non-operational clauses can be 'difficult to draw in some cases, and this difficulty has also been noted from a computer science perspective',[1029] the paper also recognises that for the purposes of giving legal effect to the terms, it is important to understand which parts of a derivatives contract are selected for translation into automatable form.[1030]

The operational/non-operational categorisations derive from the initial purpose of automation as envisaged by ISDA which is to streamline the process of payment

[1027] Ciarán McGonagle and Finn Casey Fierro, 'Building Smart Contracts' (2024) ISDA < https://www.isda.org/a/D7wgE/Building-Smart-Contracts.pdf > accessed on 20 April 2024.

[1028] *ISDA, Linklaters* (n 27), p.11.

[1029] *ISDA, King & Wood Mallesons* (n 118), p.12.

[1030] Ibid, p.13.

obligations or collateral transfers[1031] under the MA.[1032] Automation, for this purpose, is designed to reduce the administrative burden and mitigate the risk of certain manual processes. It is indicative of the mechanical nature of certain operational clauses in the MA, referred to here as discrete clauses, which obviate human intervention and the associated susceptibility to error. That does not mean that such clauses are unfettered from judicial intervention, there may still be problems which arise with these clauses as well as the coding which underpins them. As the UKJT has observed, smart contracts may reduce legal intervention but there are still risks associated with, for example, the code itself or system failures which will still require adjudication.[1033] So the code should be clear, unambiguous and execute as expected but there will be times when a 'judge will need to look beyond the four corners of the code'[1034] when it fails to perform as the parties (or ISDA) expect.

This code, when run, will only be able to compute a certain amount of context and far less than what Hugh Collins and David Campbell have referred to as the 'implicit dimensions of contracts', such as 'fair dealing, good faith and co-operation'.[1035] Ostensibly, those operational clauses which have been coded to run as a smart contract will operate in a limited contextual capacity and execute in a discrete

[1031] *ISDA, 'Legal Guidelines for Smart Derivatives Contracts'* (n 717).

[1032] Chapter 6 of this thesis provides a description of how the MA operates alongside other ISDA contracts including, in this instance, the ISDA CSA (n 1002 also provides a summary of this interaction between agreements).

[1033] *UKJT* (n 58), p.136.

[1034] Ibid, p.151.

[1035] *Campbell & Collins* (n 224), p.25.

manner, for example, when X event occurs and parameter Y is met, then execute Z. The MA will comprise those discrete clauses which are coded and, contiguously, those relational clauses which may form part of the static code but will not, in the words of ISDA, 'embed any conditional logic'.[1036]

However, there will be clauses which cannot necessarily be automated but which cannot necessarily be categorised as relational. The discretion afforded to non-defaulting parties in relation to close-out netting at section 6 of the MA, for example, is demonstrably ill-fitted to automation given that a party may consider various factors as part of the calculation. On the other hand, the English courts have stated that there is an expectation on non-defaulting parties making close-out netting calculations to demonstrate 'rationality' (for the 1992 MA)[1037] or objective, commercial reasonableness 'in order to produce, objectively, a commercially reasonable result' (for the 2002 MA).[1038] While discretion may, ostensibly, fit more within the relational aspects of the MA, it has elements of objectivity which would also make it amenable to automation - it does not clearly have characteristics of either. Such clauses are themselves *meta-bimodal*, containing elements which can be described as discrete and relational,[1039] showing that terms within contracts, as well as the contracts themselves, can be described as bimodal.

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[1036] *ISDA, 'Legal Guidelines for Smart Derivatives Contracts'* (n 717).

[1037] *Fondazione Enasarco* (n 74), 53: in reasonably determining a party's 'Loss', 'that party is not required to comply with some objective standard of care as in a claim for negligence, but, expressing it negatively, must not arrive at a determination which no reasonable non-defaulting party could come to. It is essentially a test of rationality.'

[1038] *Lehman Brothers Special Financing Inc v National Power Corporation* (n 659), 81.

[1039] Or, conversely, described as neither relational nor discrete, i.e. a combination of the two.

## 9.8 Conclusion

While not expressly discussed by ISDA during the development of a smart contract, in addressing the dichotomy between operational and non-operational clauses, there appears to be an implicit recognition by ISDA that its contract contains both discrete and relational clauses. The nomenclature, for the purposes of this thesis, could be applied so that 'operational clauses' are effectively those which define discrete functions whereas 'non-operational' clauses are harder to define and may themselves require relational duties or will encase discrete operations in such relational duties. While there may be some clauses which cannot be so easily mapped onto either end of the discrete/relational spectrum, such as those pertaining to contractual discretion, the general idea proposed in this thesis is that operational clauses are tantamount to a more discrete mapping whereas non-operational clauses are commensurate with a more relational mapping onto the MA.

Automation emphasises this by making us confront the possibility of developing technological functionality around each clause. Even with the exponential growth of technology, it appears unlikely, at least at this point, that we will be able to write into code certain relational duties such as good faith.[1040] The fact that the MA contains express clauses, some of which can be automated and others which cannot, would suggest that the contract is intrinsically *bimodal*. While a relational contract may, arguably, contain discrete elements, it could be deleterious to categorise the MA as either discrete or relational given the concomitant connotations. The bimodal contract can contain both discrete and relational terms without submitting to an all-

[1040] *Herian* (n 1025), p.265: 'If smart contracts negate good faith by design, this places a burden on smart contracts to maintain conditions in which good faith is no longer necessary'.

encompassing definition of it being an agreement covering either a one-off transaction or broad duties of transparency, cooperation, and trust and confidence throughout.[1041]

This emphasises the oscillation which this thesis has attempted to highlight, that the MA cannot be easily defined as sitting at one end of the spectrum or the other nor is it perhaps helpful to say that it simply sits at the centre of the spectrum without a proper investigation of its terms in the context of any particular dispute. However, in the aggregate, it may be argued that the MA occupies that middle ground with the clauses themselves providing a wide array of discrete and relational tendencies. It is by looking at the terms of the contract itself which, it could be argued, may find a more fruitful, albeit perhaps more protracted, investigation of how to interpret contracts especially as we move to more automated solutions and the idiosyncrasies which will develop from contracts which are partially self-reinforcing and partially open to the same traditional problems of interpretation as their paper-based counterparts.

As ISDA, along with other trade associations, have recognised, in a letter to the Financial Stability Board, IOSCO, and the Bank of International Settlements, 'we are on the cusp of a new paradigm shift'.[1042] In that letter those trade associations pointed out that regulatory reforms introduced since the 2007/2008 global financial

[1041] *Alan Bates* (n 3), 738: 'Transparency, co-operation, and trust and confidence are, in my judgment, implicit within the implied obligation of good faith'.

[1042] ISDA, 'Digital Future for Financial Markets Letter sent to the Financial Stability Board, IOSCO and the Bank for International Settlements from ISDA, ISLA, UK Finance, AFMA, International Capital Market Association, Bankenverband, LBMA, International Islamic Financial Market' (2020) < https://www.isda.org/a/MGmTE/Digital-Future-for-Financial-Markets-Letter.pdf > accessed 19 October 2021.

crisis were superimposed over existing regulation placing significant demands upon the system.[1043] Smart contracts are one potential solution to this intractable problem and are part of the standardisation, digitisation, and distribution objectives which are designed to:

(1) 'Provide common, interoperable industry standard models' and 'standardised and simplified legal documentation' (standardisation);

(2) 'Explore and pursue the delivery of industry-standard documentation in digital formats' (digitisation); and

(3) 'Distribute new standards on an industry-wide, commercially reasonable basis where possible to support the development and implementation of interoperable and efficient technology solutions' (distribution).[1044]

The aim, based on these objectives, is the introduction of a smart contract version of the MA. The MA, and analogous contracts, are seen to be relatively open to automation given that, inter alia, their underlying prices can be linked to, for example, price reporting agencies, exchanges and/or trading venues, which can feed data into smart contracts for independent, verifiable third-party data. These oracles can provide this real-time data to allow payment flows to run automatically based on parameters agreed by the parties.

However, as caveated by scholars such as Harry Surden as part of investigations into the automation of contracts, in many situations it will only be possible at this time to automate some rather than all contractual terms in any meaningful way.[1045] This has

[1043] Ibid.

[1044] Ibid.

[1045] *Surden* (n 963), p.636.

been affirmed by ISDA which has said that '[s]mart derivatives contracts are smart because they are derivatives contracts with some terms that can be automatically performed. Those terms are expressed in a form that enables their efficient automation. Other terms that are not automatically performed are expressed in natural language'.[1046] The U.K. Law Commission has described such contracts as 'hybrid contracts' with some terms defined in a natural language contract and others in the code.[1047] Over time, this could take the form of all the terms of the contract being included in the code with those automated terms forming part of the executable code and those natural language terms being expressed in the code via non-executable comments which are, as the name suggests, added to code without affecting the code's functionality.[1048] ISDA's initial, 'granular proposals' include a natural language contract which operates alongside a 'more formal representation' of payment and delivery terms which are readable and processable by computers using, for instance, a mark-up language which can be leveraged by lawyers.[1049] However, such proposals and innovations are developing rapidly as discussions and ideas proliferate on the implementation of smart legal contracts.

Whether we want to refer to them as smart terms and non-smart terms, or smart terms and dumb terms, or discrete terms and relational terms, this thesis has been designed around the idea of contracts containing two categories of terms; the advent of smart legal contracts neatly demonstrates this bifurcation between terms, creating what this thesis refers to as a *bimodal contract*, in this case and, as described in this

[1046] *ISDA, King & Wood Mallesons* (n 118), p.5.

[1047] *The U.K. Law Commission* (n 58), p.22.

[1048] Ibid, p.23.

[1049] *ISDA, Linklaters* (n 27), p.19; *The U.K. Law Commission* (n 58), p.26.

chapter, creating contracts whose terms must be divided between those which can be automated and those which cannot. Relational terms (or any gaps in the contract) naturally require a broader understanding of the context and the relationship between the parties which, under current technological conditions, are difficult to code in a way that would satisfy the parties that automation provides much value. This may, of course, prove to be true of certain discrete terms which are either too complex or require some kind of human intervention which makes automation, at least currently, prohibitive. However, broadly speaking, the discrete or 'operational' clauses within the MA are, in the opinion of ISDA, open to automation while the relational or 'non-operational' clauses will not currently form part of the executable code. ISDA has recognised, for example, that certain payments under the MA, such as margin payments described at chapter 6.8 of this thesis, may be open to the conditional logic and deterministic actions associated with automation whereas certain payment calculations which require good faith and commercial reasonableness may, at this point at least, need to sit outside of such mechanisation.[1050] While the form that smart legal contracts will take is still in flux, it is already clear that there is a demarcation between terms within contracts and, as such, we should prepare for how we analyse them.

As this third part of the cascading analysis, as set out at chapter 1.3, has tried to demonstrate, the technological innovation which could revolutionise how certain operational clauses are executed must be viewed against those clauses which are still heavily dependent upon context as well as any gaps in the contract which may need

[1050] *ISDA, Linklaters* (n 27), pp.10-11.

third-party input. This chasm can, this thesis posits, be filled by a new category of contract, the *bimodal contract*.

# PART VI - CONCLUSION

## 10 Conclusion

This thesis has been designed to assess the MA on the discrete/relational spectrum and does this by examining the terms of the MA and the various approaches, constitutive elements, and systems which have been built around it. This was predicated upon the research question: '*Where does the English law governed ISDA Master Agreement fit on the discrete/relational contract spectrum*?' The question was posed in order to challenge the proposition that the MA is neither relational nor discrete, what is referred to in this thesis as a *bimodal contract*.

The question is examined using the constituent parts (members) of ISDA, the purposes behind the MA and trading OTC derivatives, the intentions of ISDA, the network of MA users, and potential technological development of the MA. This was visualised through the cascading analysis, set out at chapter 1.3 and set out below for ease of reference:

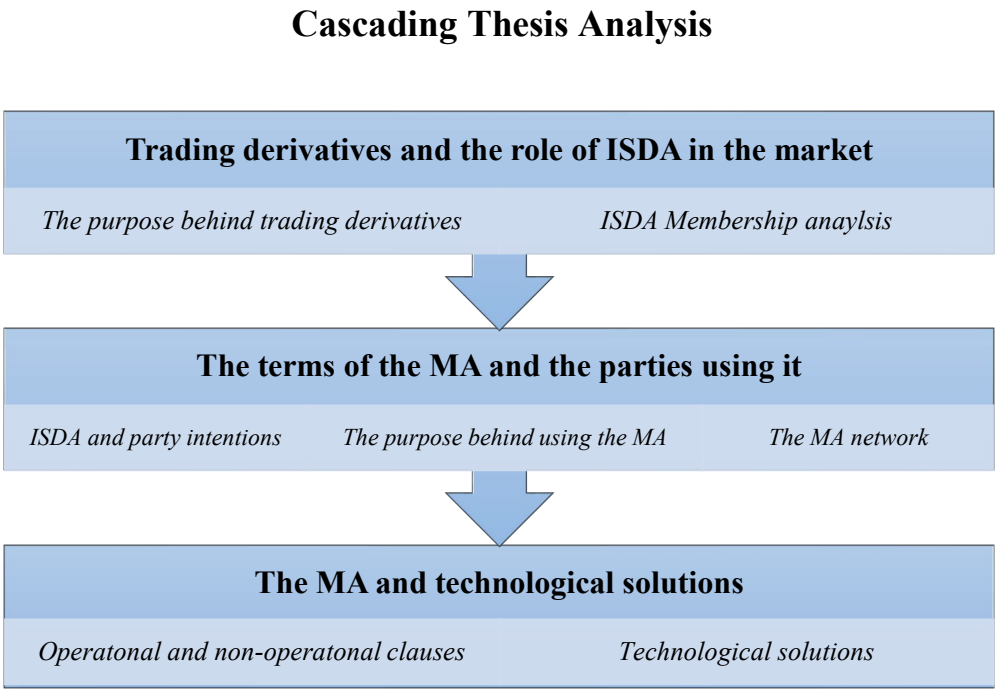


*Fig. 24 a visual representation of the cascading analysis used in this thesis as first illustrated at Fig.1.*

This cascading analysis was designed to assess:

(1) the MA from a level above the contract (Level 1 – 'Trading derivatives and the role of ISDA in the market') in order to understand: (i) the purposes behind trading the financial instruments covered by the MA, and (ii) the geographical distribution of ISDA members;

(2) the MA, its terms, and the parties using it (Level 2 – 'The terms of the MA and the parties using it') in order to understand: (i) the purposes behind using the MA, (ii) the intentions of the parties using the MA and how these may be supplanted by the intentions of ISDA as the drafting party, and (iii) the contractual network created around the MA; and

(3) the future development of the MA and the proposed introduction by ISDA of a smart contract version of the MA (Level 3 – 'The MA and technological solutions').

These three levels of cascading analysis were designed to assess the English law governed MA on the discrete/relational contract spectrum. On this spectrum, on which discrete and relational contracts occupy opposing ends, the bimodal contract sits at the centre occupying the space at which many contracts may fall - providing credence to Macneil's contention that 'many modern interactions simultaneously inhabit extremes of discrete and relational characteristics'[1051] - leading the contracts which underpin them to fall somewhere between those two poles. The idea of two poles is binary whereas bimodal contracts can be thought of as an overlapping construct where discrete and relational meet.

[1051] *Mertz* (n 5), p.936.

**The Discrete/Relational Spectrum Revisualised**

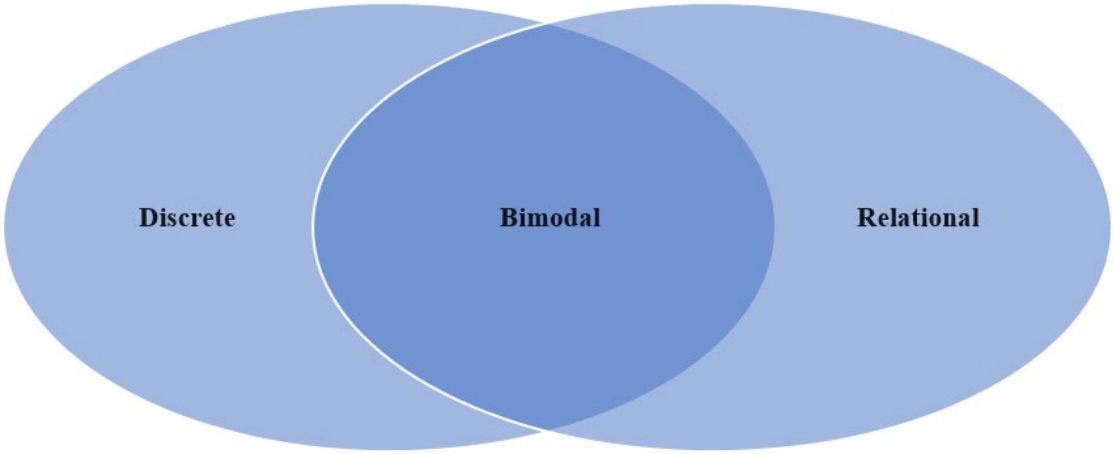


*Fig. 25 visual representation of the discrete/bimodal/relational spectrum as an overlapping construct.*

The notion that paradoxical concepts can inhabit the same environment at the same time is not revolutionary nor does it necessarily elucidate our understanding but we are often tempted to balkanize concepts into binary opposition, whereby they are characterised as mutually exclusive.[1052] This can be to the detriment of the concepts themselves. If anything, this realisation makes bimodal contracts more difficult to conceptualise because they require a thorough analysis of the terms of the contract applying to particular situations to determine how they operate as either relational or discrete, creating a contract which sits between the opposing ends of discrete/relational spectrum and which may not, as a corollary, fulfil ambitions of legal certainty as applied to this widely used standard-form agreement.[1053]

[1052] Stephen Matthew Feldman, 'An Arrow to the Heart: The Love and Death of Postmodern Legal Scholarship' (2001) Vol. 54 Iss. 6. *Vanderbilt Law Review* 2351, p.2355.

[1053] *AWB (Geneva) SA* (n 6), 37.

This is an extension of the textualist/contextualist debate and, in furtherance of the 'unitary approach' to contractual interpretation,[1054] the position put forward in this thesis is that discrete terms will warrant a more textualist reading of the clause whereas a relational term will warrant a more contextualist reading of the clause.[1055]

This oscillation between discrete and relational terms, or between a textualist or contextualist reading of such terms, causes the MA as a contract to swing between the different ends of the spectrum. Ostensibly, given the nature of the transactions underpinning it and the treatment by the courts of such financial, standard-form agreements, it may appear unlikely that we can think of the MA as anything other than skewed heavily towards the discrete end of the spectrum. However, there are some, in support of a more relational reading of the agreement (or parts thereof), who view it as inevitably incomplete and often forming the basis of long-term, cooperative relationships.[1056] Furthermore, as David Rouch describes, classical economic, free market narratives suffused English legal thought as part of the development of the concept of 'freedom of contract' and 'arm's length dealings, where the parties are treated as if they were strangers, acting in their own interests, and owing no duties to each other, except the terms of their contract'[1057] but the reality is that ISDA and its MA have, Sean Flanagan observes, 'held together an industry' and 'turned competitors into collaborators'.[1058]

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[1054] *Wood v Capita* (n 106), 11.

[1055] *Beatson & Friedman* (n 164), p.20: [McKendrick states that] '[w]hat is required is a liberal approach by the courts that will recognise the need for flexibility, and will permit the enforcement of such clauses even though they may be drafted in vague flexible terms.'

[1056] *Golden* (n 20); see also, in terms of viewing the amendable parts of the MA as relational: *Borowicz*, (n 125).

[1057] *Rouch* (n 125), p.250.

[1058] *Flanagan* (n 70), p.17.

We ultimately arrive back at debates in economics, psychology, and sociology around how we deal with human behaviour (rather than orderly representations of it) and how contract law can fit within this shift. Textualism and rational choice theory are clean and efficient concepts which allow us to tackle messy human problems within a pristine shell of certainty and consistency. Contextualism and behavioural economics confront the heuristics inherent in human decision-making but representing such realities in law can itself be difficult and messy. The same can be said of the recognition of discrete and relational contracts, with the former representing a clean exchange between parties in which the words of their agreement are deemed to adequately delineate their relationship while the latter endeavours to represent the complex and tortuous nature of many relationships and the inability of contracts to describe them completely.

Albeit with some subsequent reluctance,[1059] relational contracts have begun to be discussed in the English courts as a practical matter of contractual interpretation rather than solely a theoretical, academic concept.[1060] However, the tendency is still to focus on the contract holistically, meaning that the contract is deemed either relational or not.[1061] If the contract is not relational because, for example, it does not fall into the predefined categories of relational contracts such as employment or distributor agreements, the courts do not necessarily say that it is discrete, presumably because the implications of doing so would give rise to commentary which supports the idea that very few contracts, if any, are truly discrete. The analysis in this thesis may provide a pathway for discrete contracts (as well as bimodal contracts) to enter the lexicon of the judicial relational

[1059] For example, see *Morley*, *UTB LLC* (n 1).

[1060] For example, *Alan Bates* (n 3); *Yam Seng* (n 2).

[1061] For example, see *Morley* (n 1).

contract debate by proposing a third categorisation which may attenuate the current binary, discrete/relational compartmentalisation.

By focusing on the predefined categorisations of contract, we tend to miss the nuances of many agreements. The MA, for example, expressly references what have become relational concepts, such as good faith, developing what Michael Bridge has observed more generally that there is a growing practice 'of parties inserting in their contracts a duty to negotiate or settle differences in good faith'.[1062] That must, of course, be balanced against the sophisticated nature of the standard-form MA and the zero-sum game being played by many financial market participants which, prima facie, fit more neatly under a discrete categorisation. This combination of relational and discrete duties under one contract is not uncommon. In fact, many commentators have already made this observation, including Macneil himself.[1063] It creates what is defined in this thesis as a *bimodal contract*, containing both relational and discrete terms.

The implications of such contracts on the practical matter of contractual interpretation could be significant. Viewed negatively, it could create a host of protracted and costly litigation if courts are expected to assess disputes in light of those clauses which are relational and those which are discrete, especially for common litigious matters such as the provision of payment. The paradigmatic example of a discrete function, as argued in this thesis, is the payment of margin. Such payments are triggered by thresholds and market prices which cause positions to exceed those thresholds. This, in and of itself, would appear to be a highly discrete function. However, the CSA – the ancillary contract to the MA which predominantly deals with the provision of margin – specifically states at

[1062] *Bridge* (n 230), p.8.

[1063] *Mertz* (n 5), p.914.

paragraph 9(b) that: 'Performance of all obligations under this Annex, including, but not limited to, all calculations, valuations and determinations made by either party, will be made in good faith and in a commercially reasonable manner'. It could thus be argued that even discrete functions in the MA are buttressed by relational duties, raising the contention that the MA can simply be categorised as a relational contract. This also fits within economic and psychological ideas about how solipsism is often magnified in capitalist thinking but underneath such free-market ideals there lies cooperation and trust which, even in purported 'trust-less' systems such as Bitcoin, are vital for the proper functioning of commercial activity.[1064] The concept of relational contracts is designed to highlight these less opportunistic yet salient aspects of the relationship between the parties but it also presents complications for courts looking to impose some kind of certainty and consistency on the interpretation of important, international, standard-form agreements.[1065]

The current practical requirement of relational contracts is the implication of duties of good faith. Under the proposal in this thesis, the definition of a relational contract is:

(1) *There is a relationship between the parties which extends beyond an individual or limited exchange.*

(2) *It is expected that the contract will endure over a period of time beyond an individual or limited exchange.*

(3) *Unlike a discrete transaction, the terms of the contract cannot be easily determined ex-ante, meaning that there may be a more demanding requirement*

[1064] *Allen, Lane, and Poblet* (n 1005), p.80.

[1065] *Lomas* (n 63), 53.

*to understand the relationship and the context of the contract in the event of a dispute.*

*(4) There must be a certain amount of trust and cooperation which persists beyond an individual or limited exchange and that may, and in many cases will, require the implication of duties of good faith.*

This also provides, by viewing it inversely, a definition of discrete contracts. While this relational contract definition does not expressly require duties of good faith to be implied in order for a relational contract to arise, there is certainly a more demanding requirement for the courts to understand the context which may then, depending on the circumstances, call for the implication of certain duties.

By proposing a bimodal contract, the idea is that courts would then have to determine which terms demand relational duties and which are more discrete. This is not a simple task and rails against the current judicial approach, especially to the MA, which appears to elicit a more textualist process of interpretation.[1066] Prima facie, the introduction of bimodal contracts as a category of contract would create lengthy and, concomitantly, costly litigation. Judges and arbitrators may justifiably argue that the idea of bimodal contracts being interposed between relational and discrete contracts creates more uncertainty around a concept that has already been met with some judicial demurral.[1067]

With that being said, innovations in how contracts are designed, negotiated and executed are pushing interminably forward. Moreover, with contracts that may be performed over many years, there is also the unpredictability of technological change over the life of the

[1066] For example: *AWB (Geneva) SA* (n 6); *Lomas* (n 63).

[1067] See, *Morley, UTB LLC* (n 1).

contract.[1068] It is important that the approach to interpreting contracts reflects society and how it changes[1069] and bimodal contracts are an attempt to simultaneously reflect two fundamental contractual shifts which are forming. From one side, smart contracts could precipitate the automation of certain contractual terms with, at least in theory, minimal interference.[1070] On the other side, the English courts have started to recognise relational contracts, meaning that judges, when presented with such agreements, must often look beyond the four corners of the contract to understand the relationship between the parties. These two seemingly incongruous concepts do not currently meet with any kind of regularity - many contracts are neither automated nor fall under the imprecise definition of a relational contract. However, with both smart contracts and relational contracts starting to develop and gain recognition, there will soon be a point of reckoning with contracts which contain, and have a demarcation between, discrete and relational terms.

The MA would appear, as proposed by the English courts, to require a particular focus on the words used 'which should be taken to have been selected after considerable thought and with the benefit of the input and continuing review of users of the standard forms and of knowledge of the market'[1071] This explains the latent MA contractual network discussed at chapter 8, which operates on the basis of a textualist approach to

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[1068] *Cunningham* (n 501), p.129.

[1069] *Vos* (n 452), p.60.

[1070] Eric Tjong Tjin Tai, 'Smart Contracts as Execution Instead of Expression' in *Smart Legal Contracts: Computable Law in Theory and Practice*, Jason Allen and Peter Hunn (eds.), (Oxford Academic, 2022, Online Edition), p.215: 'Smart contracts…operate with an automated execution chain: once the agreement is laid down in code, the 'performance' proceeds as 'execution' without the human process of contract interpretation'.

[1071] *Lomas (Joint Administrators of Lehman Brothers International (Europe)) v Burlington Loan Management Ltd* [2016] EWHC 2417 (Ch); *The Joint Administrators of Lehman Brothers International (Europe) v Lehman Brothers Finance* [2013] EWCA Civ 188, 53 and 88.

interpretation; a network reliant on interpretative certainty, predictability, and a limited role for context and background circumstances.[1072] However, this has to be weighed against the context of the MA's use 'by parties with such different characteristics in a multiplicity of transactions in a plethora of circumstances'[1073] and that the MA is drafted to ensure flexibility 'to operate among a range of users in an infinitely variable combination of different circumstances'[1074] with the concomitant reality that 'particular care is necessary not to adopt a restrictive or narrow construction which might make the form inflexible and inappropriate for parties who might commonly be expected to use it'.[1075] Furthermore, the English courts have conceded that while the MA does cater for a 'bewildering variety of different types of derivative transactions…caution needs to be exercised against a slavish assumption that the meaning of a particular provision of the Master Agreement in one type of transaction is necessarily to be transported lock stock and barrel as its precise meaning in some very different type of transaction'.[1076] There does appear to be some recognition from the English courts that, given the breadth of transactions the MA is designed to cover, consideration of the context and the polysemous nature of language are important factors behind interpreting the MA.

Such incongruity – between proposals that the MA should be interpreted within its four corners and, simultaneously, that it should remain flexible - is difficult to reconcile but such dissonance, it is contended in this thesis, could create a class of contract containing both discrete and relational terms.

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[1072] *AIB Group (UK) Ltd v Martin* [2002] 1 WLR 94, 7.

[1073] *Lomas v Burlington* (n 1071), 48.

[1074] Ibid, 48; *Anthracite Rated Investments* (n 74), 115.

[1075] Ibid (*Lomas v Burlington*), 48.

[1076] Ibid, 115.

The potential introduction of a smart contract version of the MA has emphasised that there are terms which may be viewed as discrete ('operational') and others which may be viewed as relational ('non-operational'). As discussed at chapter 9.7, there may also be clauses which are not amenable to automation but which are neither conducive to being labelled relational, referred to in this thesis as *meta-bimodal.* However, for the purposes of this thesis, any term not open to automation effectively requires a more context-specific interpretation and so may be more accurately described as towards the relational end of the spectrum.

Under the smart contract model, using ISDA's CDM or a general DLT, those discrete terms will effectively execute automatically. If the price hits X and the position hits Y, then distribute Z. While courts may be asked to adjudicate on outputs of the coded discrete terms, the remaining natural language terms will bear the burden of conveying not only specific meaning but more general ideas behind the parties' intended relationship.

While there may still be outlier events deriving from technological errors which require traditional interpretation of deterministic clauses and clauses which are not automatable nor conducive to categorisation as relational, the general idea would be that operational clauses would be self-enforcing while non-operational clauses would still require traditional methods of interpretation.[1077] Eric Tjong Tjin Tai refers to these two methods as the automated execution chain and the human execution chain.[1078] In such a scenario, the courts can focus on those terms remaining after discounting the discrete terms and then decide whether they choose to interpret those remaining terms in a way that is

[1077] *Eric Tjong Tjin Tai* (n 1070), p.218.

[1078] Ibid, p.214.

consistent with relational contract theory or elect to focus on the express language utilised by the parties without delving too far into the contextual or relational particularities. On this point, there are two additional considerations: (1) if ISDA wanted its non-operational terms to be interpreted in accordance with relational contract theory, it could express this in the way proposed by Frydlinger, Hart, and Vitasek and their concept of 'formal relational contracts'[1079] in which relational principles are set out at the start of the contract and which will apply to all of the specific non-operational terms. Essentially, by adding, either to its User's Guide or to any of its expository clauses, that those clauses not otherwise automated are to be interpreted in accordance with relational principles, ISDA could signal to judges or arbitrators that those terms which have not been automated require an interpretation which considers the relational aspects of the parties' interaction.[1080] Conversely, as established under English law, ISDA could include an

[1079] See, *Frydlinger et al.* (n 15).

[1080] For example, the MA could use, as an additional sub-clause under clause 1 (Interpretation), a UNIDROIT or CISG-type clause (a combination of Articles 1.6 – 1.9 of UNIDROIT (n 383) and Article 7 and 9 of CISG (n 383) are used for the proposed term below as well as the Guiding Principles and Statement of Intent developed by *Frydlinger et al.* (n 15), pp.285-290) reiterating some of the key principles underlying its interpretation such as: *1(d) In the interpretation of this Master Agreement, regard is to be had to its international character and to its purposes, including but not limited to: (i) the need to promote uniformity, (ii) the observance of good faith in international trade, and (iii) the relationship between the parties, including representations and statements made and the intentions associated therewith, as well as any usages and practices established between the parties or established in the industry in which they are transacting.* This clause could also reference the Schedule (adding a sub-clause (iv) stating that: *(iv) the statement of intent and guiding principles as agreed between the Parties in the Schedule*) where unique guiding principles and statements of intent could be inserted as required between the parties even if the default setting, given the analysis in this thesis that the MA may be more discrete than relational, is set to 'N/A' or 'The Parties agree that the Master Agreement should be treated as solely covering arm's length transactions'.

express clause which precludes it from being interpreted as a relational contract;[1081] (2) there is also a case to be made that the MA's express references to duties such as good faith and commercial reasonableness indicate where the drafters of the MA intend such relational duties to exist and, as was held in the case of *Mid-Essex Hospital Services NHS Trust v Compass Group UK and Ireland Ltd*,[1082] 'care must be taken not to construe a general and potentially open-ended obligation such as an obligation to "co-operate" or "to act in good faith" as covering the same ground as other, more specific, provisions, lest it cut across those more specific provisions and any limitations in them'.[1083]

The absence of any overarching relational commitment, coupled with the very specific references to good faith and commercial reasonableness, could be seen as indicative of the approach ISDA favours – a discrete approach that will only consider relational elements where ISDA points to them. This may continue with the advent of smart contracts, with the discrete elements becoming automated, while the relational elements remain as part of the natural language contract. As part of this discrete/relational divide and in attempting to situate the MA on the discrete/relational contract spectrum, this thesis has identified the following components, based on chapters 3 to 9 of this thesis, and made the associated assumptions about their being discrete, relational, or a combination of the two (bimodal):

[1081] *Alan Bates* (n 3), 725: in listing out some of the requirements of a relational contract, Fraser J stated that: 'There must be no specific express terms in the contract that prevents a duty of good faith being implied into the contract'.

[1082] *Medirest,* (n 252).

[1083] Ibid, 154.

| Component | Assumption | Justification |
|---|---|---|
| Purpose of trading derivatives | Bimodal | The purpose of trading derivatives may, overall, favour a more discrete approach. However, it is argued in this thesis that those trading in order to reduce risk (hedging) may have different relational expectations from those who are speculating and it can be difficult to discern between these two activities. |
| Geographical distribution of ISDA members | Relational | The acceptance of duties such as good faith in civil law systems, as well as, for example, the U.S. common law system, would suggest that there are many jurisdictions which are now more comfortable with relational contracts. The membership analysis shows that the U.S. is the main jurisdiction in which members are headquartered and that, Associate (advisory) Members aside, members in the aggregate are predominantly based in civil law jurisdictions. This, it is argued in this thesis, should form part of English law considerations for this international agreement. |
| Purpose of the MA | Bimodal | It can be argued that the purpose of the MA would favour a discrete approach, with so much of the MA concerned with how to effectively terminate the relationship. However, given the incomplete nature of the MA (as with many contracts) and its function of |

| | | |
|---|---|---|
| | | often covering transactions between parties over a long period of time, there are also suggestions that the purpose of the MA is not as discrete as one may first assume. |
| Intention of the parties supplanted by the intentions of ISDA | Discrete | It is difficult to argue that a contract is relational if we substitute the intentions of the parties with the intentions of the MA drafters. This would imply a more discrete reading of the MA to account for the intentions of ISDA in lieu of any relational intentions of the parties. |
| ISDA MA as a network contract | Discrete | While some argue that contractual networks require a more relational and contextual reading which looks at the background between the parties and provides a more nuanced approach, the more textualist reading of the MA by the English courts gives rise to what is referred to in this thesis as a 'latent contractual network' which is activated by the court's reluctance to personalise disputes in favour of providing a formal interpretative approach and creating consistency across the network. |
| Smart Contracts | Bimodal | The potential introduction of a smart contract version of the MA shows, with its operational and non-operational clauses, that the MA is, as argued in this thesis, comprised of discrete and relational terms. |

Plotted on a radar chart, set out Fig. 26 below, the results from the table above show how the MA skews towards the bimodal contract, with a secondary skew towards the purely discrete contract, and the weakest skew towards the purely relational contract.

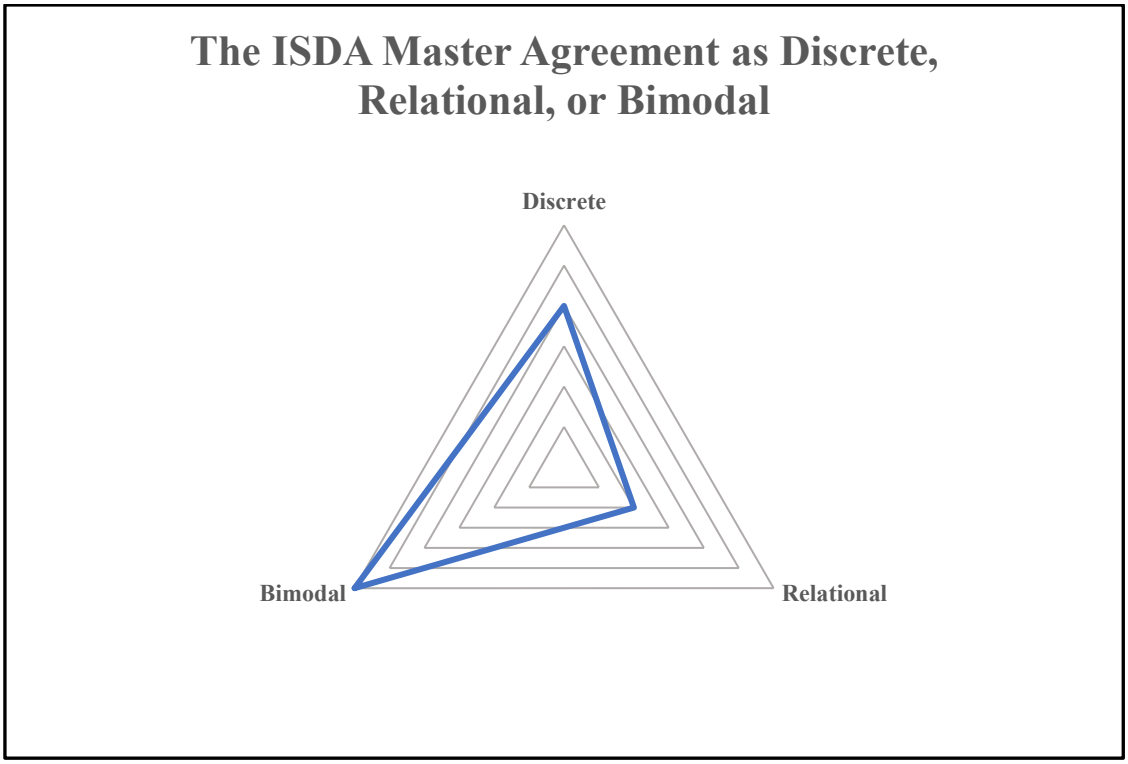


*Fig. 26 a radar chart showing the skew of the MA, in accordance with the analysis carried out in this thesis, towards the bimodal contract (3 assumptions), secondly towards the discrete (2 assumptions), and finally relational (1 assumption).*

The original contribution of this thesis is to apply the existing discrete/relational spectrum within contracts rather than between them, forming, as coined in this thesis, the *bimodal contract*. Moreover, with the caveat that this analysis focuses on the ISDA Master Agreement, the broader contribution of this thesis is to provide a general framework for analysing comparable standard-form agreements on the discrete/relational spectrum and the variety of elements that may be applied to such analyses.

As Macneil conceded, the extreme ends of the discrete/relational spectrum 'should be understood as relatively unrealistic constructs...useful for delineating principles that gain

more or less salience depending upon where one is on the spectrum'.[1084] Therefore, the analysis above, while delineating between discrete and relational, should be read more in this light of providing a gauge for where the MA sits on the spectrum for each component analysed. This shows how the MA oscillates between discrete and relational with the conclusion that it fits somewhere in-between, towards the centre of the continuum even if it sits more on the discrete side than the relational.

Even if the results of the analysis point more towards the discrete than the relational, the bimodal aspect of the MA emphasises what both Macneil and Macaulay were aiming to prove, as Elizbeth Mertz describes, by 'persistently shov[ing] a generation of legal thinkers out of the comfortable (if unrealistic) clarity of classical and neoclassical doctrinal analysis, pointing out the importance of examining the messy relational clutter that so often surrounds— and indeed defines—human agreements and conflict'.[1085] This thesis was designed to show some of that 'messy relational clutter' around the ostensibly discrete MA. It has also shown that, as Mertz continues:

> *...relational contract does not rely on a picture of rigidly distinct treatments for hermetically sealed compartments containing kinds of contract or types of law (discrete vs. relational), but rather on a range of contextually responsive tools capable of being deployed where (and to the degree) appropriate. As Macneil explains, even within a single contract, it may be that some of the more discrete aspects of a generally relational contract are still best dealt with using "relatively discrete contract law."*[1086]

[1084] *Mertz* (n 5), p.913.

[1085] Ibid, p.910.

[1086] Ibid, p.914 and 915.

The concept of bimodal contracts can address the incongruity found *within* contracts as well as *between* them. Discrete and relational terms are not mutually exclusive and can exist contemporaneously. Prima facie, this may raise questions around the purpose of utilising concepts which could be argued to cancel each other out. Why determine if a contract is bimodal if the conclusion drawn is that it is, as the title of this thesis would suggest, neither relational nor discrete? Would it not therefore be more beneficial, save for contracts labelled as paradigmatically relational,[1087] for us to discard relational contract theory from practical considerations of contractual interpretation? The answer determined in this thesis is that relational contract theory, and the discrete/relational spectrum, can potentially enhance our understanding of the agreements made between commercial parties and so should not be abandoned. This is particularly important given the potential impact of smart contracts and the advent of automation more generally. Proposals for a smart contract version of the MA are showing that certain contractual clauses can be described as discrete whereas others are more relational. As we move forward, we could see this trend play out across other standard-form agreements which undergo automation.

As Melvin Eisenberg has observed more generally, relational contract theory provides a method by which the construction of contracts by the courts can be individualised, open and inductive which stands in opposition to classical contract law which is standardised, axiomatic and deductive.[1088] This also feeds into the ideas promulgated by psychologists, economists, and lawyers which have refuted ideas of rational choice theory and classical contract law in a world of behavioural biases and incomplete contracts.[1089]

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[1087] Maree Chetwin, 'Relational and Discrete Contracts and Remedies Requiring Supervision: Same Principles?' (2014) Vol. 38 Iss. 1 *University of Western Australia Law Review* 80, p.80.

[1088] *Eisenberg* (n 5), p.805 and p.812.

[1089] *Golden* (n 20); Collins (n 5), p.141.

Some commentators, such as Jeffrey Golden, describe the MA as 'establishing a framework for a course of dealing over an extended period of time. To avoid being overly long and complicated, such relational contracts are often incomplete by necessity with the expectation that general and sometimes ambiguous provisions will be interpreted consistent with market expectation'.[1090] There are also arguments, as set out at chapter 6 of this thesis, that certain clauses which are ostensibly discrete, such as the payment of margin and Events of Default, may not be so easily categorised.

However, there are convincing arguments, both legal and economic, for why treating the MA as a relational contract, in a practical sense, gives rise to uncertainty and higher *back-end* transaction costs - a concept discussed by Robert Scott and George Triantis and which relates to the costs of enforcement of the contract as opposed to *front-end* transaction costs which relate to the costs of, for example, negotiating the terms of the contract that will govern the relationship.[1091]

In relation to higher *back-end* transaction costs, there are legitimate concerns that 'individualising' judicial responses creates incertitude in a large and global market which relies on the standard-form MA. In addition, Eric Posner and, more specifically on the complexity of adjudicating financial disputes, Jeffrey Golden, have raised concerns that while judges who understand the complex derivatives market can play an important role in interpreting these contracts in a way that mitigates systemic risk, the responsibility is often placed upon judges without such expertise to interpret these terms which itself presents

[1090] *Golden* (n 20), p.299: see also, in terms of viewing the amendable parts of the MA as relational: *Borowicz*, (n 125).

[1091] Robert E. Scott & George G. Triantis, 'Anticipating Litigation in Contract Design' (2005) Vol. 115 *Yale Law Journal* 814, p. 824.

that very risk.[1092] This risk is also present with other financial documentation for which, as Andrii Zharikov explains, 'misguided court judgments have frequently been causing consternation'.[1093]

This brings us back to a fundamental question of interpretation under English law regarding textualism versus contextualism. While the English courts went through a period of considering in greater detail the context of the contract brought before them in a dispute which included the application of the surrounding circumstances as well as 'business common sense',[1094] it can be argued that there has been a retreat, albeit 'muffled', to textualism.[1095] This was articulated - albeit in a dissenting judgement to a case where the court found that both a plain meaning and a competing construction were both 'uncommercial' - by Lord Briggs in which he stated that: 'it is well-settled that the uncommerciality of the prima facie meaning of contractual words only yields to a more commercial alternative if there is some basis in the language of the contract as a peg upon

[1092] See, *Golden* (n 26), p.337; *Posner* (n 155); this is also part of the reason that organisations such as the Panel of Recognised International Market Experts in Finance (P.R.I.M.E.) have been established as part of providing judicial training, education, and 'dispute resolution services, including arbitration, mediation and facilitating the engagement of experts to serve as expert witnesses or advisers. Arbitrations under the P.R.I.M.E. Finance Arbitration Rules are administered by the Permanent Court of Arbitration' (< https://primefinancedisputes.org/page/mission > accessed on 20 March 2024.

[1093] Andrii Zharikov, 'Resolving disputes without reference to national laws: analysis of the nature and practice of Documentary Instruments Dispute Resolution Expertise (DOCDEX)' (2022) Vol. 33 Iss. 10 *International Company and Commercial Law Review* 507, p.508.

[1094] *Starlight Shipping Co v Allianz Marine & Aviation Versicherungs AG* [2014] EWHC 3068 (Comm), 51: 'Objectively, that literal construction cannot be what the parties intended and must yield to business common sense'.

[1095] *Sumption* (n 42), pp.12-13.

which that alternative can properly be hung'.[1096] It has also been held that 'it is often difficult for a court of law to make nice judgments as to where business common sense lies'[1097] because judicial 'notions of common sense tend to be moulded by their idea of fairness. But fairness has nothing to do with commercial contracts'.[1098]

In one of the more persuasive arguments on textualism, it was held in the case of *Optimares S.p.A. v Qatar Airways Group Q.C.S.C* that, despite a clause being clearly drafted in one party's favour and, therefore, imposing significant risk on the other, 'this imbalance was envisaged by both parties at the time of contracting…[t]he contractual arrangements are clear and it is not for this court to rewrite the parties' bargain'.[1099] Moreover, legal and economic analysis of contracting has shown that a more textualist approach of the courts to interpretation increases certainty and reduces costs for both the parties and the courts.[1100]

However, problems arise, even in established standard-form agreements like the MA, with language and its application to complex matters. As was seen in the case of *The State of the Netherlands v Deutsche Bank AG,*[1101] where two competing interpretations were advanced by the parties on the terms of the CSA, the court, having 'thought carefully about these interpretations…can accept that each is an available meaning of the words

[1096] *Sara & Hossein Asset Holdings Ltd v Blacks Outdoor Retail Ltd* [2023] UKSC 2, 61.

[1097] *Cottonex Anstalt v Patriot Spinning Mills Ltd* [2014] EWHC 236 (Comm), 57.

[1098] *Sumption* (n 42), p.10.

[1099] *Optimares S.p.A. v Qatar Airways Group Q.C.S.C* [2022] EWHC 2461, 94.

[1100] For example, *see*, *Mitchell* (n 52), p.2; *Scott* (n 31), p.10.

[1101] *The State of the Netherlands* (n 733).

used'.[1102] In such cases, context can help to disambiguate otherwise diametrically opposed linguistic possibilities.

If we maintain a demarcation between contracts, reconciling these methods of interpretation and classification are, prima facie, insoluble because there is too much logic on either side to dismiss the other. On textualism and contextualism alone, the argument for the former is that courts should not interfere with the written terms agreed between the parties while the argument for the latter is that contracts provide an incomplete picture of what has been agreed. The categorisations of *discrete* and *relational* possess the same logical polarity when used reasonably.

The answer proposed in this thesis, which may already subconsciously form part of judgements on contracts, is to focus on the terms of contracts and how they may contain both discrete and relational elements, culminating in what this thesis describes as *bimodal contracts*. While this label maintains a distinction at the contract level, its aim is to focus on how such contracts may vacillate between either end of the discrete/relational spectrum based on the operational or non-operational nature of their terms. Ostensibly, this designation could create more complexity to a theory that has already been met with judicial demurral.[1103] However, if the aim of the theory is to reflect business and societal attitudes and norms more accurately, circumstances may dictate an even more nuanced approach to that originally devised by Ian Macneil and Stewart Macaulay.

The reluctance we have seen from the English courts so far has, inter alia, hinged upon designating certain contracts as 'relational'. In the case of *Morley v The Royal Bank of*

[1102] Ibid, 52.

[1103] *Morley* (n 1); *UTB LLC* (n 1).

*Scotland PLC,*[1104] Mr Justice Kerr stated that he rejected the 'argument that the loan agreement, as extended several times, was a "relational" contract of any kind. It was an ordinary loan facility agreement'.[1105] It is, prima facie, the classification of the whole contract as relational which appears so unpalatable and, given the exigency of certainty in globally important standard market agreements[1106] and the purported sophistication of the parties involved in financial transactions[1107] documented by the MA, it stands to reason that courts may be hesitant to class such contracts as relational with all the associated connotations.

The solution, in the case of the MA, may be to either omit such classifications altogether or, as is proposed in this thesis, to designate such contracts as *bimodal* with the aim of interpretation being to distinguish those clauses which are discrete with those that are relational, a task that becomes less abstruse with the advent of a smart contract version of the MA, with its operational and non-operational clauses.

Robert Scott, in an article ominously entitled *The Death of Contract Law*, observes that 'contracting parties may simply prefer to behave under two sets of rules: an explicit (and rigid) set of rules for those parts of their relationship that require legal enforcement and an implicit (and flexible) set of rules for those aspects that respond best to self-enforcement'.[1108] When discussing a smart contract version of the MA, we maintain the

[1104] Ibid (*Morley*).

[1105] Ibid, 159.

[1106] *Lomas* (n 63), 53.

[1107] In the aforementioned case of *Morley* (n 1), for example, the parties were a commercial property developer and a bank, respectively.

[1108] Robert E. Scott, 'The Death of Contract Law' (2004) Vol. 54 No. 4 *The University of Toronto Law Journal* 369, p.389.

distinction between rigidity and flexibility described by Scott but the mechanisms for enforcement are upended. Within the MA there are clauses which fit the discrete, transactional, rule-based logic of automation while there are also those clauses which are relational and necessarily flexible. However, the enforcement, in the first instance, of discrete terms under the smart contract will be self-enforcing, or at least automatic, while the enforcement of relational terms will require more traditional legal enforcement.[1109]

The development of smart contracts for wider use in otherwise traditional legal arrangements is still in the nascent stages[1110] but, along with the analysis carried out on the MA more broadly in this thesis, the attempt here has been to suggest that the simple bifurcation of contracts as either discrete or relational may impose too heavy a burden on contracts which are often more nuanced and difficult to categorise. While there are archetypal examples of discrete and relational contracts, perhaps consideration of *bimodal contracts*, which contain characteristics of both, presents a more palatable solution to interpreting and categorising certain contracts which are themselves being designed and executed in different and more complex ways.

[1109] Enforcement, more generally, raises some interesting questions not otherwise addressed in this thesis around utilisation of traditional methods of dispute resolution (such as judicial proceedings or arbitration) or online dispute resolution embedded in smart legal contracts. The former may be more costly but will be more familiar and provide, at this point, more certainty to parties, whereas the latter may be more efficient but will, as it currently stands, struggle with 'real-world disputes…[in order to] deal with the unexpected…' (*Morgan, Livingston, & Moir* (n 947), p.447).

[1110] *Maslin & Butler* (n 948), p.370: '…smart contracts have so far made little more than a ripple'.

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# APPENDIX A

# ISDA Membership – Data Analysis

## 1. Primary Members

| Type | Name | LEI | Headquarters | Area | Legal System |
|---|---|---|---|---|---|
| Primary | ABN AMRO Bank N.V. | BFXS5XCH7N0Y05NIXW11 | Netherlands | Europe | Civ |
| Primary | ABSA Bank Ltd. | SLI1CVYMJ21DST0Q8K25 | South Africa | Africa | Both |
| Primary | Abu Dhabi Commercial Bank PJSC | 213800RWVKKIRX1AUH58 | United Arab Emirates | Asia | Both |
| Primary | Access Bank Plc | 029200328C3N9YI2D660 | Nigeria | Africa | Comm |
| Primary | Agricultural Development Bank of China | 300300C1020311000158 | China | Asia | Civ |
| Primary | Allied Irish Banks, plc | 3U8WV1YX2VMUHH7Z1Q21 | Ireland | Europe | Comm |
| Primary | AmBank (M) Berhad | 549300DAPZWBBF0Y6447 | Malaysia | Asia | Comm |
| Primary | Aozora Bank, Ltd. | X0XUGKC9FD2CYUQNC010 | Japan | Asia | Civ |
| Primary | Arion Bank HF | RIL4VBPDB0M7Z3KXSF19 | Iceland | Europe | Civ |
| Primary | Australia and New Zealand Banking Group, Limited | JHE42UYNWWTJB8YTTU19 | Australia | Oceania | Comm |
| Primary | Axis Bank Ltd. | 335800MGQNVL8MJPGC03 | India | Asia | Comm |
| Primary | B2C2 Ltd | 213800V9GQWV7K866L29 | United Kingdom | Europe | Comm |
| Primary | BANCA INTERMOBILIARE | 549300OGC25KJJGKCT04 | Switzerland | Europe | Civ |
| Primary | Banca Monte Dei Paschi Di Siena SpA | J4CP7MHCXR8DAQMKIL78 | Italy | Europe | Civ |
| Primary | Banca Popolare Di Sondrio | J48C8PCSJVUBR8KCW529 | Italy | Europe | Civ |
| Primary | Banca Profilo, S.p.A. | RRAN7P32P0W0YY4XQW79 | Italy | Europe | Civ |
| Primary | Banco Bilbao Vizcaya Argentaria, S.A. | K8MS7FD7N5Z2WQ51AZ71 | Spain | Europe | Civ |
| Primary | BANCO BPM SpA | 815600E4E6DCD2D25E30 | Italy | Europe | Civ |
| Primary | Banco Comercial Portugues S.A. | 5493006KQVLUVLBRAR38 | Portugal | Europe | Civ |
| Primary | Banco De Chile | 8B4EZFY8IHJC44TT2K84 | Chile | South America | Civ |
| Primary | Banco De Crédito Del Perú | 549300EQYQ8SCQZ4BY14 | Peru | South America | Civ |
| Primary | Banco Santander S.A | 5493006QMFDDMYWIAM13 | Spain | Europe | Civ |
| Primary | Banco Votorantim S.A. - Nassau Branch | 549300B4NIZY3YQIWT67 | Bahamas | North America | Comm |
| Primary | Bangkok Bank Public Company Limited | 549300CCL2BKJGMYXV60 | Thailand | Asia | Civ |
| Primary | Bank Hapoalim B.M. | B6ARUI4946ST4S7WOU88 | Israel | Asia | Both |
| Primary | Bank Julius Baer & Co. Ltd. | PNWU8O0BLT17BBV61Y18 | Switzerland | Europe | Civ |
| Primary | Bank Leumi le-Israel B.M. | 7JDSZWRGUQY2DSTWCR57 | Israel | Asia | Both |
| Primary | Bank of America | 549300UQ9FENSNYJEM30 | United States | North America | Comm |
| Primary | Bank of China | 54930053HGCFWVHYZX42 | China | Asia | Civ |
| Primary | Bank of Ireland Global Markets | 5493008TEM58KB5GRG37 | Ireland | Europe | Comm |

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|---|---|---|---|---|---|
| Primary | Bank of Montreal | NQQ6HPCNCCU6TUTQYE16 | Canada | North America | Comm |
| Primary | The Bank of New York Mellon | HPFHU0OQ28E4N0NFVK49 | United States | North America | Comm |
| Primary | The Bank of Nova Scotia | L3I9ZG2KFGXZ61BMYR72 | Canada | North America | Comm |
| Primary | Bank of Queensland Limited | 549300WFIN7T02UKDG08 | Australia | Oceania | Comm |
| Primary | Bank Polska Kasa Opieki S.A. | 5493000LKS7B3UTF7H35 | Poland | Europe | Civ |
| Primary | Bank SinoPac Company Limited | 549300MTLEDCCBA8DW32 | Taiwan | Asia | Civ |
| Primary | Banque Cantonale Vaudoise | K1MOBB3OPSBBQO554R76 | Switzerland | Europe | Civ |
| Primary | Banque Degroof Petercam | 549300NBLHT5Z7ZV1241 | Belgium | Europe | Civ |
| Primary | Barclays | G5GSEF7VJP5I7OUK5573 | United Kingdom | Europe | Comm |
| Primary | Barrenjoey Markets Pty Limited | 984500B5B4F7C8F1EF30 | Australia | Oceania | Comm |
| Primary | Basler Kantonalbank | HV5W8PGLJ127N2SFSM23 | Switzerland | Europe | Civ |
| Primary | BAWAG PSK AG, Vienna | 529900Y43E48WFXS1P45 | Austria | Europe | Civ |
| Primary | Bayerische Landesbank | VDYMYTQGZZ6DU0912C88 | Germany | Europe | Civ |
| Primary | Belfius Bank SA/NV | A5GWLFH3KM7YV2SFQL84 | Belgium | Europe | Civ |
| Primary | BNK Financial Group | No LEI Found | South Korea | Asia | Civ |
| Primary | BNP Paribas | R0MUWSFPU8MPRO8K5P83 | France | Europe | Civ |
| Primary | BP P.L.C. | 213800LH1BZH3DI6G760 | United Kingdom | Europe | Comm |
| Primary | BTG Pactual | ZXLTQRYIK6IJH3R0IK66 | Brazil | South America | Civ |
| Primary | Caixabank, S.A. | 7CUNS533WID6K7DGFI87 | Spain | Europe | Civ |
| Primary | Canadian Imperial Bank of Commerce | 2IGI19DL77OX0HC3ZE78 | Canada | North America | Comm |
| Primary | Capital One Financial Corporation | ZUE8T73ROZOF6FLBAR73 | United States | North America | Comm |
| Primary | Cargill, Incorporated | QXZYQNMR4JZ5RIRN4T31 | United States | North America | Comm |
| Primary | Cathay United Bank | 5493006DVOBII1E8FK30 | Taiwan | Asia | Civ |
| Primary | CECABANK, S.A. | 549300CQ9NLEHMRCU505 | Spain | Europe | Civ |
| Primary | Centrica Energy Limited | 213800B2BRE3R3S8MH31 | United Kingdom | Europe | Comm |
| Primary | China CITIC Bank | 54930034UPFJV0NHXV95 | Hong Kong | Asia | Comm |
| Primary | China Construction Bank | 5493001KQW6DM7KEDR62 | China | Asia | Civ |
| Primary | China Development Financial Holding Corporation | 3003001Y2JXAVQAIZ618 | China | Asia | Civ |
| Primary | China International Capital Corporation Limited | 529900A2OXHI3I5TPV90 | China | Asia | Civ |
| Primary | China Merchants Bank Co.,Ltd. | 549300MKO5B60FFIHF58 | China | Asia | Civ |
| Primary | China Zheshang Bank Co., Ltd | 300300C1031633000208 | China | Asia | Civ |
| Primary | CIMB Thai Bank Public Company Limited | 549300R0ZPYS6LVTM523 | Thailand | Asia | Civ |
| Primary | Citadel Enterprise Americas LLC | 549300YY2DLUAENFBW67 | United States | North America | Comm |
| Primary | CITIC Securities International Company Limited | 213800YMG8YN4O5CX140 | Hong Kong | Asia | Comm |
| Primary | Citigroup | 6SHGI4ZSSLCXXQSBB395 | United States | North America | Comm |
| Primary | Citizens Bank, N.A. | DRMSV1Q0EKMEXLAU1P80 | United States | North America | Comm |
| Primary | CMC Markets Plc | 213800VB75KAZBFH5U07 | United Kingdom | Europe | Comm |

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|---|---|---|---|---|---|
| Primary | Commerce International Merchant Bankers Berhad | SR3J0ZUTXT7OTFT2VU03 | Malaysia | Asia | Comm |
| Primary | Commerzbank AG | 851WYGNLUQLFZBSYGB56 | Germany | Europe | Civ |
| Primary | Commonwealth Bank of Australia | MSFSBD3QN1GSN7Q6C537 | Australia | Oceania | Comm |
| Primary | Crédit Agricole Corporate and Investment Bank | 1VUV7VQFKUOQSJ21A208 | France | Europe | Civ |
| Primary | Credit Industriel et Commercial (CIC) | N4JDFKKH2FTD8RKFXO39 | France | Europe | Civ |
| Primary | CTBC Bank Co., Ltd. | 549300JI5RKNDKC3GU44 | Taiwan | Asia | Civ |
| Primary | Daegu Bank | 9884007K3OQBSO71FR40 | South Korea | Asia | Civ |
| Primary | Daiwa Securities Co. Ltd. | 549300D405BPQ5DDVJ61 | Japan | Asia | Civ |
| Primary | Danske Bank A/S | MAES062Z21O4RZ2U7M96 | Denmark | Europe | Civ |
| Primary | DBS BANK LTD | ATUEL7OJR5057F2PV266 | Singapore | Asia | Comm |
| Primary | Deutsche Bank AG | 7LTWFZYICNSX8D621K86 | Germany | Europe | Civ |
| Primary | DNB Bank ASA | 549300GKFG0RYRRQ1414 | Norway | Europe | Civ |
| Primary | DZ BANK AG Deutsche Zentral-Genossenschaftsbank | 529900HNOAA1KXQJUQ27 | Germany | Europe | Civ |
| Primary | E.Sun Commercial Bank, Ltd. | 549300AMYZRPPY6D9P76 | Taiwan | Asia | Civ |
| Primary | EDF Trading Limited | SN633FGTWNSOZMOJY680 | United Kingdom | Europe | Comm |
| Primary | EFG International | 506700PR1R98BSF81139 | Switzerland | Europe | Civ |
| Primary | Emirates NBD PJSC | 54930029BCN8HF3B1286 | United Arab Emirates | Asia | Both |
| Primary | ENGIE Global Markets | 5493003C3KJ2TY7MBZ44 | France | Europe | Civ |
| Primary | Erste Group Bank AG | PQOH26KWDF7CG10L6792 | Austria | Europe | Civ |
| Primary | Europe Arab Bank plc | 213800RRX1TYUVV2R518 | United Kingdom | Europe | Comm |
| Primary | FalconX Holdings, Inc. | 54930018G7MMKVP6SY45 | United States | North America | Comm |
| Primary | Far Eastern International Bank | 549300MGVLXK8G4X5Y29 | Taiwan | Asia | Civ |
| Primary | Fifth Third Bank | QFROUN1UWUYU0DVIWD51 | United States | North America | Comm |
| Primary | First Abu Dhabi Bank | 2138002Y3WMK6RZS8H90 | United Arab Emirates | Asia | Both |
| Primary | First Commercial Bank | 254900SG0DG9VHV3LR79 | United States | North America | Comm |
| Primary | The First International Bank of Israel Ltd. | 2138002RV6AUUX19F397 | Israel | Asia | Both |
| Primary | FirstRand Bank Limited | ZAYQDKTCATIXF9OQY690 | South Africa | Africa | Both |
| Primary | Galaxy Digital Trading Cayman LLC | 254900V5Y4918WL5TS73 | Caymen Islands | North America | Comm |
| Primary | Generali SGR S.p.A. | 549300LKCLUOHU2BK025 | Italy | Europe | Civ |
| Primary | Goldman Sachs & Co. | FOR8UP27PHTHYVLBNG30 | United States | North America | Comm |
| Primary | Haitong International Securities Group Limited | 549300Q1JC7X89PPGN26 | Bermuda | North America | Comm |
| Primary | Hang Seng Bank Limited | 5493009Z5F07LWZYMK62 | Hong Kong | Asia | Comm |
| Primary | HDFC Bank Limited | 335800ZQ6I4E2JXENC50 | India | Asia | Comm |
| Primary | Hong Leong Bank Berhad | 5493002HDJOTQT0KAE63 | Hong Kong | Asia | Comm |
| Primary | HSBC Holdings plc | MLU0ZO3ML4LN2LL2TL39 | United Kingdom | Europe | Comm |
| Primary | ICBC Standard Bank Plc | F01VVKN4DRF2NWKGQ283 | United Kingdom | Europe | Comm |
| Primary | ICICI Bank Limited | R7RX8ER1V4666J8D1I38 | India | Asia | Comm |
| Primary | Indusind Bank Limited | 335800JDVJ8HSXG9G512 | India | Asia | Comm |

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|---|---|---|---|---|---|
| Primary | Industrial and Commercial Bank of China | 5493002ERZU2K9PZDL40 | China | Asia | Civ |
| Primary | Industrial Bank Co., Ltd. | 300300C1030935001303 | China | Asia | Civ |
| Primary | Industrial Bank of Korea | 988400RBIWE3YA18PK12 | South Korea | Asia | Civ |
| Primary | ING Bank N.V. | 3TK20IVIUJ8J3ZU0QE75 | Netherlands | Europe | Civ |
| Primary | Intesa Sanpaolo SpA | 2W8N8UU78PMDQKZENC08 | Italy | Europe | Civ |
| Primary | Investec Bank Limited | 549300RH5FFHO48FXT69 | South Africa | Africa | Both |
| Primary | Israel Discount Bank Ltd. | 549300XWZ7BG5G23OF51 | Israel | Asia | Both |
| Primary | Itaú Unibanco Holding S.A. | 5493002W2IVG62O3ZJ94 | Brazil | South America | Civ |
| Primary | J. Safra Sarasin Holding Ltd. | 5493003E2VORFNEUM078 | Switzerland | Europe | Civ |
| Primary | Jefferies LLC | 58PU97L1C0WSRCWADL48 | United States | North America | Comm |
| Primary | JPMorgan Chase & Co. | 8I5DZWZKVSZI1NUHU748 | United States | North America | Comm |
| Primary | Jyske Bank A/S | 3M5E1GQGKL17HI6CPN30 | Denmark | Europe | Civ |
| Primary | KASIKORNBANK Public Company Limited | 5493004COSQ54937AW41 | Thailand | Asia | Civ |
| Primary | KBC Global Services | 8945005IGJXU2MBGC436 | Belgium | Europe | Civ |
| Primary | KEB Hana Bank | 6RPK2YDJN6L35AS0M510 | South Korea | Asia | Civ |
| Primary | KeyCorp | RKPI3RZGV1V1FJTH5T61 | United States | North America | Comm |
| Primary | Koch Supply & Trading, LP | XQ2X30IHBIT0J8FPYU42 | United States | North America | Comm |
| Primary | Komercní banka, a.s. | IYKCAVNFR8QGF00HV840 | Czech Republic | Europe | Civ |
| Primary | Kookmin Bank | 335800X9O2LHZ2B9N337 | India | Asia | Comm |
| Primary | The Korea Development Bank | 549300ML2LNRZUCS7149 | South Korea | Asia | Civ |
| Primary | Krung Thai Bank Public Company Limited | 54930007ZQMYCRFQGE36 | Thailand | Asia | Civ |
| Primary | Landesbank Baden-Württemberg | B81CK4ESI35472RHJ606 | Germany | Europe | Civ |
| Primary | Landesbank Hessen - Thueringen Girozentrale | DIZES5CFO5K3I5R58746 | Germany | Europe | Civ |
| Primary | LGT Bank Ltd. | 7KDSOB6Z0X4S67TMX170 | Liechtenstein | Europe | Civ |
| Primary | Lloyds Banking Group Plc | 549300PPXHEU2JF0AM85 | United Kingdom | Europe | Comm |
| Primary | Macquarie Bank Limited | 4ZHCHI4KYZG2WVRT8631 | Australia | Oceania | Comm |
| Primary | Marex Financial | 5493003EETVWYSIJ5A20 | United Kingdom | Europe | Comm |
| Primary | Maybank | 5493004OT3TOY404V310 | Malaysia | Asia | Comm |
| Primary | mBank SA | 259400DZXF7UJKK2AY35 | Poland | Europe | Civ |
| Primary | Mediobanca - Banca Di Credito Finanziario S.p.A | PSNL19R2RXX5U3QWHI44 | Italy | Europe | Civ |
| Primary | Mirae Asset Daewoo Co., Ltd | 98840072S6T63E2V1291 | South Korea | Asia | Civ |
| Primary | Mitsui & Co., Ltd. | 2NRSB4GOU9DD6CNW5R48 | Japan | Asia | Civ |
| Primary | Mizrahi Tefahot Bank Ltd. | YZO9YEGEO4VYDZMDWF93 | Israel | Asia | Both |
| Primary | Mizuho Financial Group | 353800CI5L6DDAN5XZ33 | Japan | Asia | Civ |
| Primary | Morgan Stanley & Co. International plc | 4PQUHN3JPFGFNF3BB653 | United Kingdom | Europe | Comm |
| Primary | MUFG | C3GTMMZIHMY46P4OIX74 | Japan | Asia | Civ |
| Primary | National Australia Bank Limited | F8SB4JFBSYQFRQEH3Z21 | Australia | Oceania | Comm |
| Primary | National Bank of Canada | BSGEFEIOM18Y80CKCV46 | Canada | North America | Comm |
| Primary | National Bank of Greece | 5UMCZOEYKCVFAW8ZLO05 | Greece | Europe | Civ |
| Primary | NATIXIS | KX1WK48MPD4Y2NCUIZ63 | France | Europe | Civ |
| Primary | NatWest Markets Plc | RR3QWICWWIPCS8A4S074 | United Kingdom | Europe | Comm |

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|---|---|---|---|---|---|
| Primary | Nedbank Limited | 213800ZBWY3BU3UUMA42 | South Africa | Africa | Both |
| Primary | NH Investment & Securities Co., Ltd. | 549300LQ6NXDW1B8NT42 | South Korea | Asia | Civ |
| Primary | NIBC Bank N.V. | B64D6Y3LBJS4ANNPCU93 | Netherlands | Europe | Civ |
| Primary | Nomura Securities Co., Ltd. | XPSKD1VTEQPKCHBEKQ95 | Japan | Asia | Civ |
| Primary | NongHyup Bank | 988400GSDJCW3LKJBD20 | South Korea | Asia | Civ |
| Primary | Norddeutsche Landesbank Girozentrale | DSNHHQ2B9X5N6OUJ1236 | Germany | Europe | Civ |
| Primary | Nordea Bank ABP | 529900ODI3047E2LIV03 | Finland | Europe | Civ |
| Primary | The Norinchukin Bank | 5493007VSMFZCPV1NB83 | Japan | Asia | Civ |
| Primary | Northern Trust | 549300GLF98S992BC502 | United States | North America | Comm |
| Primary | Novo Banco SA | 5493009W2E2YDCXY6S81 | Portugal | Europe | Civ |
| Primary | Nykredit Bank A/S | 52965FONQ5NZKP0WZL45 | Denmark | Europe | Civ |
| Primary | OP Corporate Bank plc | 549300NQ588N7RWKBP98 | Finland | Europe | Civ |
| Primary | OTP Bank Nyrt. | 529900W3MOO00A18X956 | Hungary | Europe | Civ |
| Primary | Oversea-Chinese Banking Corporation Limited | 5493007O3QFXCPOGWK22 | Singapore | Asia | Comm |
| Primary | PKO Bank Polski SA | P4GTT6GF1W40CVIMFR43 | Poland | Europe | Civ |
| Primary | PNC Bank, N.A. | AD6GFRVSDT01YPT1CS68 | United States | North America | Comm |
| Primary | PPF Banka A.S. | 3157001OOOOOOOO36567 | Czech Republic | Europe | Civ |
| Primary | Quintet Private Bank (Europe) S.A. | KHCL65TP05J1HUW2D560 | Luxembourg | Europe | Civ |
| Primary | Rabobank | DG3RU1DBUFHT4ZF9WN62 | Netherlands | Europe | Civ |
| Primary | Raiffeisen Bank International AG | 9ZHRYM6F437SQJ6OUG95 | Austria | Europe | Civ |
| Primary | Regions Bank | EQTWLK1G7ODGC2MGLV11 | United States | North America | Comm |
| Primary | Resona Bank, Ltd. | 549300RHQA2HXUOC5Z25 | Japan | Asia | Civ |
| Primary | RHB Bank Berhad | 2549002ZJFR82IL68010 | Singapore | Asia | Comm |
| Primary | Royal Bank of Canada | ES7IP3U3RHIGC71XBU11 | Canada | North America | Comm |
| Primary | RWE Supply & Trading GmbH | LNIESAYE8YOZQ4HW5207 | Germany | Europe | Civ |
| Primary | SBI Shinsei Bank, Limited | 549300PZYOQ2NW83V760 | Japan | Asia | Civ |
| Primary | Shanghai Pudong Development Bank | 300300C1031031001330 | China | Asia | Civ |
| Primary | Shell Energy North America (US), L.P. | 43Y7WACCQ8YM30PD3683 | United States | North America | Comm |
| Primary | Shinhan Bank | 5493003P813VL21KG928 | South Korea | Asia | Civ |
| Primary | The Siam Commercial Bank Public Company Limited | 54930068OELHUBHH1U03 | Thailand | Asia | Civ |
| Primary | Skandinaviska Enskilda Banken | F3JS33DEI6XQ4ZBPTN86 | Sweden | Europe | Civ |
| Primary | SMBC Capital Markets, Inc. | TVJ8SHLIZL0RGWGDTN03 | United States | North America | Comm |
| Primary | Société Générale | O2RNE8IBXP4R0TD8PU41 | France | Europe | Civ |
| Primary | The Standard Bank of South Africa | QFC8ZCW3Q5PRXU1XTM60 | South Africa | Africa | Both |
| Primary | Standard Chartered Bank (Singapore) Limited | 549300MDYVVHJ8D1DW28 | Singapore | Asia | Comm |
| Primary | STASCO | 549300466KCJI317XO26 | United Kingdom | Europe | Comm |
| Primary | State Bank of India | 5493001JZ37UBBZF6L49 | India | Asia | Comm |
| Primary | State Street Bank and Trust Company | 571474TGEMMWANRLN572 | United States | North America | Comm |
| Primary | StoneX Markets LLC | Y4ZLLK11NDZZ8YBSVF78 | United States | North America | Comm |

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|---|---|---|---|---|---|
| Primary | Sumitomo Mitsui Banking Corporation | 5U0XI89JRFVHWIBS4F54 | Japan | Asia | Civ |
| Primary | Sumitomo Mitsui Trust Bank, Limited | 5493006GGLR4BTEL8O61 | Japan | Asia | Civ |
| Primary | Suncorp-Metway Limited | JEBU6C6ITPD2YZ9N7F22 | Australia | Oceania | Comm |
| Primary | Svenska Handelsbanken (Handelsbanken Markets) | NHBDILHZTYCNBV5UYZ31 | Sweden | Europe | Civ |
| Primary | Swedbank AB | M312WZV08Y7LYUC71685 | Sweden | Europe | Civ |
| Primary | Sydbank A/S | GP5DT10VX1QRQUKVBK64 | Denmark | Europe | Civ |
| Primary | Taipei Fubon Commercial Bank Co., Ltd. | 549300RMHF1NLJ25CP94 | Taiwan | Asia | Civ |
| Primary | Taishin International Bank | 549300ZFPYDS135LU078 | Taiwan | Asia | Civ |
| Primary | TMB Bank Public Company Limited | 549300WKGLXEV3DB7I54 | Thailand | Asia | Civ |
| Primary | The Toronto-Dominion Bank | PT3QB789TSUIDF371261 | Canada | North America | Comm |
| Primary | TOTSA TotalEnergies Trading SA | 549300X860G7ZC5V3838 | Switzerland | Europe | Civ |
| Primary | Truist Bank | JJKC32MCHWDI71265Z06 | United States | North America | Comm |
| Primary | U.S. Bancorp | N1GZ7BBF3NP8GI976H15 | United States | North America | Comm |
| Primary | UBS AG | BFM8T61CT2L1QCEMIK50 | Switzerland | Europe | Civ |
| Primary | UniCredit S.p.A. | 549300TRUWO2CD2G5692 | Italy | Europe | Civ |
| Primary | United Overseas Bank Limited | IO66REGK3RCBAMA8HR66 | Singapore | Asia | Comm |
| Primary | Van Lanschot Kempen NV | 724500D8WOYCL1BUCB80 | Netherlands | Europe | Civ |
| Primary | VOLKSBANK WIEN AG | 529900D4CD6DIB3CI904 | Austria | Europe | Civ |
| Primary | Wells Fargo Bank, N.A. | KB1H1DSPRFMYMCUFXT09 | United States | North America | Comm |
| Primary | Westpac Banking Corporation | EN5TNI6CI43VEPAMHL14 | Australia | Oceania | Comm |
| Primary | Woori Bank | 549300VUVMRL6RE7R376 | South Korea | Asia | Civ |
| Primary | XTX Markets Limited | 213800WPTIY9961G2O04 | United Kingdom | Europe | Comm |
| Primary | YES Bank Limited | 335800X6WKDDXJUSFZ86 | India | Asia | Comm |
| Primary | Zurcher Kantonalbank | 165GRDQ39W63PHVONY02 | Switzerland | Europe | Civ |

## 2. Associate Members

| Type | Name | Headquarters | Area | Legal System |
|---|---|---|---|---|
| Associate | A & L Goodbody LLP | Ireland | Europe | Comm |
| Associate | Addleshaw Goddard LLP | United Kingdom | Europe | Comm |
| Associate | Advokatfirmaet Wiersholm AS | Norway | Europe | Civ |
| Associate | Akin, Gump, Strauss, Hauer & Feld LLP | United States | North America | Comm |
| Associate | Al Tamimi & Company International Ltd. | United Arab Emirates | Asia | Both |
| Associate | Ali Budiardjo, Nugroho, Reksodiputro (ABNR) | Indonesia | Asia | Civ |
| Associate | Allen & Gledhill LLP | Singapore | Asia | Comm |
| Associate | Allen & Overy LLP | United Kingdom | Europe | Comm |
| Associate | Allens | Australia | Oceania | Comm |
| Associate | Alston & Bird LLP | United States | North America | Comm |
| Associate | Amius Limited | United Kingdom | Europe | Comm |
| Associate | Anderson Mori & Tomotsune | Japan | Asia | Civ |

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|---|---|---|---|---|
| Associate | Appleby | Bermuda | North America | Comm |
| Associate | Arendt & Medernach | Luxembourg | Europe | Civ |
| Associate | Armand Yapsunto Muharamsyah & Partners (AYMP) | Indonesia | Asia | Civ |
| Associate | Arnold & Porter Kaye Scholer LLP | United States | North America | Comm |
| Associate | Arnon, Tadmor-Levy | Israel | Asia | Both |
| Associate | Arthur Cox Solicitors | Ireland | Europe | Comm |
| Associate | Ashurst | United Kingdom | Europe | Comm |
| Associate | ASX Limited | Australia | Oceania | Comm |
| Associate | Atsumi & Sakai | Japan | Asia | Civ |
| Associate | Baker & McKenzie LLP | United States | North America | Comm |
| Associate | Baker Botts L.L.P. | United States | North America | Comm |
| Associate | Ballard Spahr, LLP | United States | North America | Comm |
| Associate | Bär & Karrer | Switzerland | Europe | Civ |
| Associate | Bell Gully | New Zealand | Oceania | Comm |
| Associate | Bennett Jones LLP | Canada | North America | Comm |
| Associate | Blake, Cassels & Graydon LLP | Canada | North America | Comm |
| Associate | Bloomberg Financial Markets | United States | North America | Comm |
| Associate | Bonelli Erede Pappalardo Studio Legale | Italy | Europe | Civ |
| Associate | Borden Ladner Gervais, LLP | Canada | North America | Comm |
| Associate | Bracewell LLP | United States | North America | Comm |
| Associate | Broadridge Financial Solutions Ltd | United States | North America | Comm |
| Associate | Brodies LLP | United Kingdom | Europe | Comm |
| Associate | BrokerCreditService (Cyprus) Limited | Cyprus | Europe | Comm |
| Associate | Cadwalader, Wickersham & Taft | United States | North America | Comm |
| Associate | Capitolis | United States | North America | Comm |
| Associate | Carey y Cia Ltda. | Chile | South America | Civ |
| Associate | Cases&Lacambra | Spain | Europe | Civ |
| Associate | Cassini Systems Limited | United States | North America | Comm |
| Associate | Chancery Chambers LLP | Barbados | North America | Comm |
| Associate | Chapman and Cutler LLP | United States | North America | Comm |
| Associate | Charles Law PLLC | United States | North America | Comm |
| Associate | Chatham Financial Corp. | United States | North America | Comm |
| Associate | Chicago Board Options Exchange | United States | North America | Comm |
| Associate | China Financial Futures Exchange | China | Asia | Civ |
| Associate | Chiomenti Studio Legale | Italy | Europe | Civ |
| Associate | City-Yuwa Partners | Japan | Asia | Civ |
| Associate | Clarus Financial Technology | United States | North America | Comm |
| Associate | The Clearing Corporation of India Ltd. | India | Asia | Comm |
| Associate | Clearstream Banking SA | Luxembourg | Europe | Civ |
| Associate | Cleary, Gottlieb, Steen & Hamilton LLP | United States | North America | Comm |
| Associate | Clifford Chance LLP | United Kingdom | Europe | Comm |
| Associate | CloudMargin | United Kingdom | Europe | Comm |
| Associate | CLS Bank International | United States | North America | Comm |
| Associate | Clyde & Co. | United Kingdom | Europe | Comm |
| Associate | CME Group Inc. | United States | North America | Comm |
| Associate | CMS Legal Services EEIG | Germany | Europe | Civ |
| Associate | Coinbase | United States | North America | Comm |

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| Associate | Copper Technologies (UK) Limited | United Kingdom | Europe | Comm |
| Associate | Covington & Burling LLP | United States | North America | Comm |
| Associate | Cravath, Swaine & Moore LLP | United States | North America | Comm |
| Associate | Crowell & Moring LLP | United States | North America | Comm |
| Associate | Crypto.com | Singapore | Asia | Comm |
| Associate | D2 Legal Technology | United Kingdom | Europe | Comm |
| Associate | Dalian Commodity Exchange | China | Asia | Civ |
| Associate | Davies Ward Phillips & Vineberg | Canada | North America | Comm |
| Associate | Davis Polk & Wardwell | United States | North America | Comm |
| Associate | Davis Wright Tremaine LLP | United States | North America | Comm |
| Associate | De Brauw Blackstone Westbroek | Netherlands | Europe | Civ |
| Associate | De Pardieu Brocas Maffei | France | Europe | Civ |
| Associate | Deacons | Hong Kong | Asia | Comm |
| Associate | Debevoise & Plimpton LLP | United States | North America | Comm |
| Associate | Dechert LLP | United States | North America | Comm |
| Associate | Deloitte LLP | United Kingdom | Europe | Comm |
| Associate | Dentons | N/A | | |
| Associate | The Depository Trust & Clearing Corporation | United States | North America | Comm |
| Associate | Derivative Path, Inc. | United States | North America | Comm |
| Associate | Derivatives Service Bureau (DSB) Ltd | United Kingdom | Europe | Comm |
| Associate | DLA Piper | United Kingdom | Europe | Comm |
| Associate | Drew & Napier LLC | Singapore | Asia | Comm |
| Associate | Droit Financial Technologies LLC | United States | North America | Comm |
| Associate | DRS | United Kingdom | Europe | Comm |
| Associate | Duane Morris LLP | United States | North America | Comm |
| Associate | Ernst & Young | United Kingdom | Europe | Comm |
| Associate | Estudio O'Farrell | Argentina | South America | Civ |
| Associate | Eurex Clearing AG | Germany | Europe | Civ |
| Associate | Euroclear SA/NV | Belgium | Europe | Civ |
| Associate | Eversheds Sutherland | United Kingdom | Europe | Comm |
| Associate | Factor | United States | North America | Comm |
| Associate | Ferreira Pinto, Cardigos Advogados | Portugal | Europe | Civ |
| Associate | Fieldfisher LLP | United Kingdom | Europe | Comm |
| Associate | Finastra | United Kingdom | Europe | Comm |
| Associate | FINBOURNE Technology Limited | United Kingdom | Europe | Comm |
| Associate | FinTrU Limited | United Kingdom | Europe | Comm |
| Associate | Fladgate LLP | United Kingdom | Europe | Comm |
| Associate | FMDQ Group PLC | Nigeria | Africa | Comm |
| Associate | Foley & Lardner LLP | United States | North America | Comm |
| Associate | Fragmos Chain | France | Europe | Civ |
| Associate | Freshfields Bruckhaus Deringer | United Kingdom | Europe | Comm |
| Associate | Fried, Frank, Harris, Shriver and Jacobson LLP | United States | North America | Comm |
| Associate | G.Elias & Co (Solicitors and Advocates) | Nigeria | Africa | Comm |
| Associate | GANADO Advocates | Malta | Europe | Comm |
| Associate | Gasser Partner Rechtsanwälte | Liechtenstein | Europe | Civ |
| Associate | Gernandt & Danielsson Advokatbyrå KB | Sweden | Europe | Civ |
| Associate | Gibson, Dunn & Crutcher LLP | United States | North America | Comm |
| Associate | Gide Loyrette Nouel | France | Europe | Civ |

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|---|---|---|---|---|
| Associate | Gilbert + Tobin | Australia | Oceania | Comm |
| Associate | Global Electronic Markets, Inc. | Canada | North America | Comm |
| Associate | Gómez Pinzón Abogados S.A.S. | Colombia | South America | Civ |
| Associate | Goodmans LLP | Canada | North America | Comm |
| Associate | Goodwin Procter LLP | United States | North America | Comm |
| Associate | Gorrissen Federspiel | Denmark | Europe | Civ |
| Associate | Gowling WLG | Canada | North America | Comm |
| Associate | Greenberg Traurig, LLP | United States | North America | Comm |
| Associate | Hannes Snellman Attorneys Ltd | Finland | Europe | Civ |
| Associate | Harney Westwood & Riegels | United Kingdom | Europe | Comm |
| Associate | Harry Jho LLC | United States | North America | Comm |
| Associate | Haynes and Boone, LLP | United States | North America | Comm |
| Associate | Hazeltree | United States | North America | Comm |
| Associate | Herbert Smith Freehills LLP | United Kingdom | Europe | Comm |
| Associate | Herzog Fox & Neeman | Israel | Asia | Both |
| Associate | Hidden Road Partners CIV US OTC LLC | United States | North America | Comm |
| Associate | Higgs & Johnson | Bahamas | North America | Comm |
| Associate | Hogan Lovells International LLP | United Kingdom | Europe | Comm |
| Associate | Holland & Knight | United States | North America | Comm |
| Associate | Holman Fenwick & Willan LLP | United Kingdom | Europe | Comm |
| Associate | Homburger AG | Switzerland | Europe | Civ |
| Associate | Hong Kong Exchanges & Clearing Limited | Hong Kong | Asia | Comm |
| Associate | Houthoff Buruma | Netherlands | Europe | Civ |
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| Associate | Japan Exchange Group, Inc. | Japan | Asia | Civ |
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| Associate | Kaizen Reporting Limited | United Kingdom | Europe | Comm |
| Associate | Karatzas & Partners | Greece | Europe | Civ |
| Associate | Katten Muchin Rosenman | United States | North America | Comm |
| Associate | KDPW_CCP SA | Poland | Europe | Civ |
| Associate | Kim & Chang | South Korea | Asia | Civ |
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| Associate | KOR Financial | United States | North America | Comm |
| Associate | Korea Exchange | South Korea | Asia | Civ |
| Associate | Kramer Levin Naftalis & Frankel LLP | United States | North America | Comm |
| Associate | Kromann Reumert | Denmark | Europe | Civ |
| Associate | KSD (Korea Securities Depository) | South Korea | Asia | Civ |
| Associate | Kutak Rock LLP | United States | North America | Comm |
| Associate | Latham & Watkins | | | |
| Associate | Lee & Ko | South Korea | Asia | Civ |
| Associate | Lenz & Staehelin | Switzerland | Europe | Civ |

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| Associate | Leonteq Securities AG | Switzerland | Europe | Civ |
| Associate | Leroy & Asociatii | Romania | Europe | Civ |
| Associate | Linklaters LLP | United Kingdom | Europe | Comm |
| Associate | LMAX Limited | United Kingdom | Europe | Comm |
| Associate | Locke Lord LLP | United States | North America | Comm |
| Associate | Logical Construct | United States | North America | Comm |
| Associate | London Stock Exchange Group Plc | United Kingdom | Europe | Comm |
| Associate | Lowenstein Sandler LLP | United States | North America | Comm |
| Associate | Loyens & Loeff | Netherlands | Europe | Civ |
| Associate | Macfarlanes LLP | United Kingdom | Europe | Comm |
| Associate | Mannheimer Swartling Advokatbyra AB | Sweden | Europe | Civ |
| Associate | Maples and Calder | Caymen Islands | North America | Comm |
| Associate | Margin Reform | United Kingdom | Europe | Comm |
| Associate | Margin Tonic Limited | United Kingdom | Europe | Comm |
| Associate | MarketAxcess Post-Trade Limited | United Kingdom | Europe | Comm |
| Associate | Matheson | United States | North America | Comm |
| Associate | Mayer Brown LLP | United States | North America | Comm |
| Associate | McCann FitzGerald | Ireland | Europe | Comm |
| Associate | McCarthy Tétrault LLP | Canada | North America | Comm |
| Associate | McDermott Will & Emery LLP | United States | North America | Comm |
| Associate | McMillan LLP | Canada | North America | Comm |
| Associate | Meitar Liquornik Geva Leshem Tal | Israel | Asia | Both |
| Associate | Michael Best & Friedrich LLP | United States | North America | Comm |
| Associate | Milbank LLP | United States | North America | Comm |
| Associate | Miller Thomson LLP | Canada | North America | Comm |
| Associate | MIT | United States | North America | Comm |
| Associate | Moore & Van Allen PLLC | United States | North America | Comm |
| Associate | Morales & Justiniano | Philippines | Asia | |
| Associate | Morgan, Lewis & Bockius | United States | North America | Comm |
| Associate | Mori Hamada & Matsumoto | Japan | Asia | Civ |
| Associate | Morrison & Foerster LLP | United States | North America | Comm |
| Associate | MUREX | France | Europe | Civ |
| Associate | Nagashima Ohno & Tsunematsu | Japan | Asia | Civ |
| Associate | NASDAQ OMX Stockholm AB | Sweden | Europe | Civ |
| Associate | NautaDutilh | Netherlands | Europe | Civ |
| Associate | Nishimura & Asahi | Japan | Asia | Civ |
| Associate | Norton Rose Fulbright LLP | United Kingdom | Europe | Comm |
| Associate | NS Solutions Corporation | Japan | Asia | Civ |
| Associate | Numerix | United States | North America | Comm |
| Associate | O'Melveny & Myers LLP | United States | North America | Comm |
| Associate | OANDA Global Corporation | United States | North America | Comm |
| Associate | Ogier | Guernsey | Europe | Comm |
| Associate | OKCoin USA Inc. | United States | North America | Comm |
| Associate | OMNI Risks Management (OmniMarkets LLC) | United States | North America | Comm |
| Associate | OpenRisk Technologies LLC | United States | North America | Comm |
| Associate | The Options Clearing Corporation | United States | North America | Comm |
| Associate | Orrick, Herrington & Sutcliffe LLP | United States | North America | Comm |
| Associate | Osler, Hoskin & Harcourt LLP | Canada | North America | Comm |

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|---|---|---|---|---|
| Associate | OSTTRA | United Kingdom | Europe | Comm |
| Associate | OTC Service | United Kingdom | Europe | Comm |
| Associate | Paul Hastings LLP | United States | North America | Comm |
| Associate | Paul, Weiss, Rifkind, Wharton & Garrison LLP | United States | North America | Comm |
| Associate | Pekin & Pekin | Turkey | Europe | Civ |
| Associate | Pestalozzi Attorneys at Law Ltd | Switzerland | Europe | Civ |
| Associate | Pillsbury Winthrop Shaw Pittman LLP | United States | North America | Comm |
| Associate | Pinheiro Neto - Advogados | Brazil | South America | Civ |
| Associate | Pinsent Masons | United Kingdom | Europe | Comm |
| Associate | PLEN Sociedade De Advogados, RL | Portugal | Europe | Civ |
| Associate | PricewaterhouseCoopers | United Kingdom | Europe | Comm |
| Associate | Proskauer Rose (UK) LLP | United Kingdom | Europe | Comm |
| Associate | Purrington Moody Weil LLP | United States | North America | Comm |
| Associate | Quadrangle Consulting LP | United States | North America | Comm |
| Associate | Quadrangle Consulting LP | United States | North America | Comm |
| Associate | QUICK Corp. | Japan | Asia | Civ |
| Associate | Quorsus Ltd. | United Kingdom | Europe | Comm |
| Associate | R3 LLC | United States | North America | Comm |
| Associate | Rajah & Tann Singapore LLP | Singapore | Asia | Comm |
| Associate | Reed Smith LLP | United States | North America | Comm |
| Associate | REGnosys | United Kingdom | Europe | Comm |
| Associate | Ripple Labs Inc. | United States | North America | Comm |
| Associate | Ritch, Mueller, Heather Y Nicolau, S.C. | Mexico | North America | Civ |
| Associate | Riverside Risk Advisors LLC | United States | North America | Comm |
| Associate | Ropes & Gray | United States | North America | Comm |
| Associate | Russin & Vecchi International Legal Counsellors | Vietnam | Asia | Civ |
| Associate | Rutter Associates LLC | United States | North America | Comm |
| Associate | S&P Global | United States | North America | Comm |
| Associate | Sacker & Partners LLP | United Kingdom | Europe | Comm |
| Associate | Saphyre, Inc. | United States | North America | Comm |
| Associate | Schellenberg Wittmer | Switzerland | Europe | Civ |
| Associate | SCHOENHERR RECHTSANWAELTE GMBH | Austria | Europe | Civ |
| Associate | Schulte Roth & Zabel LLP | United States | North America | Comm |
| Associate | Seward & Kissel LLP | United States | North America | Comm |
| Associate | Shardul Amarchand Mangaldas & Co Advocates & Solicitors | India | Asia | Comm |
| Associate | Shearman & Sterling LLP | United States | North America | Comm |
| Associate | Shearn Delamore & Co. | Malaysia | Asia | Comm |
| Associate | Shepherd and Wedderburn LLP | United Kingdom | Europe | Comm |
| Associate | Shin & Kim | South Korea | Asia | Civ |
| Associate | Sidley Austin LLP | United States | North America | Comm |
| Associate | Simmons & Simmons | United Kingdom | Europe | Comm |
| Associate | Simplex Inc. | United States | North America | Comm |
| Associate | Simpson Thacher & Bartlett | United States | North America | Comm |
| Associate | Singapore Exchange Limited | Singapore | Asia | Comm |
| Associate | SIX Group AG Switzerland | Switzerland | Europe | Civ |
| Associate | Skadden, Arps, Slate, Meagher & Flom | United States | North America | Comm |

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|---|---|---|---|---|
| Associate | Slaughter and May | United Kingdom | Europe | Comm |
| Associate | Smart Communications | Philippines | Asia | Both |
| Associate | SmartStream Technologies, Inc | United Kingdom | Europe | Comm |
| Associate | SOFR Academy, Inc. | United States | North America | Comm |
| Associate | Sorainen Law Offices | Estonia | Europe | Civ |
| Associate | Squire Patton Boggs (UK) LLP | United Kingdom | Europe | Comm |
| Associate | SS&C Financial Services Limited | United Kingdom | Europe | Comm |
| Associate | Stephenson Harwood LLP | United Kingdom | Europe | Comm |
| Associate | Stibbe N.V. | Netherlands | Europe | Civ |
| Associate | Stikeman Elliott LLP | Canada | North America | Comm |
| Associate | Stroock & Stroock & Lavan LLP | United States | North America | Comm |
| Associate | Sucden Financial Limited | United Kingdom | Europe | Comm |
| Associate | Sullivan & Cromwell | United States | North America | Comm |
| Associate | Taiwan Futures Exchange Clearing | Taiwan | Asia | Civ |
| Associate | Talwar Thakore & Associates | India | Asia | Comm |
| Associate | Taylor Wessing LLP | United Kingdom | Europe | Comm |
| Associate | Teigland-Hunt & Associates LLP | United States | North America | Comm |
| Associate | TK & Partners | Armenia | Asia | Civ |
| Associate | TMI Associates | Japan | Asia | Civ |
| Associate | Tokenovate Limited | United Kingdom | Europe | Comm |
| Associate | Törngren Magnell & Partners Advokatfirma KB | Sweden | Europe | Civ |
| Associate | Torys LLP | Canada | North America | Comm |
| Associate | TP ICAP | United Kingdom | Europe | Comm |
| Associate | TRAction Fintech Pty Ltd | Australia | Oceania | Comm |
| Associate | TradeBlock Corporation | United States | North America | Comm |
| Associate | TradeHeader, S.L. | Spain | Europe | Civ |
| Associate | Tradeweb Markets LLC | United States | North America | Comm |
| Associate | Tradition Group | Switzerland | Europe | Civ |
| Associate | Travers Smith | United Kingdom | Europe | Comm |
| Associate | Troutman Pepper | United States | North America | Comm |
| Associate | Udo Udoma & Belo-Osagie | Nigeria | Africa | Comm |
| Associate | Ustariz & Abogados Estudio Juridico | Colombia | South America | Civ |
| Associate | Vedder Price | United States | North America | Comm |
| Associate | VERMEG Management Ltd. | Netherlands | Europe | Civ |
| Associate | VOB-Service GmbH | Germany | Europe | Civ |
| Associate | Vorys, Sater, Seymour and Pease LLP | United States | North America | Comm |
| Associate | Wachtell, Lipton, Rosen & Katz | United States | North America | Comm |
| Associate | Walkers | Caymen Islands | North America | Comm |
| Associate | Washton & Gitto LLC | United States | North America | Comm |
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| Associate | Weil Gotshal & Manges | United States | North America | Comm |
| Associate | WFW Global LLP | United Kingdom | Europe | Comm |
| Associate | White & Case LLP | United States | North America | Comm |
| Associate | William Fry | Ireland | Europe | Comm |
| Associate | Willkie, Farr & Gallagher LLP | United States | North America | Comm |
| Associate | WilmerHale | United States | North America | Comm |
| Associate | Wilmington Trust N.A. | United States | North America | Comm |
| Associate | Wilson Sonsini Goodrich & Rosati | United States | North America | Comm |

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|---|---|---|---|---|
| Associate | Winston & Strawn LLP | United States | North America | Comm |
| Associate | Wistrand Advokatbyra | Sweden | Europe | Civ |
| Associate | Womble Bond Dickinson (US) LLP | United States | North America | Comm |
| Associate | Wong Partnership | Singapore | Asia | Comm |
| Associate | XVA Blockchain GmbH | Germany | Europe | Civ |
| Associate | Zhao Sheng Law Firm | China | Asia | Civ |

## 3. Subscriber Members

| Type | Name | LEI | Headquarters | Area | Legal System |
|---|---|---|---|---|---|
| Subscriber | A/S Global Risk Management Ltd. Fondsmæglerselskab | 549300EHJ5P3ZLFVJG41 | Denmark | Europe | Civ |
| Subscriber | Aareal Bank AG | EZKODONU5TYHW4PP1R34 | Germany | Europe | Civ |
| Subscriber | AB Svensk Exportkredit | 1FOLRR5RWTWWI397R131 | Sweden | Europe | Civ |
| Subscriber | ABB Capital AG | 54930003MWB3VEJXZE84 | Switzerland | Europe | Civ |
| Subscriber | abrdn plc | 0TMBS544NMO7GLCE7H90 | United Kingdom | Europe | Comm |
| Subscriber | Abu Dhabi Investment Council Company PJSC | 549300XK8N8JNBOMWY44 | United Arab Emirates | Asia | Both |
| Subscriber | Accident Compensation Corporation | VURY5GY8X0LH5X1N8S52 | New Zealand | Oceania | Comm |
| Subscriber | Addiko Bank AG | 529900UKZBMDBDZIXD62 | Austria | Europe | Civ |
| Subscriber | AEGON USA Investment Management, LLC | 4DJIF67XTB552L0E3L78 | United States | North America | Comm |
| Subscriber | AFP Habitat SA | 8945006PQGFKA1LKS254 | Peru | South America | Civ |
| Subscriber | African Development Bank | 549300LNCLMO3ITVCU07 | Côte d'Ivoire | Africa | Civ |
| Subscriber | The African Export Import Bank | 21380068LJCDYA42GJ76 | Egypt | Africa | Civ |
| Subscriber | AG Insurance | G05OZ4J4E05KDATL0J93 | Belgium | Europe | Civ |
| Subscriber | Agos | 815600F37471C4E69D64 | Italy | Europe | Civ |
| Subscriber | Agência De Gestão Da Tesouraria E Da Dívida Pública - IGCP, E.P.E | 549300FLKF3NX2O0U724 | Portugal | Europe | Civ |
| Subscriber | AIA Investment Management Private Limited | 549300QTIFOG2JQJDQ51 | Singapore | Asia | Comm |
| Subscriber | Airbus Group SE | MINO79WLOO247M1IL051 | Netherlands | Europe | Civ |
| Subscriber | Aktia Bank plc | 743700GC62JLHFBUND16 | Finland | Europe | Civ |
| Subscriber | Ålandsbanken Abp | 7437006WYM821IJ3MN73 | Finland | Europe | Civ |
| Subscriber | Alberta Investment Management Corporation ("AIMCo") | 549300211OPKUEMQ9F64 | Canada | North America | Comm |
| Subscriber | Alberta Treasury Branches (ATB Financial) | 549300U08PFO1SAY6V60 | Canada | North America | Comm |
| Subscriber | AllianceBernstein L.P. | 0JK55UGWSWNF3X7KLQ85 | United States | North America | Comm |
| Subscriber | Alpiq AG | 5299001HXSE3QDXEYQ71 | Switzerland | Europe | Civ |
| Subscriber | American Electric Power Service Corporation | 7RZYCUTSFF0E1JT7T736 | United States | North America | Comm |

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| Subscriber | American Family Life Assurance Company of Columbus (AFLAC) | 549300XE2UYV66YVRE67 | United States | North America | Comm |
| Subscriber | American Honda Finance Corporation | B6Q2VFHD1797Q7NZ3E43 | United States | North America | Comm |
| Subscriber | American International Group, Inc. | ODVCVCQG2BP6VHV36M30 | United States | North America | Comm |
| Subscriber | Ameriprise Financial, Inc. | 6ZLKQF7QB6JAEKQS5388 | United States | North America | Comm |
| Subscriber | AMF Pensionsforsakring AB | 54930085BFZPCZ115298 | Sweden | Europe | Civ |
| Subscriber | Amicorp Capital (Mauritius) Limited | 8945003VN46K7Q9KDW28 | Mauritius | Africa | Both |
| Subscriber | AMP Limited | 5299000D93LTLU0UJR35 | Australia | Oceania | Comm |
| Subscriber | Amundi Asset Management | DQ2T0MMUTO0IPF9G9Z35 | France | Europe | Civ |
| Subscriber | Anchorage Capital Group, L.L.C. | ZMMMIWGPLCGM02OPGM14 | United States | North America | Comm |
| Subscriber | APG Asset Management NV (APG AM) | 549300XWC21UGFTCR876 | Netherlands | Europe | Civ |
| Subscriber | Apollo Capital Management, L.P. | 5493007BCXEDR17QKB54 | United States | North America | Comm |
| Subscriber | Arbejdernes Landsbank | 549300D6BJ7XOO03RR69 | Denmark | Europe | Civ |
| Subscriber | Arbejdsmarkedets Tillaegspension | 549300Y1IIQ0WYJR9F68 | Denmark | Europe | Civ |
| Subscriber | ArcelorMittal Treasury SNC | 549300Y5BJOTCMUYT658 | France | Europe | Civ |
| Subscriber | Argenta Spaarbank NV | A6NZLYKYN1UV7VVGFX65 | Belgium | Europe | Civ |
| Subscriber | Arizona Public Service Company | YG6VT0TPHRH4TFVAQV64 | United States | North America | Comm |
| Subscriber | Asian Development Bank | 549300X0MVH42CY8Q105 | Philippines | Asia | Civ |
| Subscriber | Asian Infrastructure Investment Bank | 25490065OSV2524LCR32 | China | Asia | Civ |
| Subscriber | Athora Netherlands N.V. | 724500MKKXKEVWMN9E13 | Netherlands | Europe | Civ |
| Subscriber | Australian Retirement Trust | OE40RLQ75J24YY161R59 | Australia | Oceania | Comm |
| Subscriber | AustralianSuper Pty Ltd | 549300SDK641VC1FPE36 | Australia | Oceania | Comm |
| Subscriber | Austrian Federal Financing Agency (AFFA) | 529900QWWUI4XRVR7I03 | Austria | Europe | Civ |
| Subscriber | Aviva Investors Global Services Limited | WJHQ8HJCNBR1V6EQ1R27 | United Kingdom | Europe | Comm |
| Subscriber | AXA BANK EUROPA SA | LSGM84136ACA92XCN876 | Belgium | Europe | Civ |
| Subscriber | AXA Investment Managers Paris | 969500S4JU30ML1J3P20 | France | Europe | Civ |
| Subscriber | Axpo Solutions AG | 529900H7ZPIGI2U3CJ14 | Switzerland | Europe | Civ |
| Subscriber | Azienda Elettrica Ticinese | 52990089R797N1MO8W50 | Switzerland | Europe | Civ |
| Subscriber | B. Metzler seel Sohn & Co. KGaA | 529900IOG1ENLW4SUU53 | Germany | Europe | Civ |
| Subscriber | Baillie Gifford & Co. | 549300UYMK70HLNJU654 | United Kingdom | Europe | Comm |
| Subscriber | Baloise Asset Management Schweiz AG | 529900I1IQDYU7FLJU56 | Switzerland | Europe | Civ |
| Subscriber | Balyasny Asset Management | IEY25V8W6D7HRX2LB395 | United States | North America | Comm |
| Subscriber | Banca d'Italia | 549300TE4WZOT0R7UU56 | Italy | Europe | Civ |
| Subscriber | Banca Del Piemonte S.P.A. | 8156009D703BF86C6880 | Italy | Europe | Civ |
| Subscriber | BANCA IFIS SpA | 8156005420362AE59184 | Italy | Europe | Civ |
| Subscriber | Banca Sella Holding S.p.A. | 549300ABE4K96QOCEH37 | Italy | Europe | Civ |
| Subscriber | Banco Central de Chile | U5GM11MGWU2W8SI6OD15 | Chile | South America | Civ |
| Subscriber | Banco Central De La República Dominicana | 549300DTVR57NON7XL66 | Dominican Republic | South America | Civ |
| Subscriber | Banco Central Do Brasil | AALGVYK6RWPEUC46UZ70 | Brazil | South America | Civ |

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| Subscriber | Banco de Portugal | 54930037NWG1CCVQHF93 | Portugal | Europe | Civ |
| Subscriber | Banco De Sabadell S.A. | 984500AA4EE04CAD9E38 | Portugal | Europe | Civ |
| Subscriber | Bank ABC | 213800NCSKH968YFDB88 | Bahrain | Asia | Civ |
| Subscriber | Bank for International Settlements | UXIATLMNPCXXT5KR1S08 | Switzerland | Europe | Civ |
| Subscriber | Bank Gospodarstwa Krajowego | 259400BCOV9JJIGLYF05 | Poland | Europe | Civ |
| Subscriber | Bank Indonesia | OUB893BYM4R6CVFWWL56 | Indonesia | Asia | Civ |
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| Subscriber | The Export-Import Bank of China | 254900VA7PYG4MRCGH51 | Taiwan | Asia | Civ |
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| Subscriber | New Development Bank | 254900VPI91W77OOUM06 | China | Asia | Civ |
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| Subscriber | New Zealand Debt Management Office | | New Zealand | Oceania | Comm |

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| Subscriber | Nippon Life Insurance Company | 549300Y0HHMFW3EVWY08 | Japan | Asia | Civ |
| Subscriber | NN GROUP N.V. | 724500OHYNDT9OY6Q215 | Netherlands | Europe | Civ |
| Subscriber | NNS Luxembourg S.à R.l. | 2221005Y13J7TJDCGC80 | Luxembourg | Europe | Civ |
| Subscriber | Nordic Investment Bank | 213800HYL1S7VAXG6Z48 | Finland | Europe | Civ |
| Subscriber | Nordnet Bank AB | 549300JSC82O1L4XV837 | Sweden | Europe | Civ |
| Subscriber | Norges Bank | 549300O6E2WAK3IAXE34 | Norway | Europe | Civ |
| Subscriber | Northwestern Mutual Life Insurance | 1DU7IM20QESYGDO4HO54 | United States | North America | Comm |
| Subscriber | Novartis International AG | 549300KOEGEOVTQF6R51 | Switzerland | Europe | Civ |
| Subscriber | NRW.BANK | 52990002O5KK6XOGJ020 | Germany | Europe | Civ |
| Subscriber | Nuveen, LLC | 549300SUT66RK1UQZ953 | United States | North America | Comm |
| Subscriber | ODDO BHF SE. | 529900XLAZ15LYK8XK27 | Germany | Europe | Civ |
| Subscriber | Oesterreichische Kontrollbank AG | 5299000OVRLMF858L016 | Austria | Europe | Civ |
| Subscriber | Olam Global Agri Pte Ltd | 549300Z0MJPO6EULNW68 | Singapore | Asia | Comm |
| Subscriber | Oldenburgische Landesbank AG | 5299008I0TO44SUINZ71 | Germany | Europe | Civ |
| Subscriber | OMERS Administration Corporation | HK15VDWNE3FL77FUSC13 | Canada | North America | Comm |
| Subscriber | Ontario Financing Authority | | Canada | North America | Comm |
| Subscriber | Ontario Teachers' Pension Plan Board | | Canada | North America | Comm |
| Subscriber | OPSEU Pension Plan Trust Fund | 549300KRXWMF13X0JL33 | Canada | North America | Comm |
| Subscriber | OQ Trading Limited | 549300CJ3S22SYJ7HX02 | United Arab Emirates | Asia | Both |
| Subscriber | Ørsted Salg & Service A/S | 549300TKCR7ADX1M3969 | Denmark | Europe | Civ |
| Subscriber | P. Schoenfeld Asset Management LP (PSAM) | U4CM8G7R81JF4FNVS566 | United States | North America | Comm |
| Subscriber | P/E Global LLC | 54930045VWO2QKNLVG56 | United States | North America | Comm |
| Subscriber | Pacific Investment Management Company LLC | 549300KGPYQZXGMYYN38 | United States | North America | Comm |
| Subscriber | Paloma Partners Management Company | 549300IZIILPB9SOO273 | United States | North America | Comm |
| Subscriber | Parvus Asset Management Europe Limited | 549300CX4EU7SS4PBF13 | United Kingdom | Europe | Comm |
| Subscriber | Pension Insurance Corporation Plc | M31AVDIX8NY21MAUQF46 | United Kingdom | Europe | Comm |
| Subscriber | Pensionskassernes Administration (PKA) Denmark | | Denmark | Europe | Civ |
| Subscriber | Pershing Square Capital Management, L.P. | G67KJ524WPCAX4V2X190 | United States | North America | Comm |
| Subscriber | Petroineos Trading Limited | 5493001ZPBCI498PEC02 | Jersey | Europe | Comm |
| Subscriber | PFA Asset Management A/S | 549300EPRE5PT3GRXR39 | Denmark | Europe | Civ |
| Subscriber | PGGM | Z7MH1W2L9XB781A36156 | Netherlands | Europe | Civ |
| Subscriber | Phoenix Group Holdings | 2138001P49OLAEU33T68 | United Kingdom | Europe | Comm |
| Subscriber | Piraeus Bank S.A. | 213800OYHR1MPQ5VJL60 | Greece | Europe | Civ |
| Subscriber | Point72 Asset Management, L.P. | 549300GHZ48Y72I6HZ24 | United States | North America | Comm |
| Subscriber | Portland General Electric | GJOUP9M7C39GLSK9R870 | United States | North America | Comm |
| Subscriber | Poste Italiane S.P.A. | 815600354DEDBD0BA991 | Italy | Europe | Civ |
| Subscriber | PostFinance Ltd | | Switzerland | Europe | Civ |

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| Subscriber | Principal Global Investors, LLC | 549300BABIOZPCNHMB89 | United States | North America | Comm |
| Subscriber | Protective Life Corporation | 549300ZWIT8J8Y2EXL07 | United States | North America | Comm |
| Subscriber | Province of British Columbia | 54930058TO7MEKUHWL16 | Canada | North America | Comm |
| Subscriber | Prudential Global Funding LLC | B2XP4TQXVO2CZP3OMQ85 | United States | North America | Comm |
| Subscriber | PSEG Energy Resources & Trade LLC | J1I2POYUPE1NKHS3L256 | United States | North America | Comm |
| Subscriber | Public Sector Pension Investment Board | 3CCUJEU88P85MIG5R153 | Canada | North America | Comm |
| Subscriber | Qatar Investment Authority | | Qatar | Asia | Civ |
| Subscriber | QBE Insurance Group Limited | 549300D2FBW76FPUSG65 | Australia | Oceania | Comm |
| Subscriber | Québec | | Canada | North America | Comm |
| Subscriber | Queensland Investment Corporation | | Australia | Oceania | Comm |
| Subscriber | Queensland Treasury Corporation | | Australia | Oceania | Comm |
| Subscriber | Raiffeisen Switzerland Genossenschaft | 7245006LMEO1Z6UNA903 | Switzerland | Europe | Civ |
| Subscriber | Raiffeisen-Landesbank Steiermark AG | 529900UNUKYZ9HND3309 | Austria | Europe | Civ |
| Subscriber | Raiffeisen-Landesbank Tirol AG | 5299005OACOC1C1OFJ11 | Austria | Europe | Civ |
| Subscriber | Raiffeisenlandesbank Niederösterreich-Wien AG | 529900GPOO9ISPD1EE83 | Austria | Europe | Civ |
| Subscriber | Raiffeisenlandesbank Oberösterreich Aktiengesellschaft | I6SS27Q1Q3385V753S50 | Austria | Europe | Civ |
| Subscriber | Raiffeisenlandesbank Vorarlberg | 529900FEID5L4H2T2L70 | Austria | Europe | Civ |
| Subscriber | Renault SAS | 969500V06Q2Q3ELCWD59 | France | | Civ |
| Subscriber | Republic of Finland | | Finland | Europe | Civ |
| Subscriber | Reserve Bank of Australia | | Australia | Oceania | Comm |
| Subscriber | Reserve Bank of New Zealand | | New Zealand | Oceania | Comm |
| Subscriber | Revolut Bank UAB | 485100NUOK3CEDCUTW40 | Lithuania | Europe | Civ |
| Subscriber | RGA Reinsurance Company | 8PLAT0S2ZGGGUST5TK73 | United States | North America | Comm |
| Subscriber | Robeco Institutional Asset Management B.V. | IS8DZW1TZSQ8YPXVRC46 | Netherlands | Europe | Civ |
| Subscriber | Rokos Capital Management LLP | 549300FDUKPYCG3ARE16 | United Kingdom | Europe | Comm |
| Subscriber | Rothesay Life Plc | MFQO711J5UPYBWXSPG12 | United Kingdom | Europe | Comm |
| Subscriber | Rothschild & Co Bank AG | 549300ZQJQ5GQRDOBE68 | Switzerland | Europe | Civ |
| Subscriber | S-Pankki Oyj | 743700FTBNXAUN57RH30 | Finland | Europe | Civ |
| Subscriber | Saavi Energy Solutions | 549300TCJ0OQNZFAUM80 | United States | North America | Comm |
| Subscriber | Safra National Bank of New York | 8HWWA59ZS6Z54QLX6S15 | United States | North America | Comm |
| Subscriber | Sampension Administrationsselskab A/S | 5493002JWHA1QM9W9H36 | Denmark | Europe | Civ |
| Subscriber | Sanofi Winthrop Industrie | 969500G6TVE80H5KCO19 | France | Europe | Civ |
| Subscriber | SBAB Bank AB (publ) | H0YX5LBGKDVOWCXBZ594 | Sweden | Europe | Civ |
| Subscriber | SBI SECURITIES Co.,Ltd. | 353800HGQDSZ7O253W40 | Japan | Asia | Civ |
| Subscriber | Schroders plc | 2138001YYBULX5SZ2H24 | United Kingdom | Europe | Comm |
| Subscriber | ScottishPower Energy Management Limited | 5493008OMPK1ISVMM363 | United Kingdom | Europe | Comm |
| Subscriber | SEFE Marketing & Trading Limited | 549300IK25CZHKVLAL89 | United Kingdom | Europe | Comm |

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| Subscriber | SFIL | 549300HFEHJOXGE4ZE63 | France | Europe | Civ |
| Subscriber | Shell Asset Management Company B.V. (SAMCo) | 21380062EZANCJTT2O28 | Netherlands | Europe | Civ |
| Subscriber | Shinkin Central Bank | 549300V8G2QIKUZN3A81 | Japan | Asia | Civ |
| Subscriber | Shoko Chukin Bank, Ltd. | 549300OSGFLYKC22SO39 | Japan | Asia | Civ |
| Subscriber | Siemens Aktiengesellschaft | W38RGI023J3WT1HWRP32 | Germany | Europe | Civ |
| Subscriber | Siemens Energy Global GmbH & Co. KG | 529900F0AEX3776C0J76 | Germany | Europe | Civ |
| Subscriber | Siemens Healthineers AG | 529900QBVWXMWANH7H45 | Germany | Europe | Civ |
| Subscriber | Sinopec (Hong Kong) Petroleum Company Limited | 5493002EB88NYLZ53V14 | Hong Kong | Asia | Comm |
| Subscriber | Skandia Mutual Life Insurance Company | | Sweden | Europe | Civ |
| Subscriber | Skipton Building Society | 66AGRETLUXS4YO5MUH35 | United Kingdom | Europe | Comm |
| Subscriber | Socar Trading SA | 549300LYNZDH07L9NG18 | Switzerland | Europe | Civ |
| Subscriber | Société Nationale Des Chemins De Fer Belges | | Belgium | Europe | Civ |
| Subscriber | Sony Financial Group Inc. | 353800O7BDSU41WOZA60 | Japan | Asia | Civ |
| Subscriber | South African Reserve Bank | | South Africa | Africa | Both |
| Subscriber | Sparkasse Oberösterreich Bank AG | V0VY22PV9D0HFTF8EI62 | Austria | Europe | Civ |
| Subscriber | Starling Bank Limited | 213800AE5VSF3V1PAV23 | United Kingdom | Europe | Comm |
| Subscriber | State of Wisconsin Investment Board | | United States | North America | Comm |
| Subscriber | Statkraft AS | 529900TH4OAW7WYG1777 | Norway | Europe | Civ |
| Subscriber | Stichting Pensioenfonds ING | 549300XSSPGPFC9HU285 | Netherlands | Europe | Civ |
| Subscriber | Stichting Pensioenfonds PGB | 724500SCJKY3JGCW5E50 | Netherlands | Europe | Civ |
| Subscriber | Stichting Pensioenfonds van De ABN AMRO Bank N.V. | 489Q1J076FXGOBROJ015 | Netherlands | Europe | Civ |
| Subscriber | Sumitomo Corporation | V82KK8NH1P0JS71FJC05 | Japan | Asia | Civ |
| Subscriber | Sun Life Assurance Company of Canada | | Canada | North America | Comm |
| Subscriber | Suncor Energy Marketing Inc. | 549300TX85S6ZPXCFJ21 | Canada | North America | Comm |
| Subscriber | Sund & Bælt Holding A/S | ZELHXIJDMZSUF0SVF203 | Denmark | Europe | Civ |
| Subscriber | Susquehanna International Group, LLP | 549300UHLZVQ1CWNT812 | United States | North America | Comm |
| Subscriber | Sveriges Riksbank | 549300VLYM2XZE4FJF95 | Sweden | Europe | Civ |
| Subscriber | Swiss National Bank | | Switzerland | Europe | Civ |
| Subscriber | Swiss Re Financial Products | | Switzerland | Europe | Civ |
| Subscriber | Swissquote Bank Ltd | H6IQ3SWWWBLDBI06ZX04 | Switzerland | Europe | Civ |
| Subscriber | T. Rowe Price Associates, Inc. | 7HTL8AEQSEDX602FBU63 | United States | North America | Comm |
| Subscriber | TCI Fund Management Limited | 5493001WGD5701M9CX95 | United Kingdom | Europe | Comm |
| Subscriber | Teacher Retirement System of Texas | | United States | North America | Comm |
| Subscriber | Telecom Italia SpA | | Italy | Europe | Civ |
| Subscriber | Temasek International Pte Ltd | 549300ZZJS58QX9E7S78 | Singapore | Asia | Comm |
| Subscriber | Tenaska Power Services Co. (TPS) | 549300K7NFSB93YGBN35 | United States | North America | Comm |
| Subscriber | Tesco Personal Finance plc ("Tesco Bank") | 213800J17G8WI3MJ5660 | United Kingdom | Europe | Comm |
| Subscriber | Texas Capital Bank | 38PG5GG0OEQK4QMSKE59 | United States | North America | Comm |

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| Subscriber | The Shizuoka Bank Ltd. | 549300TJ1GRR4PX8GJ82 | Japan | Asia | Civ |
| Subscriber | Tokai Tokyo Securities Co., Ltd. | 549300L0QEAI5DYJ2U56 | Japan | Asia | Civ |
| Subscriber | The Tokyo Star Bank, Limited | 5493005IUJMD4OXQYW12 | Japan | Asia | Civ |
| Subscriber | Toyota Financial Services | 353800WDOBRSAV97BA75 | Japan | Asia | Civ |
| Subscriber | Trafigura Pte Ltd | 549300Z2X1L1L3MID765 | Singapore | Asia | Comm |
| Subscriber | Trailstone UK Ltd. | 549300K7OPCL7H8ZCP55 | United Kingdom | Europe | Comm |
| Subscriber | TransCanada Pipelines Limited | 5BV01I6231JPDAPMGH09 | Canada | North America | Comm |
| Subscriber | Transnet SOC Ltd | 378900B07CD6F01EA796 | South Africa | Africa | Both |
| Subscriber | Treasury Corporation of Victoria | 549300ZJM7BQW1P9UV75 | Australia | Oceania | Comm |
| Subscriber | The Treasury of the Republic of Latvia | | Latvia | Europe | Civ |
| Subscriber | Triodos Bank NV | 724500PMK2A2M1SQQ228 | Netherlands | Europe | Civ |
| Subscriber | TSB Bank Plc | | United Kingdom | Europe | Comm |
| Subscriber | Uniper Global Commodities SE | EBX30MC15ELIMN60BF76 | Germany | Europe | Civ |
| Subscriber | United Super Pty Ltd | 549300YOK1IFK0B71D36 | Australia | Oceania | Comm |
| Subscriber | Universal Investment Gesellschaft MbH | 549300TDFL442EPSLM98 | Germany | Europe | Civ |
| Subscriber | Valtion Eläkerahasto (VER) | 549300LNEDPRE1XBGM50 | Finland | Europe | Civ |
| Subscriber | The Vanguard Group, Inc | 5493002789CX3L0CJP65 | United States | North America | Comm |
| Subscriber | Varma Mutual Pension Insurance Company | COX5BEJOY2G46TDYM587 | Finland | Europe | Civ |
| Subscriber | Vattenfall Energy Trading GmbH | XGS1GKY6T704E8N8WU13 | Germany | Europe | Civ |
| Subscriber | Vaudoise Assurances | 506700F7C0WFE08FR858 | Switzerland | Europe | Civ |
| Subscriber | Vitol SA | LRTJ90BDKWYUKQ3QY816 | Switzerland | Europe | Civ |
| Subscriber | VW Credit, Inc. | 549300UUPJ2NXDB68M19 | United States | North America | Comm |
| Subscriber | VZ Depotbank AG | 529900AMV3KGGEHK5I37 | Switzerland | Europe | Civ |
| Subscriber | Webster Bank | WV0OVGBTLUP1XIUJE722 | United States | North America | Comm |
| Subscriber | WeFi Technology Group | 549300SPUO1QWYDBSJ46 | United States | North America | Comm |
| Subscriber | Wellington Management Company, LLP | 549300YHP12TEZNLCX41 | United States | North America | Comm |
| Subscriber | Western Australian Treasury Corporation | 213800FKHP5ME5Y3CF47 | Australia | Oceania | Comm |
| Subscriber | Wintershall Dea AG | 529900PP4O3OCBMO9C52 | Germany | Europe | Civ |
| Subscriber | Yorkshire Building Society | WXD0EHQRPI7HKN3I5T57 | United Kingdom | Europe | Comm |
| Subscriber | Zenith Bank (UK) Limited | 213800HXR6XZKC2G7U74 | United Kingdom | Europe | Comm |

# APPENDIX B

## ISDA Master Agreement

The 2002 ISDA Master Agreement is appended here (on the following pages) in its entirety with the consent of ISDA. Such permission is strictly limited to academic purposes only.

# ISDA®

International Swaps and Derivatives Association, Inc.

# 2002 MASTER AGREEMENT

dated as of .....

..... and .....

have entered and/or anticipate entering into one or more transactions (each a "Transaction") that are or will be governed by this 2002 Master Agreement, which includes the schedule (the "Schedule"), and the documents and other confirming evidence (each a "Confirmation") exchanged between the parties or otherwise effective for the purpose of confirming or evidencing those Transactions. This 2002 Master Agreement and the Schedule are together referred to as this "Master Agreement".

Accordingly, the parties agree as follows:—

**1. Interpretation**

(a) ***Definitions.*** The terms defined in Section 14 and elsewhere in this Master Agreement will have the meanings therein specified for the purpose of this Master Agreement.

(b) ***Inconsistency.*** In the event of any inconsistency between the provisions of the Schedule and the other provisions of this Master Agreement, the Schedule will prevail. In the event of any inconsistency between the provisions of any Confirmation and this Master Agreement, such Confirmation will prevail for the purpose of the relevant Transaction.

(c) ***Single Agreement.*** All Transactions are entered into in reliance on the fact that this Master Agreement and all Confirmations form a single agreement between the parties (collectively referred to as this "Agreement"), and the parties would not otherwise enter into any Transactions.

**2. Obligations**

(a) ***General Conditions.***

(i) Each party will make each payment or delivery specified in each Confirmation to be made by it, subject to the other provisions of this Agreement.

(ii) Payments under this Agreement will be made on the due date for value on that date in the place of the account specified in the relevant Confirmation or otherwise pursuant to this Agreement, in freely transferable funds and in the manner customary for payments in the required currency. Where settlement is by delivery (that is, other than by payment), such delivery will be made for receipt on the due date in the manner customary for the relevant obligation unless otherwise specified in the relevant Confirmation or elsewhere in this Agreement.

(iii) Each obligation of each party under Section 2(a)(i) is subject to (1) the condition precedent that no Event of Default or Potential Event of Default with respect to the other party has occurred and is continuing, (2) the condition precedent that no Early Termination Date in respect of the relevant Transaction has occurred or been effectively designated and (3) each other condition specified in this Agreement to be a condition precedent for the purpose of this Section 2(a)(iii).

(b) ***Change of Account.*** Either party may change its account for receiving a payment or delivery by giving notice to the other party at least five Local Business Days prior to the Scheduled Settlement Date for the payment or delivery to which such change applies unless such other party gives timely notice of a reasonable objection to such change.

(c) ***Netting of Payments.*** If on any date amounts would otherwise be payable:—

(i) in the same currency; and

(ii) in respect of the same Transaction,

by each party to the other, then, on such date, each party's obligation to make payment of any such amount will be automatically satisfied and discharged and, if the aggregate amount that would otherwise have been payable by one party exceeds the aggregate amount that would otherwise have been payable by the other party, replaced by an obligation upon the party by which the larger aggregate amount would have been payable to pay to the other party the excess of the larger aggregate amount over the smaller aggregate amount.

The parties may elect in respect of two or more Transactions that a net amount and payment obligation will be determined in respect of all amounts payable on the same date in the same currency in respect of those Transactions, regardless of whether such amounts are payable in respect of the same Transaction. The election may be made in the Schedule or any Confirmation by specifying that "Multiple Transaction Payment Netting" applies to the Transactions identified as being subject to the election (in which case clause (ii) above will not apply to such Transactions). If Multiple Transaction Payment Netting is applicable to Transactions, it will apply to those Transactions with effect from the starting date specified in the Schedule or such Confirmation, or, if a starting date is not specified in the Schedule or such Confirmation, the starting date otherwise agreed by the parties in writing. This election may be made separately for different groups of Transactions and will apply separately to each pairing of Offices through which the parties make and receive payments or deliveries.

(d) ***Deduction or Withholding for Tax.***

(i) ***Gross-Up.*** All payments under this Agreement will be made without any deduction or withholding for or on account of any Tax unless such deduction or withholding is required by any applicable law, as modified by the practice of any relevant governmental revenue authority, then in effect. If a party is so required to deduct or withhold, then that party ("X") will:—

(1) promptly notify the other party ("Y") of such requirement;

(2) pay to the relevant authorities the full amount required to be deducted or withheld (including the full amount required to be deducted or withheld from any additional amount paid by X to Y under this Section 2(d)) promptly upon the earlier of determining that such deduction or withholding is required or receiving notice that such amount has been assessed against Y;

(3) promptly forward to Y an official receipt (or a certified copy), or other documentation reasonably acceptable to Y, evidencing such payment to such authorities; and

(4) if such Tax is an Indemnifiable Tax, pay to Y, in addition to the payment to which Y is otherwise entitled under this Agreement, such additional amount as is necessary to ensure that the net amount actually received by Y (free and clear of Indemnifiable Taxes, whether assessed against X or Y) will equal the full amount Y would have received had no such deduction or withholding been required. However, X will not be required to pay any additional amount to Y to the extent that it would not be required to be paid but for:—

(A) the failure by Y to comply with or perform any agreement contained in Section 4(a)(i), 4(a)(iii) or 4(d); or

(B) the failure of a representation made by Y pursuant to Section 3(f) to be accurate and true unless such failure would not have occurred but for (I) any action taken by a taxing authority, or brought in a court of competent jurisdiction, after a Transaction is entered into (regardless of whether such action is taken or brought with respect to a party to this Agreement) or (II) a Change in Tax Law.

(ii) ***Liability.*** If:—

(1) X is required by any applicable law, as modified by the practice of any relevant governmental revenue authority, to make any deduction or withholding in respect of which X would not be required to pay an additional amount to Y under Section 2(d)(i)(4);

(2) X does not so deduct or withhold; and

(3) a liability resulting from such Tax is assessed directly against X,

then, except to the extent Y has satisfied or then satisfies the liability resulting from such Tax, Y will promptly pay to X the amount of such liability (including any related liability for interest, but including any related liability for penalties only if Y has failed to comply with or perform any agreement contained in Section 4(a)(i), 4(a)(iii) or 4(d)).

**3. Representations**

Each party makes the representations contained in Sections 3(a), 3(b), 3(c), 3(d), 3(e) and 3(f) and, if specified in the Schedule as applying, 3(g) to the other party (which representations will be deemed to be repeated by each party on each date on which a Transaction is entered into and, in the case of the representations in Section 3(f), at all times until the termination of this Agreement). If any "Additional Representation" is specified in the Schedule or any Confirmation as applying, the party or parties specified for such Additional Representation will make and, if applicable, be deemed to repeat such Additional Representation at the time or times specified for such Additional Representation.

(a) ***Basic Representations.***

(i) ***Status.*** It is duly organised and validly existing under the laws of the jurisdiction of its organisation or incorporation and, if relevant under such laws, in good standing;

(ii) ***Powers.*** It has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and any other documentation relating to this Agreement that it is required by this Agreement to deliver and to perform its obligations under this Agreement and any obligations it has under any Credit Support Document to which it is a party and has taken all necessary action to authorise such execution, delivery and performance;

(iii) ***No Violation or Conflict.*** Such execution, delivery and performance do not violate or conflict with any law applicable to it, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(iv) ***Consents.*** All governmental and other consents that are required to have been obtained by it with respect to this Agreement or any Credit Support Document to which it is a party have been obtained and are in full force and effect and all conditions of any such consents have been complied with; and

(v) ***Obligations Binding.*** Its obligations under this Agreement and any Credit Support Document to which it is a party constitute its legal, valid and binding obligations, enforceable in accordance with their respective terms (subject to applicable bankruptcy, reorganisation, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law)).

(b) ***Absence of Certain Events.*** No Event of Default or Potential Event of Default or, to its knowledge, Termination Event with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement or any Credit Support Document to which it is a party.

(c) ***Absence of Litigation.*** There is not pending or, to its knowledge, threatened against it, any of its Credit Support Providers or any of its applicable Specified Entities any action, suit or proceeding at law or in equity or before any court, tribunal, governmental body, agency or official or any arbitrator that is likely to affect the legality, validity or enforceability against it of this Agreement or any Credit Support Document to which it is a party or its ability to perform its obligations under this Agreement or such Credit Support Document.

(d) ***Accuracy of Specified Information.*** All applicable information that is furnished in writing by or on behalf of it to the other party and is identified for the purpose of this Section 3(d) in the Schedule is, as of the date of the information, true, accurate and complete in every material respect.

(e) ***Payer Tax Representation.*** Each representation specified in the Schedule as being made by it for the purpose of this Section 3(e) is accurate and true.

(f) ***Payee Tax Representations.*** Each representation specified in the Schedule as being made by it for the purpose of this Section 3(f) is accurate and true.

(g) ***No Agency.*** It is entering into this Agreement, including each Transaction, as principal and not as agent of any person or entity.

**4. Agreements**

Each party agrees with the other that, so long as either party has or may have any obligation under this Agreement or under any Credit Support Document to which it is a party:—

(a) ***Furnish Specified Information.*** It will deliver to the other party or, in certain cases under clause (iii) below, to such government or taxing authority as the other party reasonably directs:—

(i) any forms, documents or certificates relating to taxation specified in the Schedule or any Confirmation;

(ii) any other documents specified in the Schedule or any Confirmation; and

(iii) upon reasonable demand by such other party, any form or document that may be required or reasonably requested in writing in order to allow such other party or its Credit Support Provider to make a payment under this Agreement or any applicable Credit Support Document without any deduction or withholding for or on account of any Tax or with such deduction or withholding at a reduced rate (so long as the completion, execution or submission of such form or document would not materially prejudice the legal or commercial position of the party in receipt of such demand), with any such form or document to be accurate and completed in a manner reasonably satisfactory to such other party and to be executed and to be delivered with any reasonably required certification,

in each case by the date specified in the Schedule or such Confirmation or, if none is specified, as soon as reasonably practicable.

(b) ***Maintain Authorisations.*** It will use all reasonable efforts to maintain in full force and effect all consents of any governmental or other authority that are required to be obtained by it with respect to this Agreement or any Credit Support Document to which it is a party and will use all reasonable efforts to obtain any that may become necessary in the future.

(c) ***Comply With Laws.*** It will comply in all material respects with all applicable laws and orders to which it may be subject if failure so to comply would materially impair its ability to perform its obligations under this Agreement or any Credit Support Document to which it is a party.

(d) ***Tax Agreement.*** It will give notice of any failure of a representation made by it under Section 3(f) to be accurate and true promptly upon learning of such failure.

(e) ***Payment of Stamp Tax.*** Subject to Section 11, it will pay any Stamp Tax levied or imposed upon it or in respect of its execution or performance of this Agreement by a jurisdiction in which it is incorporated, organised, managed and controlled or considered to have its seat, or where an Office through which it is acting for the purpose of this Agreement is located ("Stamp Tax Jurisdiction"), and will indemnify the other party against any Stamp Tax levied or imposed upon the other party or in respect of the other party's execution or performance of this Agreement by any such Stamp Tax Jurisdiction which is not also a Stamp Tax Jurisdiction with respect to the other party.

**5. Events of Default and Termination Events**

(a) ***Events of Default.*** The occurrence at any time with respect to a party or, if applicable, any Credit Support Provider of such party or any Specified Entity of such party of any of the following events constitutes (subject to Sections 5(c) and 6(e)(iv)) an event of default (an "Event of Default") with respect to such party:—

(i) ***Failure to Pay or Deliver.*** Failure by the party to make, when due, any payment under this Agreement or delivery under Section 2(a)(i) or 9(h)(i)(2) or (4) required to be made by it if such failure is not remedied on or before the first Local Business Day in the case of any such payment or the first Local Delivery Day in the case of any such delivery after, in each case, notice of such failure is given to the party;

(ii) ***Breach of Agreement; Repudiation of Agreement.***

(1) Failure by the party to comply with or perform any agreement or obligation (other than an obligation to make any payment under this Agreement or delivery under Section 2(a)(i) or 9(h)(i)(2) or (4) or to give notice of a Termination Event or any agreement or obligation under Section 4(a)(i), 4(a)(iii) or 4(d)) to be complied with or performed by the party in accordance with this Agreement if such failure is not remedied within 30 days after notice of such failure is given to the party; or

(2) the party disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of, this Master Agreement, any Confirmation executed and delivered by that party or any

Transaction evidenced by such a Confirmation (or such action is taken by any person or entity appointed or empowered to operate it or act on its behalf);

(iii) ***Credit Support Default.***

(1) Failure by the party or any Credit Support Provider of such party to comply with or perform any agreement or obligation to be complied with or performed by it in accordance with any Credit Support Document if such failure is continuing after any applicable grace period has elapsed;

(2) the expiration or termination of such Credit Support Document or the failing or ceasing of such Credit Support Document, or any security interest granted by such party or such Credit Support Provider to the other party pursuant to any such Credit Support Document, to be in full force and effect for the purpose of this Agreement (in each case other than in accordance with its terms) prior to the satisfaction of all obligations of such party under each Transaction to which such Credit Support Document relates without the written consent of the other party; or

(3) the party or such Credit Support Provider disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of, such Credit Support Document (or such action is taken by any person or entity appointed or empowered to operate it or act on its behalf);

(iv) ***Misrepresentation.*** A representation (other than a representation under Section 3(e) or 3(f)) made or repeated or deemed to have been made or repeated by the party or any Credit Support Provider of such party in this Agreement or any Credit Support Document proves to have been incorrect or misleading in any material respect when made or repeated or deemed to have been made or repeated;

(v) ***Default Under Specified Transaction.*** The party, any Credit Support Provider of such party or any applicable Specified Entity of such party:—

(l) defaults (other than by failing to make a delivery) under a Specified Transaction or any credit support arrangement relating to a Specified Transaction and, after giving effect to any applicable notice requirement or grace period, such default results in a liquidation of, an acceleration of obligations under, or an early termination of, that Specified Transaction;

(2) defaults, after giving effect to any applicable notice requirement or grace period, in making any payment due on the last payment or exchange date of, or any payment on early termination of, a Specified Transaction (or, if there is no applicable notice requirement or grace period, such default continues for at least one Local Business Day);

(3) defaults in making any delivery due under (including any delivery due on the last delivery or exchange date of) a Specified Transaction or any credit support arrangement relating to a Specified Transaction and, after giving effect to any applicable notice requirement or grace period, such default results in a liquidation of, an acceleration of obligations under, or an early termination of, all transactions outstanding under the documentation applicable to that Specified Transaction; or

(4) disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of, a Specified Transaction or any credit support arrangement relating to a Specified Transaction that is, in either case, confirmed or evidenced by a document or other confirming evidence executed and delivered by that party, Credit Support Provider or Specified Entity (or such action is taken by any person or entity appointed or empowered to operate it or act on its behalf);

(vi) ***Cross-Default.*** If "Cross-Default" is specified in the Schedule as applying to the party, the occurrence or existence of:—

(l) a default, event of default or other similar condition or event (however described) in respect of such party, any Credit Support Provider of such party or any applicable Specified Entity of such party under one or more agreements or instruments relating to Specified Indebtedness of any of them (individually or collectively) where the aggregate principal amount of such agreements or instruments, either alone or together with the amount, if any, referred to in clause (2) below, is not less than the applicable Threshold Amount (as specified in the Schedule) which has resulted in such Specified Indebtedness becoming, or becoming capable at such time of being declared, due and payable under such agreements or instruments before it would otherwise have been due and payable; or

(2) a default by such party, such Credit Support Provider or such Specified Entity (individually or collectively) in making one or more payments under such agreements or instruments on the due date for payment (after giving effect to any applicable notice requirement or grace period) in an aggregate amount, either alone or together with the amount, if any, referred to in clause (1) above, of not less than the applicable Threshold Amount;

(vii) ***Bankruptcy.*** The party, any Credit Support Provider of such party or any applicable Specified Entity of such party:—

(l) is dissolved (other than pursuant to a consolidation, amalgamation or merger); (2) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due; (3) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (4)(A) institutes or has instituted against it, by a regulator, supervisor or any similar official with primary insolvency, rehabilitative or regulatory jurisdiction over it in the jurisdiction of its incorporation or organisation or the jurisdiction of its head or home office, a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation by it or such regulator, supervisor or similar official, or (B) has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation, and such proceeding or petition is instituted or presented by a person or entity not described in clause (A) above and either (I) results in a judgment of insolvency or bankruptcy or the entry of an order for relief or the making of an order for its winding-up or liquidation or (II) is not dismissed, discharged, stayed or restrained in each case within 15 days of the institution or presentation thereof; (5) has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger); (6) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (7) has a secured party take possession of all or substantially all its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all its assets and such secured party maintains possession, or any such process is not dismissed, discharged, stayed or restrained, in each case within 15 days thereafter; (8) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (l) to (7) above (inclusive); or (9) takes any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the foregoing acts; or

(viii) ***Merger Without Assumption.*** The party or any Credit Support Provider of such party consolidates or amalgamates with, or merges with or into, or transfers all or substantially all its assets to, or reorganises, reincorporates or reconstitutes into or as, another entity and, at the time of such consolidation, amalgamation, merger, transfer, reorganisation, reincorporation or reconstitution:—

(l) the resulting, surviving or transferee entity fails to assume all the obligations of such party or such Credit Support Provider under this Agreement or any Credit Support Document to which it or its predecessor was a party; or

(2) the benefits of any Credit Support Document fail to extend (without the consent of the other party) to the performance by such resulting, surviving or transferee entity of its obligations under this Agreement.

(b) ***Termination Events.*** The occurrence at any time with respect to a party or, if applicable, any Credit Support Provider of such party or any Specified Entity of such party of any event specified below constitutes (subject to Section 5(c)) an Illegality if the event is specified in clause (i) below, a Force Majeure Event if the event is specified in clause (ii) below, a Tax Event if the event is specified in clause (iii) below, a Tax Event Upon Merger if the event is specified in clause (iv) below, and, if specified to be applicable, a Credit Event Upon Merger if the event is specified pursuant to clause (v) below or an Additional Termination Event if the event is specified pursuant to clause (vi) below:—

(i) ***Illegality.*** After giving effect to any applicable provision, disruption fallback or remedy specified in, or pursuant to, the relevant Confirmation or elsewhere in this Agreement, due to an event or circumstance (other than any action taken by a party or, if applicable, any Credit Support Provider of such party) occurring after a Transaction is entered into, it becomes unlawful under any applicable law (including without limitation the laws of any country in which payment, delivery or compliance is required by either party or any Credit Support Provider, as the case may be), on any day, or it would be unlawful if the relevant payment, delivery or compliance were required on that day (in each case, other than as a result of a breach by the party of Section 4(b)):—

(1) for the Office through which such party (which will be the Affected Party) makes and receives payments or deliveries with respect to such Transaction to perform any absolute or contingent obligation to make a payment or delivery in respect of such Transaction, to receive a payment or delivery in respect of such Transaction or to comply with any other material provision of this Agreement relating to such Transaction; or

(2) for such party or any Credit Support Provider of such party (which will be the Affected Party) to perform any absolute or contingent obligation to make a payment or delivery which such party or Credit Support Provider has under any Credit Support Document relating to such Transaction, to receive a payment or delivery under such Credit Support Document or to comply with any other material provision of such Credit Support Document;

(ii) ***Force Majeure Event.*** After giving effect to any applicable provision, disruption fallback or remedy specified in, or pursuant to, the relevant Confirmation or elsewhere in this Agreement, by reason of force majeure or act of state occurring after a Transaction is entered into, on any day:—

(1) the Office through which such party (which will be the Affected Party) makes and receives payments or deliveries with respect to such Transaction is prevented from performing any absolute or contingent obligation to make a payment or delivery in respect of such Transaction, from receiving a payment or delivery in respect of such Transaction or from complying with any other material provision of this Agreement relating to such Transaction (or would be so prevented if such payment, delivery or compliance were required on that day), or it becomes impossible or

impracticable for such Office so to perform, receive or comply (or it would be impossible or impracticable for such Office so to perform, receive or comply if such payment, delivery or compliance were required on that day); or

(2) such party or any Credit Support Provider of such party (which will be the Affected Party) is prevented from performing any absolute or contingent obligation to make a payment or delivery which such party or Credit Support Provider has under any Credit Support Document relating to such Transaction, from receiving a payment or delivery under such Credit Support Document or from complying with any other material provision of such Credit Support Document (or would be so prevented if such payment, delivery or compliance were required on that day), or it becomes impossible or impracticable for such party or Credit Support Provider so to perform, receive or comply (or it would be impossible or impracticable for such party or Credit Support Provider so to perform, receive or comply if such payment, delivery or compliance were required on that day),

so long as the force majeure or act of state is beyond the control of such Office, such party or such Credit Support Provider, as appropriate, and such Office, party or Credit Support Provider could not, after using all reasonable efforts (which will not require such party or Credit Support Provider to incur a loss, other than immaterial, incidental expenses), overcome such prevention, impossibility or impracticability;

(iii) ***Tax Event.*** Due to (1) any action taken by a taxing authority, or brought in a court of competent jurisdiction, after a Transaction is entered into (regardless of whether such action is taken or brought with respect to a party to this Agreement) or (2) a Change in Tax Law, the party (which will be the Affected Party) will, or there is a substantial likelihood that it will, on the next succeeding Scheduled Settlement Date (A) be required to pay to the other party an additional amount in respect of an Indemnifiable Tax under Section 2(d)(i)(4) (except in respect of interest under Section 9(h)) or (B) receive a payment from which an amount is required to be deducted or withheld for or on account of a Tax (except in respect of interest under Section 9(h)) and no additional amount is required to be paid in respect of such Tax under Section 2(d)(i)(4) (other than by reason of Section 2(d)(i)(4)(A) or (B));

(iv) ***Tax Event Upon Merger.*** The party (the "Burdened Party") on the next succeeding Scheduled Settlement Date will either (1) be required to pay an additional amount in respect of an Indemnifiable Tax under Section 2(d)(i)(4) (except in respect of interest under Section 9(h)) or (2) receive a payment from which an amount has been deducted or withheld for or on account of any Tax in respect of which the other party is not required to pay an additional amount (other than by reason of Section 2(d)(i)(4)(A) or (B)), in either case as a result of a party consolidating or amalgamating with, or merging with or into, or transferring all or substantially all its assets (or any substantial part of the assets comprising the business conducted by it as of the date of this Master Agreement) to, or reorganising, reincorporating or reconstituting into or as, another entity (which will be the Affected Party) where such action does not constitute a Merger Without Assumption;

(v) ***Credit Event Upon Merger.*** If "Credit Event Upon Merger" is specified in the Schedule as applying to the party, a Designated Event (as defined below) occurs with respect to such party, any Credit Support Provider of such party or any applicable Specified Entity of such party (in each case, "X") and such Designated Event does not constitute a Merger Without Assumption, and the creditworthiness of X or, if applicable, the successor, surviving or transferee entity of X, after taking into account any applicable Credit Support Document, is materially weaker immediately after the occurrence of such Designated Event than that of X immediately prior to the occurrence of such Designated Event (and, in any such event, such party or its successor, surviving or transferee entity, as appropriate, will be the Affected Party). A "Designated Event" with respect to X means that:—

(1) X consolidates or amalgamates with, or merges with or into, or transfers all or substantially all its assets (or any substantial part of the assets comprising the business conducted by X as of the

date of this Master Agreement) to, or reorganises, reincorporates or reconstitutes into or as, another entity;

(2) any person, related group of persons or entity acquires directly or indirectly the beneficial ownership of (A) equity securities having the power to elect a majority of the board of directors (or its equivalent) of X or (B) any other ownership interest enabling it to exercise control of X; or

(3) X effects any substantial change in its capital structure by means of the issuance, incurrence or guarantee of debt or the issuance of (A) preferred stock or other securities convertible into or exchangeable for debt or preferred stock or (B) in the case of entities other than corporations, any other form of ownership interest; or

(vi) ***Additional Termination Event.*** If any "Additional Termination Event" is specified in the Schedule or any Confirmation as applying, the occurrence of such event (and, in such event, the Affected Party or Affected Parties will be as specified for such Additional Termination Event in the Schedule or such Confirmation).

(c) ***Hierarchy of Events.***

(i) An event or circumstance that constitutes or gives rise to an Illegality or a Force Majeure Event will not, for so long as that is the case, also constitute or give rise to an Event of Default under Section 5(a)(i), 5(a)(ii)(1) or 5(a)(iii)(1) insofar as such event or circumstance relates to the failure to make any payment or delivery or a failure to comply with any other material provision of this Agreement or a Credit Support Document, as the case may be.

(ii) Except in circumstances contemplated by clause (i) above, if an event or circumstance which would otherwise constitute or give rise to an Illegality or a Force Majeure Event also constitutes an Event of Default or any other Termination Event, it will be treated as an Event of Default or such other Termination Event, as the case may be, and will not constitute or give rise to an Illegality or a Force Majeure Event.

(iii) If an event or circumstance which would otherwise constitute or give rise to a Force Majeure Event also constitutes an Illegality, it will be treated as an Illegality, except as described in clause (ii) above, and not a Force Majeure Event.

(d) ***Deferral of Payments and Deliveries During Waiting Period.*** If an Illegality or a Force Majeure Event has occurred and is continuing with respect to a Transaction, each payment or delivery which would otherwise be required to be made under that Transaction will be deferred to, and will not be due until:—

(i) the first Local Business Day or, in the case of a delivery, the first Local Delivery Day (or the first day that would have been a Local Business Day or Local Delivery Day, as appropriate, but for the occurrence of the event or circumstance constituting or giving rise to that Illegality or Force Majeure Event) following the end of any applicable Waiting Period in respect of that Illegality or Force Majeure Event, as the case may be; or

(ii) if earlier, the date on which the event or circumstance constituting or giving rise to that Illegality or Force Majeure Event ceases to exist or, if such date is not a Local Business Day or, in the case of a delivery, a Local Delivery Day, the first following day that is a Local Business Day or Local Delivery Day, as appropriate.

(e) ***Inability of Head or Home Office to Perform Obligations of Branch.*** If (i) an Illegality or a Force Majeure Event occurs under Section 5(b)(i)(1) or 5(b)(ii)(1) and the relevant Office is not the Affected Party's head or home office, (ii) Section 10(a) applies, (iii) the other party seeks performance of the relevant obligation or

compliance with the relevant provision by the Affected Party's head or home office and (iv) the Affected Party's head or home office fails so to perform or comply due to the occurrence of an event or circumstance which would, if that head or home office were the Office through which the Affected Party makes and receives payments and deliveries with respect to the relevant Transaction, constitute or give rise to an Illegality or a Force Majeure Event, and such failure would otherwise constitute an Event of Default under Section 5(a)(i) or 5(a)(iii)(1) with respect to such party, then, for so long as the relevant event or circumstance continues to exist with respect to both the Office referred to in Section 5(b)(i)(1) or 5(b)(ii)(1), as the case may be, and the Affected Party's head or home office, such failure will not constitute an Event of Default under Section 5(a)(i) or 5(a)(iii)(1).

**6. Early Termination; Close-Out Netting**

(a) ***Right to Terminate Following Event of Default.*** If at any time an Event of Default with respect to a party (the "Defaulting Party") has occurred and is then continuing, the other party (the "Non-defaulting Party") may, by not more than 20 days notice to the Defaulting Party specifying the relevant Event of Default, designate a day not earlier than the day such notice is effective as an Early Termination Date in respect of all outstanding Transactions. If, however, "Automatic Early Termination" is specified in the Schedule as applying to a party, then an Early Termination Date in respect of all outstanding Transactions will occur immediately upon the occurrence with respect to such party of an Event of Default specified in Section 5(a)(vii)(1), (3), (5), (6) or, to the extent analogous thereto, (8), and as of the time immediately preceding the institution of the relevant proceeding or the presentation of the relevant petition upon the occurrence with respect to such party of an Event of Default specified in Section 5(a)(vii)(4) or, to the extent analogous thereto, (8).

(b) ***Right to Terminate Following Termination Event.***

(i) ***Notice.*** If a Termination Event other than a Force Majeure Event occurs, an Affected Party will, promptly upon becoming aware of it, notify the other party, specifying the nature of that Termination Event and each Affected Transaction, and will also give the other party such other information about that Termination Event as the other party may reasonably require. If a Force Majeure Event occurs, each party will, promptly upon becoming aware of it, use all reasonable efforts to notify the other party, specifying the nature of that Force Majeure Event, and will also give the other party such other information about that Force Majeure Event as the other party may reasonably require.

(ii) ***Transfer to Avoid Termination Event.*** If a Tax Event occurs and there is only one Affected Party, or if a Tax Event Upon Merger occurs and the Burdened Party is the Affected Party, the Affected Party will, as a condition to its right to designate an Early Termination Date under Section 6(b)(iv), use all reasonable efforts (which will not require such party to incur a loss, other than immaterial, incidental expenses) to transfer within 20 days after it gives notice under Section 6(b)(i) all its rights and obligations under this Agreement in respect of the Affected Transactions to another of its Offices or Affiliates so that such Termination Event ceases to exist.

If the Affected Party is not able to make such a transfer it will give notice to the other party to that effect within such 20 day period, whereupon the other party may effect such a transfer within 30 days after the notice is given under Section 6(b)(i).

Any such transfer by a party under this Section 6(b)(ii) will be subject to and conditional upon the prior written consent of the other party, which consent will not be withheld if such other party's policies in effect at such time would permit it to enter into transactions with the transferee on the terms proposed.

(iii) ***Two Affected Parties.*** If a Tax Event occurs and there are two Affected Parties, each party will use all reasonable efforts to reach agreement within 30 days after notice of such occurrence is given under Section 6(b)(i) to avoid that Termination Event.

(iv) ***Right to Terminate.***

(1) If:—

(A) a transfer under Section 6(b)(ii) or an agreement under Section 6(b)(iii), as the case may be, has not been effected with respect to all Affected Transactions within 30 days after an Affected Party gives notice under Section 6(b)(i); or

(B) a Credit Event Upon Merger or an Additional Termination Event occurs, or a Tax Event Upon Merger occurs and the Burdened Party is not the Affected Party,

the Burdened Party in the case of a Tax Event Upon Merger, any Affected Party in the case of a Tax Event or an Additional Termination Event if there are two Affected Parties, or the Non-affected Party in the case of a Credit Event Upon Merger or an Additional Termination Event if there is only one Affected Party may, if the relevant Termination Event is then continuing, by not more than 20 days notice to the other party, designate a day not earlier than the day such notice is effective as an Early Termination Date in respect of all Affected Transactions.

(2) If at any time an Illegality or a Force Majeure Event has occurred and is then continuing and any applicable Waiting Period has expired:—

(A) Subject to clause (B) below, either party may, by not more than 20 days notice to the other party, designate (I) a day not earlier than the day on which such notice becomes effective as an Early Termination Date in respect of all Affected Transactions or (II) by specifying in that notice the Affected Transactions in respect of which it is designating the relevant day as an Early Termination Date, a day not earlier than two Local Business Days following the day on which such notice becomes effective as an Early Termination Date in respect of less than all Affected Transactions. Upon receipt of a notice designating an Early Termination Date in respect of less than all Affected Transactions, the other party may, by notice to the designating party, if such notice is effective on or before the day so designated, designate that same day as an Early Termination Date in respect of any or all other Affected Transactions.

(B) An Affected Party (if the Illegality or Force Majeure Event relates to performance by such party or any Credit Support Provider of such party of an obligation to make any payment or delivery under, or to compliance with any other material provision of, the relevant Credit Support Document) will only have the right to designate an Early Termination Date under Section 6(b)(iv)(2)(A) as a result of an Illegality under Section 5(b)(i)(2) or a Force Majeure Event under Section 5(b)(ii)(2) following the prior designation by the other party of an Early Termination Date, pursuant to Section 6(b)(iv)(2)(A), in respect of less than all Affected Transactions.

(c) ***Effect of Designation.***

(i) If notice designating an Early Termination Date is given under Section 6(a) or 6(b), the Early Termination Date will occur on the date so designated, whether or not the relevant Event of Default or Termination Event is then continuing.

(ii) Upon the occurrence or effective designation of an Early Termination Date, no further payments or deliveries under Section 2(a)(i) or 9(h)(i) in respect of the Terminated Transactions will be required to be made, but without prejudice to the other provisions of this Agreement. The amount, if any, payable in respect of an Early Termination Date will be determined pursuant to Sections 6(e) and 9(h)(ii).

(d) ***Calculations; Payment Date.***

(i) ***Statement.*** On or as soon as reasonably practicable following the occurrence of an Early Termination Date, each party will make the calculations on its part, if any, contemplated by Section 6(e) and will provide to the other party a statement (l) showing, in reasonable detail, such calculations (including any quotations, market data or information from internal sources used in making such calculations), (2) specifying (except where there are two Affected Parties) any Early Termination Amount payable and (3) giving details of the relevant account to which any amount payable to it is to be paid. In the absence of written confirmation from the source of a quotation or market data obtained in determining a Close-out Amount, the records of the party obtaining such quotation or market data will be conclusive evidence of the existence and accuracy of such quotation or market data.

(ii) ***Payment Date.*** An Early Termination Amount due in respect of any Early Termination Date will, together with any amount of interest payable pursuant to Section 9(h)(ii)(2), be payable (1) on the day on which notice of the amount payable is effective in the case of an Early Termination Date which is designated or occurs as a result of an Event of Default and (2) on the day which is two Local Business Days after the day on which notice of the amount payable is effective (or, if there are two Affected Parties, after the day on which the statement provided pursuant to clause (i) above by the second party to provide such a statement is effective) in the case of an Early Termination Date which is designated as a result of a Termination Event.

(e) ***Payments on Early Termination.*** If an Early Termination Date occurs, the amount, if any, payable in respect of that Early Termination Date (the "Early Termination Amount") will be determined pursuant to this Section 6(e) and will be subject to Section 6(f).

(i) ***Events of Default.*** If the Early Termination Date results from an Event of Default, the Early Termination Amount will be an amount equal to (1) the sum of (A) the Termination Currency Equivalent of the Close-out Amount or Close-out Amounts (whether positive or negative) determined by the Non-defaulting Party for each Terminated Transaction or group of Terminated Transactions, as the case may be, and (B) the Termination Currency Equivalent of the Unpaid Amounts owing to the Non-defaulting Party less (2) the Termination Currency Equivalent of the Unpaid Amounts owing to the Defaulting Party. If the Early Termination Amount is a positive number, the Defaulting Party will pay it to the Non-defaulting Party; if it is a negative number, the Non-defaulting Party will pay the absolute value of the Early Termination Amount to the Defaulting Party.

(ii) ***Termination Events.*** If the Early Termination Date results from a Termination Event:—

(1) *One Affected Party*. Subject to clause (3) below, if there is one Affected Party, the Early Termination Amount will be determined in accordance with Section 6(e)(i), except that references to the Defaulting Party and to the Non-defaulting Party will be deemed to be references to the Affected Party and to the Non-affected Party, respectively.

(2) *Two Affected Parties*. Subject to clause (3) below, if there are two Affected Parties, each party will determine an amount equal to the Termination Currency Equivalent of the sum of the Close-out Amount or Close-out Amounts (whether positive or negative) for each Terminated Transaction or group of Terminated Transactions, as the case may be, and the Early Termination Amount will be an amount equal to (A) the sum of (I) one-half of the difference between the higher amount so determined (by party "X") and the lower amount so determined (by party "Y") and (II) the Termination Currency Equivalent of the Unpaid Amounts owing to X less (B) the Termination Currency Equivalent of the Unpaid Amounts owing to Y. If the Early Termination Amount is a positive number, Y will pay it to X; if it is a negative number, X will pay the absolute value of the Early Termination Amount to Y.

(3) *Mid-Market Events*. If that Termination Event is an Illegality or a Force Majeure Event, then the Early Termination Amount will be determined in accordance with clause (1) or (2) above, as appropriate, except that, for the purpose of determining a Close-out Amount or Close-out Amounts, the Determining Party will:—

(A) if obtaining quotations from one or more third parties (or from any of the Determining Party's Affiliates), ask each third party or Affiliate (I) not to take account of the current creditworthiness of the Determining Party or any existing Credit Support Document and (II) to provide mid-market quotations; and

(B) in any other case, use mid-market values without regard to the creditworthiness of the Determining Party.

(iii) ***Adjustment for Bankruptcy.*** In circumstances where an Early Termination Date occurs because Automatic Early Termination applies in respect of a party, the Early Termination Amount will be subject to such adjustments as are appropriate and permitted by applicable law to reflect any payments or deliveries made by one party to the other under this Agreement (and retained by such other party) during the period from the relevant Early Termination Date to the date for payment determined under Section 6(d)(ii).

(iv) ***Adjustment for Illegality or Force Majeure Event.*** The failure by a party or any Credit Support Provider of such party to pay, when due, any Early Termination Amount will not constitute an Event of Default under Section 5(a)(i) or 5(a)(iii)(1) if such failure is due to the occurrence of an event or circumstance which would, if it occurred with respect to payment, delivery or compliance related to a Transaction, constitute or give rise to an Illegality or a Force Majeure Event. Such amount will (1) accrue interest and otherwise be treated as an Unpaid Amount owing to the other party if subsequently an Early Termination Date results from an Event of Default, a Credit Event Upon Merger or an Additional Termination Event in respect of which all outstanding Transactions are Affected Transactions and (2) otherwise accrue interest in accordance with Section 9(h)(ii)(2).

(v) ***Pre-Estimate.*** The parties agree that an amount recoverable under this Section 6(e) is a reasonable pre-estimate of loss and not a penalty. Such amount is payable for the loss of bargain and the loss of protection against future risks, and, except as otherwise provided in this Agreement, neither party will be entitled to recover any additional damages as a consequence of the termination of the Terminated Transactions.

(f) ***Set-Off.*** Any Early Termination Amount payable to one party (the "Payee") by the other party (the "Payer"), in circumstances where there is a Defaulting Party or where there is one Affected Party in the case where either a Credit Event Upon Merger has occurred or any other Termination Event in respect of which all outstanding Transactions are Affected Transactions has occurred, will, at the option of the Non-defaulting Party or the Non-affected Party, as the case may be ("X") (and without prior notice to the Defaulting Party or the Affected Party, as the case may be), be reduced by its set-off against any other amounts ("Other Amounts") payable by the Payee to the Payer (whether or not arising under this Agreement, matured or contingent and irrespective of the currency, place of payment or place of booking of the obligation). To the extent that any Other Amounts are so set off, those Other Amounts will be discharged promptly and in all respects. X will give notice to the other party of any set-off effected under this Section 6(f).

For this purpose, either the Early Termination Amount or the Other Amounts (or the relevant portion of such amounts) may be converted by X into the currency in which the other is denominated at the rate of exchange at which such party would be able, in good faith and using commercially reasonable procedures, to purchase the relevant amount of such currency.

If an obligation is unascertained, X may in good faith estimate that obligation and set off in respect of the estimate, subject to the relevant party accounting to the other when the obligation is ascertained.

Nothing in this Section 6(f) will be effective to create a charge or other security interest. This Section 6(f) will be without prejudice and in addition to any right of set-off, offset, combination of accounts, lien, right of retention or withholding or similar right or requirement to which any party is at any time otherwise entitled or subject (whether by operation of law, contract or otherwise).

**7. Transfer**

Subject to Section 6(b)(ii) and to the extent permitted by applicable law, neither this Agreement nor any interest or obligation in or under this Agreement may be transferred (whether by way of security or otherwise) by either party without the prior written consent of the other party, except that:—

(a) a party may make such a transfer of this Agreement pursuant to a consolidation or amalgamation with, or merger with or into, or transfer of all or substantially all its assets to, another entity (but without prejudice to any other right or remedy under this Agreement); and

(b) a party may make such a transfer of all or any part of its interest in any Early Termination Amount payable to it by a Defaulting Party, together with any amounts payable on or with respect to that interest and any other rights associated with that interest pursuant to Sections 8, 9(h) and 11.

Any purported transfer that is not in compliance with this Section 7 will be void.

**8. Contractual Currency**

(a) ***Payment in the Contractual Currency.*** Each payment under this Agreement will be made in the relevant currency specified in this Agreement for that payment (the "Contractual Currency"). To the extent permitted by applicable law, any obligation to make payments under this Agreement in the Contractual Currency will not be discharged or satisfied by any tender in any currency other than the Contractual Currency, except to the extent such tender results in the actual receipt by the party to which payment is owed, acting in good faith and using commercially reasonable procedures in converting the currency so tendered into the Contractual Currency, of the full amount in the Contractual Currency of all amounts payable in respect of this Agreement. If for any reason the amount in the Contractual Currency so received falls short of the amount in the Contractual Currency payable in respect of this Agreement, the party required to make the payment will, to the extent permitted by applicable law, immediately pay such additional amount in the Contractual Currency as may be necessary to compensate for the shortfall. If for any reason the amount in the Contractual Currency so received exceeds the amount in the Contractual Currency payable in respect of this Agreement, the party receiving the payment will refund promptly the amount of such excess.

(b) ***Judgments.*** To the extent permitted by applicable law, if any judgment or order expressed in a currency other than the Contractual Currency is rendered (i) for the payment of any amount owing in respect of this Agreement, (ii) for the payment of any amount relating to any early termination in respect of this Agreement or (iii) in respect of a judgment or order of another court for the payment of any amount described in clause (i) or (ii) above, the party seeking recovery, after recovery in full of the aggregate amount to which such party is entitled pursuant to the judgment or order, will be entitled to receive immediately from the other party the amount of any shortfall of the Contractual Currency received by such party as a consequence of sums paid in such other currency and will refund promptly to the other party any excess of the Contractual Currency received by such party as a consequence of sums paid in such other currency if such shortfall or such excess arises or results from any variation between the rate of exchange at which the Contractual Currency is converted into the currency of the judgment or order for the purpose of such judgment or order and the rate of exchange at which such party is able, acting in good faith and using

commercially reasonable procedures in converting the currency received into the Contractual Currency, to purchase the Contractual Currency with the amount of the currency of the judgment or order actually received by such party.

(c) ***Separate Indemnities.*** To the extent permitted by applicable law, the indemnities in this Section 8 constitute separate and independent obligations from the other obligations in this Agreement, will be enforceable as separate and independent causes of action, will apply notwithstanding any indulgence granted by the party to which any payment is owed and will not be affected by judgment being obtained or claim or proof being made for any other sums payable in respect of this Agreement.

(d) ***Evidence of Loss.*** For the purpose of this Section 8, it will be sufficient for a party to demonstrate that it would have suffered a loss had an actual exchange or purchase been made.

**9. Miscellaneous**

(a) ***Entire Agreement.*** This Agreement constitutes the entire agreement and understanding of the parties with respect to its subject matter. Each of the parties acknowledges that in entering into this Agreement it has not relied on any oral or written representation, warranty or other assurance (except as provided for or referred to in this Agreement) and waives all rights and remedies which might otherwise be available to it in respect thereof, except that nothing in this Agreement will limit or exclude any liability of a party for fraud.

(b) ***Amendments.*** An amendment, modification or waiver in respect of this Agreement will only be effective if in writing (including a writing evidenced by a facsimile transmission) and executed by each of the parties or confirmed by an exchange of telexes or by an exchange of electronic messages on an electronic messaging system.

(c) ***Survival of Obligations.*** Without prejudice to Sections 2(a)(iii) and 6(c)(ii), the obligations of the parties under this Agreement will survive the termination of any Transaction.

(d) ***Remedies Cumulative.*** Except as provided in this Agreement, the rights, powers, remedies and privileges provided in this Agreement are cumulative and not exclusive of any rights, powers, remedies and privileges provided by law.

(e) ***Counterparts and Confirmations.***

(i) This Agreement (and each amendment, modification and waiver in respect of it) may be executed and delivered in counterparts (including by facsimile transmission and by electronic messaging system), each of which will be deemed an original.

(ii) The parties intend that they are legally bound by the terms of each Transaction from the moment they agree to those terms (whether orally or otherwise). A Confirmation will be entered into as soon as practicable and may be executed and delivered in counterparts (including by facsimile transmission) or be created by an exchange of telexes, by an exchange of electronic messages on an electronic messaging system or by an exchange of e-mails, which in each case will be sufficient for all purposes to evidence a binding supplement to this Agreement. The parties will specify therein or through another effective means that any such counterpart, telex, electronic message or e-mail constitutes a Confirmation.

(f) ***No Waiver of Rights.*** A failure or delay in exercising any right, power or privilege in respect of this Agreement will not be presumed to operate as a waiver, and a single or partial exercise of any right, power or privilege will not be presumed to preclude any subsequent or further exercise, of that right, power or privilege or the exercise of any other right, power or privilege.

(g) ***Headings.*** The headings used in this Agreement are for convenience of reference only and are not to affect the construction of or to be taken into consideration in interpreting this Agreement.

(h) ***Interest and Compensation.***

(i) ***Prior to Early Termination.*** Prior to the occurrence or effective designation of an Early Termination Date in respect of the relevant Transaction:—

(1) *Interest on Defaulted Payments.* If a party defaults in the performance of any payment obligation, it will, to the extent permitted by applicable law and subject to Section 6(c), pay interest (before as well as after judgment) on the overdue amount to the other party on demand in the same currency as the overdue amount, for the period from (and including) the original due date for payment to (but excluding) the date of actual payment (and excluding any period in respect of which interest or compensation in respect of the overdue amount is due pursuant to clause (3)(B) or (C) below), at the Default Rate.

(2) *Compensation for Defaulted Deliveries.* If a party defaults in the performance of any obligation required to be settled by delivery, it will on demand (A) compensate the other party to the extent provided for in the relevant Confirmation or elsewhere in this Agreement and (B) unless otherwise provided in the relevant Confirmation or elsewhere in this Agreement, to the extent permitted by applicable law and subject to Section 6(c), pay to the other party interest (before as well as after judgment) on an amount equal to the fair market value of that which was required to be delivered in the same currency as that amount, for the period from (and including) the originally scheduled date for delivery to (but excluding) the date of actual delivery (and excluding any period in respect of which interest or compensation in respect of that amount is due pursuant to clause (4) below), at the Default Rate. The fair market value of any obligation referred to above will be determined as of the originally scheduled date for delivery, in good faith and using commercially reasonable procedures, by the party that was entitled to take delivery.

(3) *Interest on Deferred Payments.* If:—

(A) a party does not pay any amount that, but for Section 2(a)(iii), would have been payable, it will, to the extent permitted by applicable law and subject to Section 6(c) and clauses (B) and (C) below, pay interest (before as well as after judgment) on that amount to the other party on demand (after such amount becomes payable) in the same currency as that amount, for the period from (and including) the date the amount would, but for Section 2(a)(iii), have been payable to (but excluding) the date the amount actually becomes payable, at the Applicable Deferral Rate;

(B) a payment is deferred pursuant to Section 5(d), the party which would otherwise have been required to make that payment will, to the extent permitted by applicable law, subject to Section 6(c) and for so long as no Event of Default or Potential Event of Default with respect to that party has occurred and is continuing, pay interest (before as well as after judgment) on the amount of the deferred payment to the other party on demand (after such amount becomes payable) in the same currency as the deferred payment, for the period from (and including) the date the amount would, but for Section 5(d), have been payable to (but excluding) the earlier of the date the payment is no longer deferred pursuant to Section 5(d) and the date during the deferral period upon which an Event of Default or Potential Event of Default with respect to that party occurs, at the Applicable Deferral Rate; or

(C) a party fails to make any payment due to the occurrence of an Illegality or a Force Majeure Event (after giving effect to any deferral period contemplated by clause (B) above), it will, to the extent permitted by applicable law, subject to Section 6(c) and for so long as the event or circumstance giving rise to that Illegality or Force Majeure Event

continues and no Event of Default or Potential Event of Default with respect to that party has occurred and is continuing, pay interest (before as well as after judgment) on the overdue amount to the other party on demand in the same currency as the overdue amount, for the period from (and including) the date the party fails to make the payment due to the occurrence of the relevant Illegality or Force Majeure Event (or, if later, the date the payment is no longer deferred pursuant to Section 5(d)) to (but excluding) the earlier of the date the event or circumstance giving rise to that Illegality or Force Majeure Event ceases to exist and the date during the period upon which an Event of Default or Potential Event of Default with respect to that party occurs (and excluding any period in respect of which interest or compensation in respect of the overdue amount is due pursuant to clause (B) above), at the Applicable Deferral Rate.

(4) *Compensation for Deferred Deliveries.* If:—

(A) a party does not perform any obligation that, but for Section 2(a)(iii), would have been required to be settled by delivery;

(B) a delivery is deferred pursuant to Section 5(d); or

(C) a party fails to make a delivery due to the occurrence of an Illegality or a Force Majeure Event at a time when any applicable Waiting Period has expired,

the party required (or that would otherwise have been required) to make the delivery will, to the extent permitted by applicable law and subject to Section 6(c), compensate and pay interest to the other party on demand (after, in the case of clauses (A) and (B) above, such delivery is required) if and to the extent provided for in the relevant Confirmation or elsewhere in this Agreement.

(ii) ***Early Termination.*** Upon the occurrence or effective designation of an Early Termination Date in respect of a Transaction:—

(1) *Unpaid Amounts.* For the purpose of determining an Unpaid Amount in respect of the relevant Transaction, and to the extent permitted by applicable law, interest will accrue on the amount of any payment obligation or the amount equal to the fair market value of any obligation required to be settled by delivery included in such determination in the same currency as that amount, for the period from (and including) the date the relevant obligation was (or would have been but for Section 2(a)(iii) or 5(d)) required to have been performed to (but excluding) the relevant Early Termination Date, at the Applicable Close-out Rate.

(2) *Interest on Early Termination Amounts.* If an Early Termination Amount is due in respect of such Early Termination Date, that amount will, to the extent permitted by applicable law, be paid together with interest (before as well as after judgment) on that amount in the Termination Currency, for the period from (and including) such Early Termination Date to (but excluding) the date the amount is paid, at the Applicable Close-out Rate.

(iii) ***Interest Calculation.*** Any interest pursuant to this Section 9(h) will be calculated on the basis of daily compounding and the actual number of days elapsed.

**10. Offices; Multibranch Parties**

(a) If Section 10(a) is specified in the Schedule as applying, each party that enters into a Transaction through an Office other than its head or home office represents to and agrees with the other party that, notwithstanding the place of booking or its jurisdiction of incorporation or organisation, its obligations are the same in terms of recourse against it as if it had entered into the Transaction through its head or home office, except that a party will not have recourse to the head or home office of the other party in respect of any payment or delivery deferred pursuant to Section 5(d) for so long as the payment or delivery is so deferred. This representation and agreement will be deemed to be repeated by each party on each date on which the parties enter into a Transaction.

(b) If a party is specified as a Multibranch Party in the Schedule, such party may, subject to clause (c) below, enter into a Transaction through, book a Transaction in and make and receive payments and deliveries with respect to a Transaction through any Office listed in respect of that party in the Schedule (but not any other Office unless otherwise agreed by the parties in writing).

(c) The Office through which a party enters into a Transaction will be the Office specified for that party in the relevant Confirmation or as otherwise agreed by the parties in writing, and, if an Office for that party is not specified in the Confirmation or otherwise agreed by the parties in writing, its head or home office. Unless the parties otherwise agree in writing, the Office through which a party enters into a Transaction will also be the Office in which it books the Transaction and the Office through which it makes and receives payments and deliveries with respect to the Transaction. Subject to Section 6(b)(ii), neither party may change the Office in which it books the Transaction or the Office through which it makes and receives payments or deliveries with respect to a Transaction without the prior written consent of the other party.

**11. Expenses**

A Defaulting Party will on demand indemnify and hold harmless the other party for and against all reasonable out-of-pocket expenses, including legal fees, execution fees and Stamp Tax, incurred by such other party by reason of the enforcement and protection of its rights under this Agreement or any Credit Support Document to which the Defaulting Party is a party or by reason of the early termination of any Transaction, including, but not limited to, costs of collection.

**12. Notices**

(a) ***Effectiveness.*** Any notice or other communication in respect of this Agreement may be given in any manner described below (except that a notice or other communication under Section 5 or 6 may not be given by electronic messaging system or e-mail) to the address or number or in accordance with the electronic messaging system or e-mail details provided (see the Schedule) and will be deemed effective as indicated:—

(i) if in writing and delivered in person or by courier, on the date it is delivered;

(ii) if sent by telex, on the date the recipient's answerback is received;

(iii) if sent by facsimile transmission, on the date it is received by a responsible employee of the recipient in legible form (it being agreed that the burden of proving receipt will be on the sender and will not be met by a transmission report generated by the sender's facsimile machine);

(iv) if sent by certified or registered mail (airmail, if overseas) or the equivalent (return receipt requested), on the date it is delivered or its delivery is attempted;

(v) if sent by electronic messaging system, on the date it is received; or

(vi) if sent by e-mail, on the date it is delivered,

unless the date of that delivery (or attempted delivery) or that receipt, as applicable, is not a Local Business Day or that communication is delivered (or attempted) or received, as applicable, after the close of business on a Local Business Day, in which case that communication will be deemed given and effective on the first following day that is a Local Business Day.

(b) ***Change of Details.*** Either party may by notice to the other change the address, telex or facsimile number or electronic messaging system or e-mail details at which notices or other communications are to be given to it.

**13. Governing Law and Jurisdiction**

(a) ***Governing Law.*** This Agreement will be governed by and construed in accordance with the law specified in the Schedule.

(b) ***Jurisdiction.*** With respect to any suit, action or proceedings relating to any dispute arising out of or in connection with this Agreement ("Proceedings"), each party irrevocably:—

(i) submits:—

(1) if this Agreement is expressed to be governed by English law, to (A) the non-exclusive jurisdiction of the English courts if the Proceedings do not involve a Convention Court and (B) the exclusive jurisdiction of the English courts if the Proceedings do involve a Convention Court; or

(2) if this Agreement is expressed to be governed by the laws of the State of New York, to the non-exclusive jurisdiction of the courts of the State of New York and the United States District Court located in the Borough of Manhattan in New York City;

(ii) waives any objection which it may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over such party; and

(iii) agrees, to the extent permitted by applicable law, that the bringing of Proceedings in any one or more jurisdictions will not preclude the bringing of Proceedings in any other jurisdiction.

(c) ***Service of Process.*** Each party irrevocably appoints the Process Agent, if any, specified opposite its name in the Schedule to receive, for it and on its behalf, service of process in any Proceedings. If for any reason any party's Process Agent is unable to act as such, such party will promptly notify the other party and within 30 days appoint a substitute process agent acceptable to the other party. The parties irrevocably consent to service of process given in the manner provided for notices in Section 12(a)(i), 12(a)(iii) or 12(a)(iv). Nothing in this Agreement will affect the right of either party to serve process in any other manner permitted by applicable law.

(d) ***Waiver of Immunities.*** Each party irrevocably waives, to the extent permitted by applicable law, with respect to itself and its revenues and assets (irrespective of their use or intended use), all immunity on the grounds of sovereignty or other similar grounds from (i) suit, (ii) jurisdiction of any court, (iii) relief by way of injunction or order for specific performance or recovery of property, (iv) attachment of its assets (whether before or after judgment) and (v) execution or enforcement of any judgment to which it or its revenues or assets might otherwise be entitled in any Proceedings in the courts of any jurisdiction and irrevocably agrees, to the extent permitted by applicable law, that it will not claim any such immunity in any Proceedings.

**14. Definitions**

As used in this Agreement:—

***"Additional Representation"*** has the meaning specified in Section 3.

***"Additional Termination Event"*** has the meaning specified in Section 5(b).

***"Affected Party"*** has the meaning specified in Section 5(b).

***"Affected Transactions"*** means (a) with respect to any Termination Event consisting of an Illegality, Force Majeure Event, Tax Event or Tax Event Upon Merger, all Transactions affected by the occurrence of such Termination Event (which, in the case of an Illegality under Section 5(b)(i)(2) or a Force Majeure Event under Section 5(b)(ii)(2), means all Transactions unless the relevant Credit Support Document references only certain Transactions, in which case those Transactions and, if the relevant Credit Support Document constitutes a Confirmation for a Transaction, that Transaction) and (b) with respect to any other Termination Event, all Transactions.

***"Affiliate"*** means, subject to the Schedule, in relation to any person, any entity controlled, directly or indirectly, by the person, any entity that controls, directly or indirectly, the person or any entity directly or indirectly under common control with the person. For this purpose, "control" of any entity or person means ownership of a majority of the voting power of the entity or person.

***"Agreement"*** has the meaning specified in Section 1(c).

***"Applicable Close-out Rate"*** means:—

(a) in respect of the determination of an Unpaid Amount:—

(i) in respect of obligations payable or deliverable (or which would have been but for Section 2(a)(iii)) by a Defaulting Party, the Default Rate;

(ii) in respect of obligations payable or deliverable (or which would have been but for Section 2(a)(iii)) by a Non-defaulting Party, the Non-default Rate;

(iii) in respect of obligations deferred pursuant to Section 5(d), if there is no Defaulting Party and for so long as the deferral period continues, the Applicable Deferral Rate; and

(iv) in all other cases following the occurrence of a Termination Event (except where interest accrues pursuant to clause (iii) above), the Applicable Deferral Rate; and

(b) in respect of an Early Termination Amount:—

(i) for the period from (and including) the relevant Early Termination Date to (but excluding) the date (determined in accordance with Section 6(d)(ii)) on which that amount is payable:—

(1) if the Early Termination Amount is payable by a Defaulting Party, the Default Rate;

(2) if the Early Termination Amount is payable by a Non-defaulting Party, the Non-default Rate; and

(3) in all other cases, the Applicable Deferral Rate; and

(ii) for the period from (and including) the date (determined in accordance with Section 6(d)(ii)) on which that amount is payable to (but excluding) the date of actual payment:—

(1) if a party fails to pay the Early Termination Amount due to the occurrence of an event or circumstance which would, if it occurred with respect to a payment or delivery under a Transaction, constitute or give rise to an Illegality or a Force Majeure Event, and for so long as the Early Termination Amount remains unpaid due to the continuing existence of such event or circumstance, the Applicable Deferral Rate;

(2) if the Early Termination Amount is payable by a Defaulting Party (but excluding any period in respect of which clause (1) above applies), the Default Rate;

(3) if the Early Termination Amount is payable by a Non-defaulting Party (but excluding any period in respect of which clause (1) above applies), the Non-default Rate; and

(4) in all other cases, the Termination Rate.

***"Applicable Deferral Rate"*** means:—

(a) for the purpose of Section 9(h)(i)(3)(A), the rate certified by the relevant payer to be a rate offered to the payer by a major bank in a relevant interbank market for overnight deposits in the applicable currency, such bank to be selected in good faith by the payer for the purpose of obtaining a representative rate that will reasonably reflect conditions prevailing at the time in that relevant market;

(b) for purposes of Section 9(h)(i)(3)(B) and clause (a)(iii) of the definition of Applicable Close-out Rate, the rate certified by the relevant payer to be a rate offered to prime banks by a major bank in a relevant interbank market for overnight deposits in the applicable currency, such bank to be selected in good faith by the payer after consultation with the other party, if practicable, for the purpose of obtaining a representative rate that will reasonably reflect conditions prevailing at the time in that relevant market; and

(c) for purposes of Section 9(h)(i)(3)(C) and clauses (a)(iv), (b)(i)(3) and (b)(ii)(1) of the definition of Applicable Close-out Rate, a rate equal to the arithmetic mean of the rate determined pursuant to clause (a) above and a rate per annum equal to the cost (without proof or evidence of any actual cost) to the relevant payee (as certified by it) if it were to fund or of funding the relevant amount.

***"Automatic Early Termination"*** has the meaning specified in Section 6(a).

***"Burdened Party"*** has the meaning specified in Section 5(b)(iv).

***"Change in Tax Law"*** means the enactment, promulgation, execution or ratification of, or any change in or amendment to, any law (or in the application or official interpretation of any law) that occurs after the parties enter into the relevant Transaction.

***"Close-out Amount"*** means, with respect to each Terminated Transaction or each group of Terminated Transactions and a Determining Party, the amount of the losses or costs of the Determining Party that are or would be incurred under then prevailing circumstances (expressed as a positive number) or gains of the Determining Party that are or would be realised under then prevailing circumstances (expressed as a negative number) in replacing, or in providing for the Determining Party the economic equivalent of, (a) the material terms of that Terminated Transaction or group of Terminated Transactions, including the payments and deliveries by the parties under Section 2(a)(i) in respect of that Terminated Transaction or group of Terminated Transactions that would, but for the occurrence of the relevant Early Termination Date, have been required after that date (assuming satisfaction of the conditions precedent in

Section 2(a)(iii)) and (b) the option rights of the parties in respect of that Terminated Transaction or group of Terminated Transactions.

Any Close-out Amount will be determined by the Determining Party (or its agent), which will act in good faith and use commercially reasonable procedures in order to produce a commercially reasonable result. The Determining Party may determine a Close-out Amount for any group of Terminated Transactions or any individual Terminated Transaction but, in the aggregate, for not less than all Terminated Transactions. Each Close-out Amount will be determined as of the Early Termination Date or, if that would not be commercially reasonable, as of the date or dates following the Early Termination Date as would be commercially reasonable.

Unpaid Amounts in respect of a Terminated Transaction or group of Terminated Transactions and legal fees and out-of-pocket expenses referred to in Section 11 are to be excluded in all determinations of Close-out Amounts.

In determining a Close-out Amount, the Determining Party may consider any relevant information, including, without limitation, one or more of the following types of information:—

(i) quotations (either firm or indicative) for replacement transactions supplied by one or more third parties that may take into account the creditworthiness of the Determining Party at the time the quotation is provided and the terms of any relevant documentation, including credit support documentation, between the Determining Party and the third party providing the quotation;

(ii) information consisting of relevant market data in the relevant market supplied by one or more third parties including, without limitation, relevant rates, prices, yields, yield curves, volatilities, spreads, correlations or other relevant market data in the relevant market; or

(iii) information of the types described in clause (i) or (ii) above from internal sources (including any of the Determining Party's Affiliates) if that information is of the same type used by the Determining Party in the regular course of its business for the valuation of similar transactions.

The Determining Party will consider, taking into account the standards and procedures described in this definition, quotations pursuant to clause (i) above or relevant market data pursuant to clause (ii) above unless the Determining Party reasonably believes in good faith that such quotations or relevant market data are not readily available or would produce a result that would not satisfy those standards. When considering information described in clause (i), (ii) or (iii) above, the Determining Party may include costs of funding, to the extent costs of funding are not and would not be a component of the other information being utilised. Third parties supplying quotations pursuant to clause (i) above or market data pursuant to clause (ii) above may include, without limitation, dealers in the relevant markets, end-users of the relevant product, information vendors, brokers and other sources of market information.

Without duplication of amounts calculated based on information described in clause (i), (ii) or (iii) above, or other relevant information, and when it is commercially reasonable to do so, the Determining Party may in addition consider in calculating a Close-out Amount any loss or cost incurred in connection with its terminating, liquidating or re-establishing any hedge related to a Terminated Transaction or group of Terminated Transactions (or any gain resulting from any of them).

Commercially reasonable procedures used in determining a Close-out Amount may include the following:—

(1) application to relevant market data from third parties pursuant to clause (ii) above or information from internal sources pursuant to clause (iii) above of pricing or other valuation models that are, at the time of the determination of the Close-out Amount, used by the Determining Party in the regular course of its business in pricing or valuing transactions between the Determining Party and unrelated third parties that are similar to the Terminated Transaction or group of Terminated Transactions; and

(2) application of different valuation methods to Terminated Transactions or groups of Terminated Transactions depending on the type, complexity, size or number of the Terminated Transactions or group of Terminated Transactions.

***"Confirmation"*** has the meaning specified in the preamble.

***"consent"*** includes a consent, approval, action, authorisation, exemption, notice, filing, registration or exchange control consent.

***"Contractual Currency"*** has the meaning specified in Section 8(a).

***"Convention Court"*** means any court which is bound to apply to the Proceedings either Article 17 of the 1968 Brussels Convention on Jurisdiction and the Enforcement of Judgments in Civil and Commercial Matters or Article 17 of the 1988 Lugano Convention on Jurisdiction and the Enforcement of Judgments in Civil and Commercial Matters.

***"Credit Event Upon Merger"*** has the meaning specified in Section 5(b).

***"Credit Support Document"*** means any agreement or instrument that is specified as such in this Agreement.

***"Credit Support Provider"*** has the meaning specified in the Schedule.

***"Cross-Default"*** means the event specified in Section 5(a)(vi).

***"Default Rate"*** means a rate per annum equal to the cost (without proof or evidence of any actual cost) to the relevant payee (as certified by it) if it were to fund or of funding the relevant amount plus 1% per annum.

***"Defaulting Party"*** has the meaning specified in Section 6(a).

***"Designated Event"*** has the meaning specified in Section 5(b)(v).

***"Determining Party"*** means the party determining a Close-out Amount.

***"Early Termination Amount"*** has the meaning specified in Section 6(e).

***"Early Termination Date"*** means the date determined in accordance with Section 6(a) or 6(b)(iv).

***"electronic messages"*** does not include e-mails but does include documents expressed in markup languages, and ***"electronic messaging system"*** will be construed accordingly.

***"English law"*** means the law of England and Wales, and ***"English"*** will be construed accordingly.

***"Event of Default"*** has the meaning specified in Section 5(a) and, if applicable, in the Schedule.

***"Force Majeure Event"*** has the meaning specified in Section 5(b).

***"General Business Day"*** means a day on which commercial banks are open for general business (including dealings in foreign exchange and foreign currency deposits).

***"Illegality"*** has the meaning specified in Section 5(b).

***"Indemnifiable Tax"*** means any Tax other than a Tax that would not be imposed in respect of a payment under this Agreement but for a present or former connection between the jurisdiction of the government or taxation authority imposing such Tax and the recipient of such payment or a person related to such recipient (including, without limitation, a connection arising from such recipient or related person being or having been a citizen or resident of such jurisdiction, or being or having been organised, present or engaged in a trade or business in such jurisdiction, or having or having had a permanent establishment or fixed place of business in such jurisdiction, but excluding a connection arising solely from such recipient or related person having executed, delivered, performed its obligations or received a payment under, or enforced, this Agreement or a Credit Support Document).

***"law"*** includes any treaty, law, rule or regulation (as modified, in the case of tax matters, by the practice of any relevant governmental revenue authority), and ***"unlawful"*** will be construed accordingly.

***"Local Business Day"*** means (a) in relation to any obligation under Section 2(a)(i), a General Business Day in the place or places specified in the relevant Confirmation and a day on which a relevant settlement system is open or operating as specified in the relevant Confirmation or, if a place or a settlement system is not so specified, as otherwise agreed by the parties in writing or determined pursuant to provisions contained, or incorporated by reference, in this Agreement, (b) for the purpose of determining when a Waiting Period expires, a General Business Day in the place where the event or circumstance that constitutes or gives rise to the Illegality or Force Majeure Event, as the case may be, occurs, (c) in relation to any other payment, a General Business Day in the place where the relevant account is located and, if different, in the principal financial centre, if any, of the currency of such payment and, if that currency does not have a single recognised principal financial centre, a day on which the settlement system necessary to accomplish such payment is open, (d) in relation to any notice or other communication, including notice contemplated under Section 5(a)(i), a General Business Day (or a day that would have been a General Business Day but for the occurrence of an event or circumstance which would, if it occurred with respect to payment, delivery or compliance related to a Transaction, constitute or give rise to an Illegality or a Force Majeure Event) in the place specified in the address for notice provided by the recipient and, in the case of a notice contemplated by Section 2(b), in the place where the relevant new account is to be located and (e) in relation to Section 5(a)(v)(2), a General Business Day in the relevant locations for performance with respect to such Specified Transaction.

***"Local Delivery Day"*** means, for purposes of Sections 5(a)(i) and 5(d), a day on which settlement systems necessary to accomplish the relevant delivery are generally open for business so that the delivery is capable of being accomplished in accordance with customary market practice, in the place specified in the relevant Confirmation or, if not so specified, in a location as determined in accordance with customary market practice for the relevant delivery.

***"Master Agreement"*** has the meaning specified in the preamble.

***"Merger Without Assumption"*** means the event specified in Section 5(a)(viii).

***"Multiple Transaction Payment Netting"*** has the meaning specified in Section 2(c).

***"Non-affected Party"*** means, so long as there is only one Affected Party, the other party.

***"Non-default Rate"*** means the rate certified by the Non-defaulting Party to be a rate offered to the Non-defaulting Party by a major bank in a relevant interbank market for overnight deposits in the applicable currency, such bank to be selected in good faith by the Non-defaulting Party for the purpose of obtaining a representative rate that will reasonably reflect conditions prevailing at the time in that relevant market.

***"Non-defaulting Party"*** has the meaning specified in Section 6(a).

***"Office"*** means a branch or office of a party, which may be such party's head or home office.

***"Other Amounts"*** has the meaning specified in Section 6(f).

***"Payee"*** has the meaning specified in Section 6(f).

***"Payer"*** has the meaning specified in Section 6(f).

***"Potential Event of Default"*** means any event which, with the giving of notice or the lapse of time or both, would constitute an Event of Default.

***"Proceedings"*** has the meaning specified in Section 13(b).

***"Process Agent"*** has the meaning specified in the Schedule.

***"rate of exchange"*** includes, without limitation, any premiums and costs of exchange payable in connection with the purchase of or conversion into the Contractual Currency.

***"Relevant Jurisdiction"*** means, with respect to a party, the jurisdictions (a) in which the party is incorporated, organised, managed and controlled or considered to have its seat, (b) where an Office through which the party is acting for purposes of this Agreement is located, (c) in which the party executes this Agreement and (d) in relation to any payment, from or through which such payment is made.

***"Schedule"*** has the meaning specified in the preamble.

***"Scheduled Settlement Date"*** means a date on which a payment or delivery is to be made under Section 2(a)(i) with respect to a Transaction.

***"Specified Entity"*** has the meaning specified in the Schedule.

***"Specified Indebtedness"*** means, subject to the Schedule, any obligation (whether present or future, contingent or otherwise, as principal or surety or otherwise) in respect of borrowed money.

***"Specified Transaction"*** means, subject to the Schedule, (a) any transaction (including an agreement with respect to any such transaction) now existing or hereafter entered into between one party to this Agreement (or any Credit Support Provider of such party or any applicable Specified Entity of such party) and the other party to this Agreement (or any Credit Support Provider of such other party or any applicable Specified Entity of such other party) which is not a Transaction under this Agreement but (i) which is a rate swap transaction, swap option, basis swap, forward rate transaction, commodity swap, commodity option, equity or equity index swap, equity or equity index option, bond option, interest rate option, foreign exchange transaction, cap transaction, floor transaction, collar transaction, currency swap transaction, cross-currency rate swap transaction, currency option, credit protection transaction, credit swap, credit default swap, credit default option, total return swap, credit spread transaction, repurchase transaction, reverse repurchase transaction, buy/sell-back transaction, securities lending transaction, weather index transaction or forward purchase or sale of a security, commodity or other financial instrument or interest (including any option with respect to any of these transactions) or (ii) which is a type of transaction that is similar to any transaction referred to in clause (i) above that is currently, or in the future becomes, recurrently entered into in the financial markets (including terms and conditions incorporated by reference in such agreement) and which is a forward, swap, future, option or other derivative on one or more rates, currencies, commodities, equity securities or other equity instruments, debt securities or other debt instruments, economic indices or measures of economic risk or value, or other benchmarks against which payments or deliveries are to be made, (b) any combination of these transactions and (c) any other transaction identified as a Specified Transaction in this Agreement or the relevant confirmation.

***"Stamp Tax"*** means any stamp, registration, documentation or similar tax.

***"Stamp Tax Jurisdiction"*** has the meaning specified in Section 4(e).

***"Tax"*** means any present or future tax, levy, impost, duty, charge, assessment or fee of any nature (including interest, penalties and additions thereto) that is imposed by any government or other taxing authority in respect of any payment under this Agreement other than a stamp, registration, documentation or similar tax.

***"Tax Event"*** has the meaning specified in Section 5(b).

***"Tax Event Upon Merger"*** has the meaning specified in Section 5(b).

***"Terminated Transactions"*** means, with respect to any Early Termination Date, (a) if resulting from an Illegality or a Force Majeure Event, all Affected Transactions specified in the notice given pursuant to Section 6(b)(iv), (b) if resulting from any other Termination Event, all Affected Transactions and (c) if resulting from an Event of Default, all Transactions in effect either immediately before the effectiveness of the notice designating that Early Termination Date or, if Automatic Early Termination applies, immediately before that Early Termination Date.

***"Termination Currency"*** means (a) if a Termination Currency is specified in the Schedule and that currency is freely available, that currency, and (b) otherwise, euro if this Agreement is expressed to be governed by English law or United States Dollars if this Agreement is expressed to be governed by the laws of the State of New York.

***"Termination Currency Equivalent"*** means, in respect of any amount denominated in the Termination Currency, such Termination Currency amount and, in respect of any amount denominated in a currency other than the Termination Currency (the "Other Currency"), the amount in the Termination Currency determined by the party making the relevant determination as being required to purchase such amount of such Other Currency as at the relevant Early Termination Date, or, if the relevant Close-out Amount is determined as of a later date, that later date, with the Termination Currency at the rate equal to the spot exchange rate of the foreign exchange agent (selected as provided below) for the purchase of such Other Currency with the Termination Currency at or about 11:00 a.m. (in the city in which such foreign exchange agent is located) on such date as would be customary for the determination of such a rate for the purchase of such Other Currency for value on the relevant Early Termination Date or that later date. The foreign exchange agent will, if only one party is obliged to make a determination under Section 6(e), be selected in good faith by that party and otherwise will be agreed by the parties.

***"Termination Event"*** means an Illegality, a Force Majeure Event, a Tax Event, a Tax Event Upon Merger or, if specified to be applicable, a Credit Event Upon Merger or an Additional Termination Event.

***"Termination Rate"*** means a rate per annum equal to the arithmetic mean of the cost (without proof or evidence of any actual cost) to each party (as certified by such party) if it were to fund or of funding such amounts.

***"Threshold Amount"*** means the amount, if any, specified as such in the Schedule.

***"Transaction"*** has the meaning specified in the preamble.

***"Unpaid Amounts"*** owing to any party means, with respect to an Early Termination Date, the aggregate of (a) in respect of all Terminated Transactions, the amounts that became payable (or that would have become payable but for Section 2(a)(iii) or due but for Section 5(d)) to such party under Section 2(a)(i) or 2(d)(i)(4) on or prior to such Early Termination Date and which remain unpaid as at such Early Termination Date, (b) in respect of each Terminated Transaction, for each obligation under Section 2(a)(i) which was (or would have been but for Section 2(a)(iii) or 5(d)) required to be settled by delivery to such party on or prior to such Early Termination Date and which has not been so settled as at such Early Termination Date, an amount equal to the fair market value of that which was (or would have been) required to be delivered and (c) if the Early Termination Date results from an Event of Default, a Credit Event Upon Merger or an Additional Termination Event in respect of which all outstanding Transactions are Affected Transactions, any Early Termination Amount due prior to such Early Termination Date and which remains unpaid as of such Early Termination Date, in each case together with any amount of interest accrued or other

compensation in respect of that obligation or deferred obligation, as the case may be, pursuant to Section 9(h)(ii)(1) or (2), as appropriate. The fair market value of any obligation referred to in clause (b) above will be determined as of the originally scheduled date for delivery, in good faith and using commercially reasonable procedures, by the party obliged to make the determination under Section 6(e) or, if each party is so obliged, it will be the average of the Termination Currency Equivalents of the fair market values so determined by both parties.

***"Waiting Period"*** means:—

(a) in respect of an event or circumstance under Section 5(b)(i), other than in the case of Section 5(b)(i)(2) where the relevant payment, delivery or compliance is actually required on the relevant day (in which case no Waiting Period will apply), a period of three Local Business Days (or days that would have been Local Business Days but for the occurrence of that event or circumstance) following the occurrence of that event or circumstance; and

(b) in respect of an event or circumstance under Section 5(b)(ii), other than in the case of Section 5(b)(ii)(2) where the relevant payment, delivery or compliance is actually required on the relevant day (in which case no Waiting Period will apply), a period of eight Local Business Days (or days that would have been Local Business Days but for the occurrence of that event or circumstance) following the occurrence of that event or circumstance.

IN WITNESS WHEREOF the parties have executed this document on the respective dates specified below with effect from the date specified on the first page of this document.

| | |
|---|---|
| ..... | ..... |
| (Name of Party) | (Name of Party) |
| By: ..... | By: ..... |
| Name: | Name: |
| Title: | Title: |
| Date: | Date: |