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Commercial Law Intersections

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COMMERCIAL LAW INTERSECTIONS

Giuliano G. Castellano* & Andrea Tosato**

Commercial law is not a single, monolithic entity. It has grown into a dense thicket of subject-specific branches that govern a broad range of transactions and corporate actions. When one of these events falls concurrently within the purview of two or more of these commercial law branches – such as corporate law, intellectual property law, secured transactions law, conduct and prudential regulation – an overlap materializes. We refer to this legal phenomenon as a commercial law intersection (CLI). Some notable examples of transactions that feature CLIs include bank loans secured by shares, supply chain financing, patent cross-licensing, and blockchain-based initial coin offerings.

CLIs present a complex and multi-faceted challenge. The convergence of commercial law branches is frequently beset with failures in coordination that both distort incentives for market participants and increase transaction costs. Crucially, in the most severe cases, this affliction deters business actors from entering into the affected transactions altogether. The cries of scholars, judges, and practitioners lamenting these issues have grown ever louder yet methodical, comprehensive solutions remain elusive.

This article endeavors to fill this void. First, it provides a comprehensive analysis of CLIs and their coordination failures. Drawing from systems theory and jurisprudence, it then identifies the deficiencies of the most common approaches used to reconcile tensions between commercial law branches, before advancing the concepts of “coherence” and “unity of purpose” as the key to addressing such shortcomings. Finally, it formulates a two-step interpretive method that unties the Gordian knot created by CLI coordination failures.

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INTRODUCTION

Commercial law is not a single, monolithic entity. Over time, it has evolved into a fragmented bundle of subject-specific, legal and regulatory regimes that govern non-consumer transactions and corporate actions.¹ Some of these branches of commercial law stem from ancient mercantile practices, such as the law of sales, the law of agency, secured transactions law and corporate law.² Others have emerged in recent centuries to protect intellectual property, safeguard competition from unreasonable trade restraints and monopolies, and maintain the safety and soundness of the financial system.³

Reflecting the progressive decline of the common law, commercial law branches are increasingly codified in statutes and delegated administrative enactments.⁴ These sources of law are articulated in rules and principles. Rules are specific directives that are either prescriptive or proscriptive. Principles are general

¹ The idea of legal fragmentation was originally birthed in public international law literature; see INTERNATIONAL LAW COMMISSION, FRAGMENTATION OF INTERNATIONAL LAW: DIFFICULTIES ARISING FROM THE DIVERSIFICATION AND EXPANSION OF INTERNATIONAL LAW: REPORT STUDY GROUP ON THE FRAGMENTATION OF INTERNATIONAL LAW (finalized by Martti Koskenniemi), UN Doc. A/CN.4/L.682, 10-28 (2006) [hereinafter Koskenniemi Report] (providing an exhaustive analysis of the notion of “fragmentation of international law”); see generally Eyal Benvenisti & George W. Downs, *The Empire’s New Clothes: Political Economy and the Fragmentation of International Law*, 60 STAN. L. REV. 595 (2007); Martti Koskenniemi, *Fragmentation of International Law? Postmodern Anxieties*, 15 LEIDEN JOURNAL OF INTERNATIONAL LAW 553 (2002). For its application in commercial law in the sense of sectorial fragmentation see generally Giuliano G. Castellano & Marek Dubovec, *Credit Creation: Reconciling Legal and Regulatory Incentives*, 81 LAW & CONTEMP. PROBS. 63 (2018). (focusing on the fragmentation of legal and regulatory regimes governing secured credit); Joshua Karton, *Sectoral Fragmentation in Transnational Contract Law*, 21 U. PA. J. BUS. L. 142 (2018) (describing how commercial law has split across sectorial lines both at domestic and international level); Andrea Tosato, *Intellectual Property License Contracts: Reflections on a Prospective UNCITRAL Project*, 86 U. CIN. L. REV. 1251 (2018) (analyzing the fragmentation of the legal framework governing IP licensing); Panagiotis Delimatsis, *The Fragmentation of International Trade Law*, 45 JOURNAL OF WORLD TRADE 87 (2011) (exploring the phenomenon of fragmentation in international trade law); ROYSTON MILES GOODE, COMMERCIAL LAW IN THE NEXT MILLENNIUM 3–8 (1998) (providing an historical account of the fragmentation of English commercial law).

² See *infra* notes 27-35 and related discussion in text.

³ See *infra* notes 38-55 and related discussion in text.

⁴ On the codification of commercial law see generally WILLIAM D. POPKIN, STATUTORY INTERPRETATION: A PRAGMATIC APPROACH ch. 1 (2018) (for an exhaustive historical analysis); GOODE, *supra* note 1, at 3–7 (charting the trajectory of this phenomenon and describing the advent of commercial law codifications as the “pre-eminence of dispositive law”); Karl Llewellyn, *Why a Commercial Code*, 22 TENN. L. REV. 779 (1951–1953) (expounding the reasons for a commercial code in the US); Charles A. Bane, *From Holt and Mansfield to Story to Llewellyn and Mentschikoff: The Progressive Development of Commercial Law In Honor of Dean Soia Mentschikoff*, 37 U. MIAMI L. REV. 351 (1982) (offering a US perspective on this phenomenon).

indications that set out an objective which can be legal, economic, social or even moral in nature.⁵ Through the lens of general systems theory,⁶ commercial law branches can be understood as autonomous systems of rules and principles that supplement and derogate general doctrines of contract, tort and restitution law, to realize determinate policy aims.⁷

When a transaction or a corporate action falls concurrently within the purview of two or more commercial law branches an overlap materializes. We refer to this legal phenomenon as a commercial law intersection (CLI). For example, a transaction in which a bank extends a loan to a company and concurrently takes a security interest in the debtor's shares, gives rise to a CLI between secured

⁵ The terms "rules", "principles" and "standards" do not have fixed and universally accepted meanings in scholarly literature. In this article, we use the terms "rules" and "principles" borrowing from the terminology adopted by John Braithwaite, *Rules and Principles: A Theory of Legal Certainty*, 27 AUSTL. J. LEG. PHIL. 47, 47–49 (2002); and Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1688–90 (1976) (who speaks, on one hand, of "rules" and, on the other, of "standards" or "principles" or "policies"). Notably our definition of "rules" and "principles" are also aligned with those of "rules" and "standards" formulated by Pierre Schlag, *Rules and Standards*, 33 UCLA L. REV. 379, 381–83 (1986); Lawrence A. Cunningham, *A Prescription to Retire the Rhetoric of Principles-Based Systems in Corporate Law, Securities Regulation, and Accounting*, 60 VAND. L. REV. 1409, 1418 (2007); H. HART & A. SACKS, *THE LEGAL PROCESS* 155–58 (1958). Ronald Dworkin also builds his theory of adjudication on the concepts of "rules" and "principles", though his definition of the latter is broader than our own; see RONALD M. DWORKIN, *TAKING RIGHTS SERIOUSLY* 22–23 (1st ed. 1977).

⁶ General systems theory seeks to elaborate principles that apply to systems in general irrespective of whether they are physical, biological, mathematical or sociological in nature. See generally Ludwig Von Bertalanffy, *An Outline of General System Theory*, BRITISH JOURNAL FOR THE PHILOSOPHY OF SCIENCE (1950) (laying the foundations for general systems theory); *Id.* *General System Theory*, *Main Currents of Modern Thought* 75–83 (1955) (framing more expansively his theory); ANATOL RAPOPORT, *GENERAL SYSTEM THEORY: ESSENTIAL CONCEPTS & APPLICATIONS*, at i (1986). ("proponents of general systems theory purport to seek integrating principles sufficiently general to apply to many different contexts: physical, biological, psychological and social").

⁷ The application of general system theory to legal studies has a long-standing tradition. Most notably, the works of Gunther Teubner and Niklas Luhmann have been groundbreaking in advancing legal scholarship. See generally Gunther Teubner, *Introduction to Autopoietic Law*, in *AUTOPOIETIC LAW* 1 (Gunther Teubner ed., 1987); Niklas Luhmann, *The Unity of the Legal System*, in *AUTOPOIETIC LAW* 13 (Gunther Teubner ed., 1987) (positing that law and society are composed of sub-systems and that communication among those is problematic); Andreas Fischer-Lescano & Gunther Teubner, *Regime-Collisions: The Vain Search for Legal Unity in the Fragmentation of Global Law Diversity or Cacophony: New Sources of Norms in International Law Symposium*, 25 MICH. J. INT'L L. 999 (2004); Gunther Teubner, *Autopoiesis in Law and Society: A Rejoinder to Blankenburg*, LAW & SOC'Y REV. 291 (1984) (arguing that the law is fragmented into a series of sub-systems engendering collisions among rules).

transactions law and the legal regimes regulating securities and banking activities.⁸ In the past, CLIs concerned a narrow circle of market participants engaged in sophisticated transactions.⁹ However, over the past three centuries, the intensifying fragmentation of commercial law, coupled with the ascent of novel types of business interactions have caused CLIs to proliferate.¹⁰ In fact, governmental and non-governmental organizations, both at national and international levels, have emphasized that CLIs are forming across an expanding range of business sectors and that they affect equally small and medium enterprises (SMEs), as well as multinational corporations.¹¹

The growth of CLIs poses significant challenges. In principle, such convergences should generate composite regimes that synergistically enable persons to carry out their desired transaction. In practice, CLIs often suffer from failures in coordination. In some cases, the intersecting commercial law branches neither explicitly nor implicitly address the possibility of their overlap, spawning an ambiguous gap in the law that shrouds the transaction in question either partly or entirely. In others, the applicable rules and principles constitute an incongruous legal framework that is either rife with internal conflicts (antinomies) or impedes the achievement of the parties' intended outcomes.

⁸ See STEVEN L. HARRIS & CHARLES W. MOONEY, *SECURITY INTERESTS IN PERSONAL PROPERTY, CASES, PROBLEMS AND MATERIALS* 434-43 (6th ed. 2016) (providing an exhaustive analysis of this overlap).

⁹ This is the case, for instance, of international sales of commodities; see *infra* notes 62-64 and accompanying text.

¹⁰ On the proliferation and genesis and diffusion of transactions involving CLIs see *infra* subpart I.B.

¹¹ UNCITRAL, *Draft Legislative Guide On Secured Transactions*, 65 (2019) advanced copy available at <https://uncitral.un.org/en/texts/securityinterests> [hereinafter UNCITRAL Practice Guide] (emphasizing “the need for closer coordination between the UNCITRAL Model Law on Secured Transactions and the national prudential regulatory framework”); UNCITRAL, *UNCITRAL Legislative Guide on Secured Transactions* 1-2, 22, 46, 53, 80 (Dec. 14, 2007), https://www.uncitral.org/pdf/english/texts/security-lg/e/09-82670_Ebook-Guide_09-04-10English.pdf [hereinafter UNCITRAL Legislative Guide]; UNCITRAL, *UNCITRAL Legislative Guide on Secured Transactions—Supplement on Security Rights in Intellectual Property* 1-3 (June 29, 2010), http://www.uncitral.org/pdf/english/texts/security-lg/e/10-57126_Ebook_Suppl_SR_IP.pdf [hereinafter UNCITRAL IP Annex]; UNCITRAL, *UNCITRAL Model Law on Secured Transactions* (2016), http://www.uncitral.org/pdf/english/texts/security/ML_ST_E_ebook.pdf (hereinafter UNCITRAL Model Law) [hereinafter UNCITRAL Model Law]. WORLD BANK GROUP, *KNOWLEDGE GUIDE ON SECURED TRANSACTIONS, COLLATERAL REGISTRIES AND MOVABLE ASSET-BASED FINANCING* 4 (2019) (technical contents prepared by Marek Dubovec and Giuliano G. Castellano) [hereinafter WBG Knowledge Guide] (indicating the need for coordination between legal and regulatory regimes to promote financial inclusion).

Gaps and incongruences are not uncommon in the law. Their presence in CLIs should not be deemed fatal. Indeed, legal scholars have long recognized that varying degrees of vagueness pervade most legal frameworks.¹² Coextensively, considerations over the “optimal precision” of rules permeate the entire spectrum of law-making. Seeking a balance between transparency, accessibility, and congruence is paramount to design rules which are clear, flexible, and aligned with overarching policy objectives.¹³ For instance, the debates concerning the adoption of principle-based or rule-based approaches to regulate technological advancements in finance (FinTech) echo a deeper struggle to find equilibrium between financial innovation and the safety, soundness, and integrity of markets.¹⁴

Crucially, the particular gaps and incongruences that beset CLIs are problematic because they have far-reaching negative consequences. Albeit with scalar intensity, CLI coordination failures foist upon market participants an inadequate and perilous legal infrastructure, as opposed to a flexible framework; the applicable regime is either difficult to understand and operate or riddled with uncertainty regarding its outcomes. In all these cases, there is a distortion of incentives for the parties involved and, ultimately, an increase in transaction costs. In the most severe cases, CLI coordination failures have a chilling effect which deters the parties from entering into the affected transactions altogether. Notably,

¹² Vagueness in law is a topic that has fascinated legal scholars across numerous generations. An exhaustive exploration of this notion lies beyond the scope of the present inquiry; see generally TIMOTHY A.O. ENDICOTT, *VAGUENESS IN LAW* (1 edition ed. 2001); Jeremy Waldron, *Vagueness in Law and Language: Some Philosophical Issues Symposium: Void for Vagueness*, 82 CAL L. REV. 509 (1994). For a collection of valuable attempts to link legal with philosophical thinking about vagueness, see Symposium, *Vagueness and Law*, 7 LEGAL THEORY 369 (2001).

¹³ A seminal contribution to this debate was offered by Professor Colin Diver who noted that the design of administrative rules requires to consider a set of key tradeoffs between “transparency” (i.e., the clarity of the words used), “accessibility” (i.e., the ability to be applied to a variety of practical situations); and “congruence” (i.e., the alignment with the policy aims it intends to achieve); see Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65 (1983). Identifying an equilibrium between determinacy and flexibility of rules is a multidimensional issue that is echoed in the debates concerning the aptness of general principles and detailed rules to achieve policy aims; see, e.g., Neil Gunningham & Darren Sinclair, *Integrative Regulation: A Principle-Based Approach to Environmental Policy*, 24 LAW & SOC. INQUIRY 853 (1999) (focusing on environmental law issues and proposing to implement rules with a lower level of detail in order to achieve policy aims).

¹⁴ Douglas W. Arner et al., *The Evolution of FinTech: A New Post-Crisis Paradigm*, 47 GEO. J. INT’L L. 1271, 1311–13 (2016). (noting that principle-based regulation, while providing for more flexibility, might lack of sufficient clarity, whereas rule-based regulation might bolster investors’ confidence towards nascent FinTech companies). See also generally Chris Brummer & Yesha Yadav, *Fintech and the Innovation Trilemma*, 107 GEO. L.J. 235 (2019) (noting the tension between regulatory clarity and flexibility).

scholars, judges, practitioners and a comprehensive cohort of sectorial, governmental and non-governmental organizations have repeatedly sounded the alarm about these issues.¹⁵ Nevertheless, principled and systematic solutions have not been forthcoming.

This article endeavors to fill this void, by formulating a method to address CLI coordination failures.

As a preliminary step, we investigate whether interpretive approaches that are commonly used to overcome gaps and incongruences in the law offer useful tools to tackle CLI coordination failures.¹⁶ The focus of this analysis concentrates on hermeneutical canons designed to achieve consistency between multiple legal regimes, such as *lex specialis* and *lex superior*. Upon close scrutiny, they all share a common shortcoming. Their application leads to one of the intersecting branches bluntly prevailing over the others in the CLI. Such an approach does not integrate harmoniously the applicable provisions of the intersecting branches, rather it spawns a markedly lopsided regime that exacerbates coordination failures and their negative consequences.

Having identified the weaknesses of orthodox interpretive approaches, we advance the view that “coherence” is the key notion to address CLI coordination

¹⁵ Scholars have repeatedly emphasized the need for a better coordination between branches of commercial law; *see generally* Catherine Walsh, *The Role of Party Autonomy in Determining the Third-Party Effects of Assignments: Of “Secret Laws” and “Secret Liens,”* 81 LAW AND CONTEMPORARY PROBLEMS 181 (2018) (emphasizing the need for coordination across commercial branches to expand access to credit); Giuliano G. Castellano & Marek Dubovec, *Global Regulatory Standards and Secured Transactions Law Reforms: At the Crossroad between Access to Credit and Financial Stability*, 41 FORDHAM INT’L L.J. 531 (2018) (focusing on the intersection between secured transactions law and prudential regulation); Cunningham, *supra* note 5 (denouncing the complexities of the intersections of corporate law, securities regulation, and accounting). International organizations have indicated coordination issues as problematic; *see, e.g.,* the UNCITRAL Practice Guide *supra* note 11 at 9 (indicating that the applicability of secured transactions law in a given legal system might be restricted by other laws); WBG Knowledge Guide *supra* note 11 at 35, referring to Castellano & Dubovec, *supra*. (indicating that the “lack of coordination between [...] areas of law could hinder both access to credit and financial stability.”).

¹⁶ Though some commentators have drawn a distinction between the notions of “construing” and “interpreting” the law, in this article we treat the two as coextensive. On interpretive methods to address gaps and incongruences *see generally* AHARON BARAK, *PURPOSIVE INTERPRETATION IN LAW* 61–83 (2005); EARL T. CRAWFORD, *THE CONSTRUCTION OF STATUTES* 263–71 (1940); OLIVER JONES, *BENNION ON STATUTORY INTERPRETATION* ch. 12–15 (7th ed. 2019); RUPERT CROSS, *STATUTORY INTERPRETATION* 48–69 (3rd Revised ed. edition ed. 1995); FRANCIS A. BENNION, *UNDERSTANDING COMMON LAW LEGISLATION: DRAFTING AND INTERPRETATION* 41–54 (2009); SUTHERLAND *STATUTES & STATUTORY CONSTRUCTION* ch. 36, 37, 40 (Norman J. Singer & J. D. Shambie Singer eds., 2019).

failures.¹⁷ Drawing from legal theory and philosophy of mathematics, we propose that the rules and principles forming a CLI should be construed to be simultaneously consistent with each other and their appertaining commercial law branches, and that such consistency should be achieved through a “unity of purpose”.¹⁸ To this end, we argue that such unity of purpose should be understood as the underlying socio-economic policies and political objectives that the CLI in question is intended to achieve. Moreover, in line with an ample body of jurisprudence theories, we posit that it should be extrapolated from a combined assessment of textual and contextual elements.

Building on this theoretical framework, we formulate a two-step method to address CLI coordination failures. The first step is deconstructive in nature. It involves identifying precisely the rules and principles that engender the CLI coordination failure under consideration, then appraising their systemic relevance within their appertaining commercial law branch. For this assessment, we propose a systemization that visualizes commercial law branches as tripartite spherical structures, comprised of a core, a middle sphere and an outer sphere. We posit that each rule and principle of a commercial law branch can be placed within one of these three concentric spheres, in decreasing order of systemic relevance from the core to the outer sphere. The second step focuses on fostering coherence. We propose that, having established whether the rules and principles entangled in a CLI are related to the core, middle, or outer sphere of their respective branches, one must tailor the approach to resolution accordingly. Our analysis shows that instances which involve the core of one of the intersecting branches tend to require nuanced normative assessments. By contrast, coordination failures that only touch

¹⁷ The body of scholarship exploring the notion of coherence is vast. See generally Jaap Hage, *Law and Coherence*, 17 *RATIO JURIS* 87 (2004); Stefano Berteia, *The Arguments from Coherence: Analysis and Evaluation*, 25 *OXFORD J. LEGAL STUD.* 369 (2005); Veronica Rodriguez-Blanco, *A Revision of the Constitutive and Epistemic Coherence Theories in Law*, 14 *RATIO JURIS* 212 (2001); Aldo Schiavello, *On Coherence and Law: An Analysis of Different Models*, 14 *RATIO JURIS* 233 (2001); Aleksander Peczenik, *Law, Morality, Coherence and Truth*, 7 *RATIO JURIS* 146 (1994); Joseph Raz, *The Relevance of Coherence*, 72 *B.U. L. REV.* 273 (1992); Susan L. Hurley, *Coherence, Hypothetical Cases, and Precedent*, 10 *OXFORD J. LEGAL STUD.* 221 (1990); Robert Alexy & Aleksander Peczenik, *The Concept of Coherence and Its Significance for Discursive Rationality*, 3 *RATIO JURIS* 130 (1990); Neil MacCormick, *Coherence in Legal Justification*, in *THEORY OF LEGAL SCIENCE* 235 (Aleksander Peczenik et al. eds., 1984); Kenneth J. Kress, *Legal Reasoning and Coherence Theories: Dworkin's Rights Thesis, Retroactivity, and the Linear Order of Decisions*, 72 *CALIF. L. REV.* 369 (1984); AULIS AARNIO, *PHILOSOPHICAL PERSPECTIVES IN JURISPRUDENCE* (1983).

¹⁸ See MacCormick, *supra* note 17; Raz, *supra* note 17. (who speaks of “unity of principle”). See *infra* subpart II.B.

upon the middle and outer sphere of the intersecting branches present a path to legal coherence that is not as tortuous.

This Article proceeds in three parts. In Part I, we describe the socio-economic factors that fueled the inception and rise of CLIs. This is followed by a systematic assessment of both the coordination failures that frequently surface when commercial law branches overlap, and the ensuing negative consequences for market participants. In Part II, we show that the gaps and incongruences that vex CLIs cannot be overcome by relying on interpretive methods that simplistically favor one of the intersecting branches over the other. We suggest instead that an approach centered on the notion of legal coherence is required. In Part III, we present our method for addressing CLI coordination failures. We expound the assessments to be conducted, the factors to be weighed and the range of possible interventions that pave the path to attaining legal coherence.

I. THE EMERGENCE OF COMMERCIAL LAW INTERSECTIONS (CLIs)

The global economic landscape has developed at an unprecedented pace over the past three centuries. The first, second, third and fourth industrial revolutions have reshaped the factors of production and dynamics of consumption.¹⁹ An ever-expanding cohort of participants are engaged in the demand or supply side of markets that are increasingly international, interconnected, and competitive.²⁰ Coextensively, standardized, depersonalized, multipartite dealings have soared in number and relevance, facilitated by the advent of digitization, automation, data availability, and real-time processing capabilities.²¹

¹⁹ See generally KLAUS SCHWAB, *THE FOURTH INDUSTRIAL REVOLUTION* (2017) (positing that the first industrial revolution (1760-1840) was characterized by the advent of the steam engines and rail roads. The second (late 19th century-early 20th century) by mass production and electrification. The third (1960-1999) by semiconductors, mainframes, personal computing and the internet. The fourth (2000-present) by mobile internet, sensors, actuators, machine learning and artificial intelligence).

²⁰ See generally THOMAS FRIEDMAN, *THE WORLD IS FLAT* (2005) (theorizing that globalization has opened markets to large segments of the world population who previously had no such access markedly and, in turn, levelled the competitive playing field); JOSEPH E. STIGLITZ, *GLOBALIZATION AND ITS DISCONTENTS REVISITED: ANTI-GLOBALIZATION IN THE ERA OF TRUMP* (2017) (describing the dislocations and displacements caused by globalization, standardization, digitization and automation, and analyzing their negative effects on determinate segments of society).

²¹ See generally PATRICK SELIM ATIYAH, *1 THE RISE AND FALL OF FREEDOM OF CONTRACT* (1979) (for an historical account of the effect of these socio-economic developments on the cardinal

Confronted with novel business organizations, activities, interactions and unprecedented capital flows, commercial law has responded by progressively splintering into subject-specific branches.²² However, the gradual proliferation of multi-faceted transactions that touch upon diverse aspects of commercial law has caused overlaps between these co-existing regimes. On occasion, these convergences have produced harmonious coalescences that both facilitate voluntary exchanges and the efficient allocation of capital. With increasing frequency, however, they have been hindered by failures in coordination of varying severity.²³

This part begins by providing a narrative account of the process of fragmentation of commercial law and the multiplication of its constituent strands. Thereafter, it expounds the dynamics that have led commercial law branches to increasingly cross paths and, in turn, give rise to growing numbers of CLIs. This is followed by an analysis of both the coordination failures that often beset these intersections and their negative consequences.

A. *The Fragmentation of Commercial Law*

Commercial law has become increasingly fragmented over the past three centuries.²⁴ At the domestic level, this phenomenon has been evidenced by the inexorable specialization of legal professionals and adjudicators, as well as the increasing recourse to legal codification and delegated rulemaking.²⁵ At the international level, it has been reflected in the rise of subject-specific multilateral treaties and soft law instruments that, while promoting legal harmonization, have

common law doctrines governing commercial contracts). Friedrich Kessler, *Contracts of Adhesion—Some Thoughts about Freedom of Contract*, 43 COLUM. L. REV. 629 (analyzing the rise of consumer contracts of adhesion); David A. Hoffman, *Relational Contracts of Adhesion*, 85 U. CHI. L. REV. 1395 (2018) (exploring the impact that these developments have had in consumer contracts, analyzing “precatory terms” and the theorizing the emergence of “relational contracts of adhesion”); HEIN KÖTZ, *EUROPEAN CONTRACT LAW* 1–17 (2017) (highlighting these changes and emphasizing the progressively harmonized response of continental European contract law).

²² See *infra* subpart I.A.

²³ See *infra* subpart I.B.

²⁴ See generally INTERNATIONAL LAW COMMISSION, *supra* note 1 (on the notion of fragmentation of the law); Karton, *supra* note 1 (on the fragmentation of commercial law along sectorial lines); Delimatsis, *supra* note 1 (on the fragmentation of international trade law).

²⁵ See generally GOODE, *supra* note 1 (charting the trajectory of this phenomenon and describing the advent of commercial law codifications as the “pre-eminence of dispositive law”); Bane, *supra* note 4 (offering a US perspective on this phenomenon).

entrenched sectorial compartmentalization.²⁶ Globally, this fragmentation has advanced along two axes.

First, ancient regimes of commercial law have been compelled to renovate and evolve to keep pace with novel demands of economic actors. For example, the law of sales ventured beyond its Roman law and medieval core to accommodate the 18th century expansion in maritime and fluvial trade;²⁷ incrementally, rules for executory agreements, implied warranties, and *bona fide* purchasers were forged, alongside interim remedies and market-based criteria for the quantification of expectation interest damages.²⁸ More recently, at a domestic level, laws of sale have had to grapple with bulk sales, electronic contracting and goods with embedded software;²⁹ internationally, the acceleration of global trade has led to a unified legal framework for cross-border sales through binding multilateral treaties.³⁰

In similar vein, secured transactions law has undergone deep transformations to accommodate the ingenuity of credit markets. Ancient

²⁶ See generally 9 PHILIP R. WOOD, *THE LAW AND PRACTICE OF INTERNATIONAL FINANCE* (2019); JAN H. DALHUISEN, *DALHUISEN ON TRANSNATIONAL COMPARATIVE, COMMERCIAL, FINANCIAL AND TRADE LAW* (7 edition ed. 2019); ROY M. GOODE, *THE DEVELOPMENT OF TRANSNATIONAL COMMERCIAL LAW: POLICIES AND PROBLEMS* (2018) (for comprehensive account of this phenomenon); ROY GOODE ET AL., *TRANSNATIONAL COMMERCIAL LAW: INTERNATIONAL INSTRUMENTS AND COMMENTARY* (2012) (providing an encyclopedic overview of transnational commercial law instruments); BORIS KOZOLCHYK, *COMPARATIVE COMMERCIAL CONTRACTS: LAW, CULTURE AND ECONOMIC DEVELOPMENT* (2d ed. 2019) (for a North American perspective).

²⁷ See generally JOHN BARON MOYLE, *THE CONTRACT OF SALE IN THE CIVIL LAW* (1892) (for an exhaustive comparison of 18th century sales laws in England, France and Scotland).

²⁸ This is not to suggest that many of these features did not exist in previous centuries, rather that they became prominent with first industrial revolution. See generally PATRICK SELIM ATIYAH, *THE RISE AND FALL OF FREEDOM OF CONTRACT* (1979); Morton J. Horwitz, *The Historical Foundations of Modern Contract Law*, 87 HARV. L. REV. 917 (1974) (arguing that the socio-economic impact of the first industrial drove jurists to attack equitable conceptions of exchange as inimical to emerging contract principles such as expectation damages); A.W.B. Simpson, *The Horwitz Thesis and the History of Contracts*, 46 U. CHI. L. REV. 533 (1979). (criticizing Horowitz's thesis and suggesting that the transformation process of commercial contracts had deeper roots).

²⁹ The history of the attempted revisions to U.C.C. Article 2 bear witness to these challenges; see Richard E. Speidel, *Revising UCC Article 2: A View from the Trenches Symposium: Perspectives on the Uniform Laws Revision Process*, 52 HASTINGS L.J. 607 (2001). (describing the reasons underlying attempts to revise U.C.C. Article 2); Henry Gabriel, *Uniform Commercial Code Article Two Revisions: The View of the Trenches*, 23 BARRY L. REV. 129 (2018) (examining attempts to revise U.C.C. Article 2 between 1999-2003).

³⁰ See generally HENRY D. GABRIEL, *CONTRACTS FOR THE SALE OF GOODS: A COMPARISON OF U.S. AND INTERNATIONAL LAW* (2d ed. 2009) (for a US perspective); Larry A. DiMatteo, *The Curious Case of Transborder Sales Law: A Comparative Analysis of CESL, CISG, and the UCC*, in *CISG VS. REGIONAL SALES LAW UNIFICATION: WITH A FOCUS ON THE NEW COMMON EUROPEAN SALES LAW*, 25-57 (Magnus Ulrich ed., 2012) (providing a comparative analysis of the CISG, CESL and the UCC).

possessory security devices, such as pledges and liens,³¹ have given way to non-possessory interests recorded in public registries.³² Concurrently, floating liens have become common practice, effacing historically-entrenched opposition.³³ Furthermore, both domestically and internationally, this branch of commercial law has moved away from its traditional arrangement into distinct security devices, veering towards a functional approach that treats all contractually-created rights in personal property homogenously for the purpose of securing an obligation uniformly.³⁴

In corporate law, the balance between the interests of managers, shareholders, and a variety of stakeholders has profoundly changed over the past three centuries.³⁵ The burgeoning involvement of institutional investors in

³¹ See John H. Wigmore, *Pledge-Idea a Study in Comparative Legal Ideas*, 10 HARV. L. REV. 389, 401–5 (1897) (analyzing the idea of pledge in the Pentateuch, the Mishna and the Ghemara); FRITZ SCHULZ, *CLASSICAL ROMAN LAW* 400–427 (1951) (for an analysis of consensual secured transactions in classical Roman law); Roger J. Goebel, *Reconstructing the Roman Law of Real Security*, 36 TUL. L. REV. 29 (1961) (offering comprehensive history of the evolution of Roman secured transactions law).

³² See generally George Lee Jr. Flint & Marie Juliet Alfaro, *Secured Transactions History: The First Chattel Mortgage Acts in the Anglo-American World*, 30 WM. MITCHELL L. REV. 1403 (2004) (charting the history of non-possessory security interests in US law); GRANT GILMORE, *SECURITY INTERESTS IN PERSONAL PROPERTY* 5–250 (1965). GRANT GILMORE, *SECURITY INTERESTS IN PERSONAL PROPERTY* 5–250 (1965) (for an historical account of US secured transactions law prior to U.C.C. Article 9).

³³ See GILMORE, *supra* note 32, at 354–65 (charting the history of floating liens in the US and explaining their treatment under U.C.C. Article 9); Peter F. Coogan, *Article 9 of the Uniform Commercial Code: Priorities among Secured Creditors and the “Floating Lien,”* 72 HARV. L. REV. 838 (1959) (explicating the treatment of floating liens under U.C.C. Article 9).

³⁴ At the international level, the preeminent examples of this shift is provided by the UNCITRAL Model Law and the ORG. OF AM. STATES (OAS), *MODEL INTER-AMERICAN LAW ON SECURED TRANSACTIONS* (2002), https://www.oas.org/dil/Model_Law_on_Secured_Transactions.pdf [<https://perma.cc/2YG5-P37J>]. At the domestic level see Giuliano G. Castellano & Andrea Tosato, *Personal Property Security Law: International Ambitions And National Realities*, in *INTERNATIONAL BUSINESS LAW* 283 (Lucio Ghia ed., 2d ed. 2019) (for the Italian legal framework); Teresa Rodríguez de las Heras Ballell & Jorge Feliu Rey, *Modernisation of the Law of Secured Transactions in Spain*, in *SECURED TRANSACTIONS LAW REFORM* 417 (Louise Gullifer & Orkun Akseli eds., 2016) (for the Spanish legal framework); Moritz Brinkmann, *The Peculiar Approach of German Law in the Field of Secured Transactions and Why It Has Worked (So Far)*, in *SECURED TRANSACTIONS LAW REFORM* 339 (Louise Gullifer & Orkun Akseli eds., 2016) (for the German legal framework); LOUISE GULLIFER, *GOODE ON LEGAL PROBLEMS OF CREDIT AND SECURITY*, at (for the English legal framework) (6th ed. 2018); MAREK DUBOVEC & LOUISE GULLIFER, *SECURED TRANSACTIONS LAW REFORM IN AFRICA* (2019) (for an overview of African jurisdictions).

³⁵ For an historical analysis of the evolution of corporate law and the main drivers for change see generally P.M. Vasudev, *Corporate Law and Its Efficiency: A Review of History*, 50 AM.

ownership structures as well as in the decisioning-making processes of modern corporations, has contributed to a shift in their governance.³⁶ Corporate failures, the credit crunch of 2007-2008, the global financial crisis of 2009, the European debt crisis of 2011-2012 as well as a widespread demand for greater accountability of large private entities have spawned, *inter alia*, legal and regulatory interventions to pierce the corporate veil.³⁷ The result has been a reconfiguration of the reach and applicability of corporate law.

Second, commercial law has expanded to regulate segments of the business world that either did not exist previously or did not warrant special legislation. For example, in the 18th century, print commerce and steam-powered mechanization spurred the seminal enactment of statutes that conceptualized copyright and patents as personal proprietary rights.³⁸ A hundred years later, the expansion of consumer markets propelled the adoption of the legal framework for registered trademarks to eradicate the use of confusing trade signs among competitors.³⁹ Over time, IP law has shown creativity and adaptability in response to electrification, electronics,

J. LEGAL HIST. 237 (2008); Robert B. Thompson, *Why New Corporate Law Arises: Implications for the Twenty-First Century*, in THE CORPORATE CONTRACT IN CHANGING TIMES (Steven Davidoff Solomon & Thomas S. Randall eds., 2019). (noting that corporate law has progressively acquired different attitudes towards key aspects of the life of an incorporated entity, such as its legal personality and autonomy).

³⁶ See Zohar Goshen & Sharon Hannes, *The Death of Corporate Law*, 94 N.Y.U. L. REV. 263, 263–65 (2019). (arguing that “the transformation equity markets from retail to institutional ownership has relocated control over corporations from courts to markets and has led to the death of corporate law”); Yesha Yadav, *Too-Big-to-Fail Shareholders*, 103 MINN. L. REV. 587 (2018). (highlighting the significance of institutional shareholders in bank governance as a source of “private monitoring”); Paul H. Edelman et al., *Shareholder Voting in an Age of Intermediary Capitalism*, 87 S. CAL. L. REV. 1359 (2014). (noting that voting behavior of institutional shareholders has been influenced by regulatory changes requiring them to cast their votes in the best interests of stakeholders).

³⁷ This point, for instance, emerges from the rebuttal of the principle of “shareholders supremacy” replaced by the “stakeholders supremacy” in the context of regulated financial institutions; see *infra* note 200.

³⁸ A vast body of scholarship expounds the causal link between technological innovation and modern copyright and patents law. See generally Joanna Kostylo, *From Gunpowder to Print: The Common Origins of Copyright and Patent*, in LIONEL BENTLY ET AL., PRIVILEGE AND PROPERTY 21 (2010). Specifically on copyright, see generally Oren Bracha, *United States Copyright, 1672-1909*, in RESEARCH HANDBOOK ON THE HISTORY OF COPYRIGHT LAW 335 (Isabella Alexander & H. Tomás Gómez-Arostegui eds., 2016) (for the history of US copyright protection). For patents, see generally Adam Mossoff, *Rethinking the Development of Patents: An Intellectual History, 1550-1800*, 52 HASTINGS L.J. 1255 (2000).

³⁹ See generally Lionel Bently, *The Making of Modern Trade Mark Law: The Construction of the Legal Concept of Trade Mark (1860-1880)*, in TRADE MARKS AND BRANDS 3 (Lionel Bently et al. eds., 2008) (charting the rise of modern trademarks law).

communications networks and digitization.⁴⁰ Concurrently, from the late 19th century, the intensity in cross-border trade of IP products has fueled the creation and expansion of a framework of international conventions for copyrights, patents and trademarks.⁴¹

In similar vein, at the sunset of the 19th century, modern antitrust law emerged to subdue trust, pools and other concentrations,⁴² in both Canada⁴³ and the United States.⁴⁴ In the 20th century, shepherded by successive economic theories,⁴⁵ this branch of commercial law crafted substantive and procedural tools to safeguard “the competitive process”⁴⁶ from anticompetitive vertical and horizontal agreements, and monopolistic practices.⁴⁷ In the 21st century, antitrust legislation

⁴⁰ See generally Paul A. David, *Intellectual Property Institutions and the Panda's Thumb: Patents, Copyrights, and Trade Secrets in Economic Theory and History*, in GLOBAL DIMENSIONS OF INTELLECTUAL PROPERTY RIGHTS IN SCIENCE AND TECHNOLOGY (Mitchel B. Wallerstein et al. eds., 1993).

⁴¹ For a comprehensive overview of these international instruments and an exhaustive bibliography, see generally GRAEME B. DINWOODIE ET AL., *INTERNATIONAL INTELLECTUAL PROPERTY LAW AND POLICY* (3d ed. 2019).

⁴² From the 17th century, Anglo-American common law developed rules that voided restraint of trade contracts on public policy grounds, if they unreasonably constrained a person's freedom to exercise their profession, see 8 WILLIAM HOLDSWORTH, *A HISTORY OF ENGLISH LAW* 56 (2d ed. 1937). These doctrines lay the groundwork for subsequent Canadian and US antitrust laws, see generally Brian Cheffins, *The Development of Competition Policy, 1890-1940: A Re-Evaluation of a Canadian and American Tradition*, 27 OSGOODE HALL L.J. 449 (1989); Herbert Hovenkamp, *The Sherman Act and the Classical Theory of Competition*, 74 IOWA L. REV. 1019 (1989).

⁴³ An Act for the Prevention and Suppression of Combinations Formed in Restraint of Trade, S.C. 1889, ch. 41 (Can.); see generally Michael Bliss, *Another Anti-Trust Tradition: Canadian Anti-Combines Policy, 1889-1910*, 47 THE BUSINESS HISTORY REVIEW, 177 (1973); Jamie Benidickson, *The Combines Problem in Canadian Legal Thought, 1867-1920*, 43 U. TORONTO L.J. 799, 850 (1993).

⁴⁴ See An Act to Protect Trade and Commerce Against Unlawful Restraints and Monopolies, ch. 647, 26 Stat. 209 (1890) (codified as amended at 15 U.S.C. §§ 1-7 (2019)); see Laura Phillips Sawyer, *US Antitrust Law and Policy in Historical Perspective*, in OXFORD RESEARCH ENCYCLOPEDIA OF AMERICAN HISTORY (2019) (for an historical overview of the evolution of antitrust law in the United States).

⁴⁵ See generally RUDOLPH PERITZ, *COMPETITION POLICY IN AMERICA: HISTORY, RHETORIC, LAW* (2001) (offering a chronological analysis of the successive political and economic theories that have influenced US antitrust law); ALISON JONES ET AL., *EU COMPETITION LAW* 13-76 (7th ed. 2019) (on the policies and theories underlying EU competition law).

⁴⁶ David J. Gerber, *Competition Law*, in OXFORD HANDBOOK OF COMPARATIVE LAW (Mathias Reimann & Reinhard Zimmermann, eds., 2005) (using this expression to describe broadly the combined subject matter of north American antitrust law and EU competition law).

⁴⁷ See generally RICHARD POSNER, *ANTITRUST LAW* (2d ed., 2001); HERBERT HOVENKAMP, *PRINCIPLES OF ANTITRUST* (2017); JONES ET AL., *supra* note 45, at 13-76.

has spread globally, yet continues to lack a unitary international framework, thus remaining an interrelated set of heterogeneous domestic laws.⁴⁸

Over the course of the past century, the previously-described changes to corporate law were matched by the exponential growth of financial regulation. The divide between the banking, insurance, and investment sectors faded, requiring regulatory and supervisory coordination. Subsequently, the financial and corporate crises of the 21st century defined the global regulatory agenda, leading to an ulterior expansion of the role attributed to administrative agencies in the governance of financial markets.⁴⁹ At present, financial regulation comprises an heterogeneous set of special rules and principles divided into conduct of businesses regulation (conduct regulation)⁵⁰ and prudential regulation.⁵¹ Conduct regulation is chiefly concerned with both protecting market integrity and fostering an ethical business culture, generally referred to as a “culture of compliance”.⁵² Prudential regulation encompasses a variety of regimes, broadly categorized in micro- and macro-prudential regulation.⁵³ Micro-prudential regulation is concerned with the solvency

⁴⁸ See generally DAVID GERBER, GLOBAL COMPETITION: LAW MARKETS AND GLOBALIZATION 119 (2010); Anu Bradford et al., *Competition Law Gone Global: Introducing the Comparative Competition Law and Enforcement Datasets*, 16 JOURNAL OF EMPIRICAL LEGAL STUDIES 411 (2019).

⁴⁹ For instance, by the Dodd-Frank Act that established a new administrative agency – the Financial Stability Oversight Council – to protect the stability of the financial system; see the Wall Street Reform and Consumer Protection Act, Pub. Law No. 111-203 (H.R. 4173) [hereinafter the Dodd-Frank Act]; see also *infra* note 174.

⁵⁰ See generally Andrew Tuch, *Conduct of Business Regulation*, in THE OXFORD HANDBOOK OF FINANCIAL REGULATION 538 (Niamh Moloney et al. eds., 2015) (offering a definition of conduct regulations and charting both its emergence and expansion).

⁵¹ On the definition prudential regulation see and ROSS CRANSTON ET AL., PRINCIPLES OF BANKING LAW 31 (3rd ed. 2018). (noting that “prudential regulation has undergone seismic changes in the post-2008 period, at least in the U.S.A., E.U., and the U.K., as a result of the crisis.”).

⁵² The former president of the Federal Reserve Bank of New York noted that “[c]ulture relates to the implicit norms that guide behavior in the absence of regulations or compliance rules—and sometimes despite those explicit restraints;” see William Dudley, *Enhancing Financial Stability by Improving Culture in the Financial Services Industry* (Speech, 20 October 2014) <<http://www.fsb.org/wp-content/uploads/Dudley-Enhancing-Financial-Stability-by-Improving-Culture-in-the-Financial-Services-Industry.pdf>>. The Financial Stability Board (FSB) has made ethics a component of its regulatory framework; see Financial Stability Board (FSB), *Guidance on Supervisory Interaction with Financial Institutions on Risk Culture: A Framework for Assessing Risk Culture* 1 (Financial Stability Board), Apr. 7, 2014, at 1.

⁵³ In a famous speech delivered while he was serving as the General Manager of the Bank for International Settlements and Chairman of the hitherto Financial Stability Forum, Andrew Crockett noted that “the macro-prudential dimension focuses on the risk of correlated failures,” whereas “[t]he micro-prudential dimension [...] considers each institution in its own right, is thus not concerned with correlations per se;” Andrew D. Crockett, *Marrying the Micro- and Macro-*

of individual financial firms; its implementation for national banks is mandated to the Office of the Comptroller of the Currency (OCC).⁵⁴ Macro-prudential regulation aims to maintain the stability of the financial system as a whole, thus curbing systemic risk.⁵⁵

The preceding discourse has shown that the fragmentation of commercial law has progressively spawned a multiplicity of distinct regimes. Even though they stem from shared legal roots, they have flourished independently into separate branches of commercial law. Each branch, in turn, constitutes an autonomous system of rules and principles characterized by an internal logic that ensures its continuity and development over time. Albeit to a varying degree, such systems are both self-contained⁵⁶ and self-referential.⁵⁷ They are self-contained in the sense that

prudential Dimensions of Financial Stability, Eleventh International Conference of Banking Supervisors (Basel, 20-21 September 2000), available at <<https://www.bis.org/speeches/sp000921.htm>> (accessed February 2020).

⁵⁴ The OCC is also tasked to supervise the implementation of conduct regulation. For an overview of the supervisory framework for national banks; see HAL SCOTT & ANNA GELPERN, *INTERNATIONAL FINANCE, TRANSACTIONS, POLICY, AND REGULATION*, at 286 et seq. (2018); RICHARD SCOTT CARNELL ET AL., *THE LAW OF FINANCIAL INSTITUTIONS* 92–93 (Aspen Casebook Series, Sixth ed. ed. 2017). The idea of separating conduct and prudential regulation – thus adopting a regulatory design that is similar to the one adopted in other jurisdictions, such as the United Kingdom – has been advanced in various instances; see generally THE DEPARTMENT OF THE TREASURY, *BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE* (2008).

⁵⁵ On the regulatory challenges posed by systemic risk, see Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193 (2008) (noting that systemic risk arises from a “tragedy of the commons” demanding specific regulatory interventions); and Steven L. Schwarcz & Iman Anabtawi, *Regulating Systemic Risk: Towards an Analytical Framework*, 86 NOTRE DAME L. REV. 1351 (2011) (arguing for a regulatory approach that addresses systemic risk by reducing complexity in the financial system).

⁵⁶ The notion of “self-contained regime” has its roots in international law; see Martti Koskenniemi, *Study on the Function and Scope of the Lex Specialis Rule and the Question of ‘Self-Contained Regimes’*, UN Doc. ILC(LVI)/SG/FIL/CRD.1/Add.1, paras 314-330 (2004); Koskenniemi Report *supra* note 1 paras 123-137 (expounding the multifarious meanings which the notion of “self-contained regime” has assumed in international public law). Among international law scholars, this notion has spawned a contentious debate regarding whether a system of rules can ever be completely severed from general law; see Bruno Simma & Dirk Pulkowski, *Of Planets and the Universe: Self-Contained Regimes in International Law*, 17 EUR. J. INT. LAW 483 (2006) (describing this debate).

⁵⁷ The notion of a “self-referential” system has roots both in biology of cognition and social systems theory; see HUMBERTO R. MATURANA & FRANCISCO J. VARELA, *AUTOPOIESIS AND COGNITION: THE REALIZATION OF THE LIVING* (Boston Studies in the Philosophy of Science, Vol. 42, 1980) (proposing that self-referentiality is the quality of a system to build for itself the components of which it consists); 2 NIKLAS LUHMANN, *THEORY OF SOCIETY*, 49–54 (1 edition ed. 2012) (Eng. Translation) (theorizing that a system is self-referential if it “itself constitutes the elements that compose it as functional unities”); Teubner, *Autopoiesis in Law and Society*, *supra*

they establish a special regime for the dealings and activities within their remit; they produce outcomes that differ from those that would otherwise flow from general law doctrines.⁵⁸ They are self-referential in that they address gaps and incongruences pursuant to a logic that almost exclusively references inwardly their own endogenous rules and principles rather than exogenous legal elements.⁵⁹

Therefore, commercial law branches may be described as autonomous systems of rules and logical deductions that are exceptional in nature. They supplement or derogate general doctrines of laws of contract, tort and restitution or those of another commercial law branch. Financial regulation offers a lucid example of these features. Rights and obligations between financial institutions and their customers are largely grounded in deeply-rooted common law doctrines, further supplemented by corporate law statutes and ad hoc regulatory provisions. In the banking context, banks and depositors operate within a debtor-creditor framework.⁶⁰ Yet, financial regulation subjects banks to a special regime that differs from that applicable to other corporate debtors, requiring them to prioritize the interests of depositors over those of shareholders and enact special risk-management processes.⁶¹

B. The Birth and Proliferation of Commercial Law Intersections

A CLI arises from the partial overlap of two or more commercial law branches. This occurs when a transaction possesses traits and attributes that fall concurrently within the purview of several commercial law branches. The coming into contact of distinct self-contained systems generates a new system of rules and logical deductions. Its scope is narrower than that of either converging branch, and its span is limited to the extent of their overlap. Its function is to provide commercial actors with a legal regime that enables them to carry out the transaction in question according to their idiosyncratic preferences.

note 7, at 293–95 (building on Luhmann’s theory and emphasizing the circular relationship between legal decisions and normative rules).

⁵⁸ We do not intend to suggest that commercial branches exist in isolation and are disconnected from general law, rather we emphasize that they supplement and derogate general doctrines of contract, tort and restitution. Consistently with international law scholars and legal philosophers, we recognize that special regimes can never be entirely severed from general law; see Simma & Pulkowski, *supra* note 56 (cogently arguing that no system can be completely severed from general law).

⁵⁹ See Teubner, *Autopoiesis in Law and Society*, *supra* note 7, at 295–96.

⁶⁰ See *infra* notes 188–190 and accompanying text.

⁶¹ See *infra* subsection III.A.2.

CLIs have evolved and multiplied in lockstep with the fragmentation of commercial law. In the 19th century, transactions giving rise to CLIs were few, only concerned sophisticated parties, and were relatively uncomplicated. Notable examples were international sales of commodities – both “cost, insurance, freight” (CIF)⁶² and “free on board” (FOB)⁶³ – in which the laws of sales, insurance and maritime transportation converged at numerous junctures.⁶⁴ From the 20th century, dealings of this nature have multiplied and their complexity has augmented. For instance, multinational entities have increasingly chosen to operate through joint-ventures or subsidiaries enjoined by a nexus of contracts that create intersections among corporate, agency IP and, often, antitrust laws.⁶⁵ Similarly, in a global economy, the financing of supply chains has become increasingly reliant on dealings that entwine the laws of sales, insurance and multi-modal transportation with, *inter alia*, the laws of international trade, banking, secured transactions and factoring.⁶⁶

Moreover, CLIs have come to involve market participants of all guises rather than remaining the exclusive domain of sophisticated actors. Credit dealings

⁶² Legal historians identify *Tregelles v Sewell* 7 H & N 574, 158 ER 600 (1862) as the first reported cases involving an international CIF transaction; see Edward A. Jr. Craighill, *Sales of Goods on CIF Terms*, 6 VA. L. REV. 229 (1919–1920) (charting the history of C.I.F. contracts in US law).

⁶³ For the modern legislative definition of FOB contracts, see U.C.C. § 2-319. The first reported case of an FOB sale is *Wackerbath v. Mason* 3 Camp 270 (1812); see Ademuni-Odeke, *Insurance of F.O.B. Contracts in Anglo-American and Common Law Jurisdictions Revisited: The Wider Picture*, 31 TUL. MAR. L.J. 425, 430–32 (2007) (charting the history of FOB contracts).

⁶⁴ For the modern legislative definition of CIF contracts, see U.C.C. §§ 2-320-2-321. In a CIF transactions, a seller agrees deliver the goods to a carrier, to arrange for their transportation, to take the customary insurance on them for the buyer's benefit against the risks of the voyage, to prepay or credit the freight, and to tender the shipping documents to the buyer. The buyer agrees to pay the purchase price upon presentation of the shipping documents; see Philip W. Thayer, *C.I.F. Contracts in International Commerce*, 53 HARV. L. REV. 792 (1940) (analyzing C.I.F. contracts and emphasizing the intersection between the laws of sales, insurance, maritime transport and payments).

⁶⁵ For an overview of these CLIs see RALPH H. FOLSOM ET AL., *INTERNATIONAL BUSINESS TRANSACTIONS: A PROBLEM-ORIENTED COURSEBOOK* 865–1082 (13 edition ed. 2019); DETLEV VAGTS ET AL., *TRANSNATIONAL BUSINESS PROBLEMS* 257–493 (6 edition ed. 2019).

⁶⁶ For example, see Boris Kozolchyk, *Supply Chain Financing, Straight Bills of Lading and Standby Letters of Credit*, 2 GEO. MASON J. INT'L COM. L. 100, 118–22 (2010) (expounding the issues presented by straight bills of lading in supply chain financing and exploring the intersection between U.C.C. Articles 5 and 9, and banking law); Basu A. Bal, *Can UNCITRAL Instruments Advance Supply Chain Finance to Benefit Small and Medium Enterprises? in MODERNIZING INTERNATIONAL TRADE LAW TO SUPPORT INNOVATION AND SUSTAINABLE DEVELOPMENT* 156-166 (2017) https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/17-06783_ebook.pdf (exploring the intersection between the laws governing electronic transferable records, carriage of goods at sea, and secured transactions law); EUROPEAN BANKING ASSOCIATION, *SUPPLY CHAIN FINANCE* 44-66 (2014) (mapping the commercial law overlaps that arise in “receivable finance” and “inventory finance”).

designed to facilitate inclusive access to finance for small and medium enterprises (SMEs), individuals, and start-ups increasingly feature the convergence of many branches of commercial law. For example, SMEs operating in the agricultural sector – both in developed and developing economies – increasingly rely on warehouse receipts financing. In these transactions, individual farmers and cooperatives obtain working capital from financial institutions by offering warehouse receipts as collateral to secure their repayment obligations;⁶⁷ in these dealings multiple intersections occur between the laws of agency, negotiable documents of title, insurance, secured transactions and financial regulation.

Concurrently, intensified efforts to regulate the finance sector have further increased the frequency of CLIs. The involvement of financial institutions and activities that are regulated necessarily implies the emergence of a CLI in which aspects traditionally governed under commercial law intersect with rules and principles concerned with regulated firms and activities. Conduct regulation, for instance, regulates the behaviors of financial institutions towards the public in order to advert the risk of misconducts that could hinder the functioning (and, thus, the confidence in) the financial system.⁶⁸ These rules stem from the need to protect public interests and are codified in a variety of provisions, including those designed to combat money laundering activities,⁶⁹ limit fraudulent practices and other attempts to manipulate markets.⁷⁰ Licensing requirements and product approval procedures are also part of the wide spectrum of rules defining conduct regulation; their implementation necessitates coordination with the corporate and contractual

⁶⁷ See Marek Dubovec & Adalberto Elias, *A Proposal for UNCITRAL to Develop a Model Law on Warehouse Receipts*, 22 UNIF LAW REV 716 (2017) (highlighting commercial law branches overlaps in warehouse receipts financing transactions and suggesting the need for an international soft-law instrument to promote modernization and harmonization).

⁶⁸ By and large, conduct of business regulation reflects the policy objective of protecting market integrity and is concerned with how firms operate their businesses; see *infra* note 171; see also JOHN ARMOUR ET AL., *PRINCIPLES OF FINANCIAL REGULATION* 63 (2016). (indicating “[f]unctionally, they can be thought of as mandatory terms of the contractual relationship between the client and the intermediary, responding to agency costs”).

⁶⁹ In the U.S. the core statute setting anti-money laundering rules is the Bank Secrecy Act, Pub. L. No. 91-508, 84 Stat. 1114-4 (1970) (codified as amended in scattered sections of 12 U.S.C., 18 U.S.C., and 31 U.S.C.) [hereinafter Bank Secrecy Act]; with the amendments introduced by the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act); Pub L No 107-56, 115 Stat 272, 298-320 [hereinafter PATRIOT Act].

⁷⁰ On the different practices used to manipulate markets see David C. Donald, *Regulating Market Manipulation through an Understanding of Price Creation*, 6 NTU L. REV. 55, 70–71 (2011) (noting that in trade-based manipulative conduct “[i]ntegrity is challenged by trades that, in the context of a given market structure and a given market atmosphere, put pressure on the price creation process without any relationship to quality”).

dimension of business transactions.⁷¹ Furthermore, the intersection between administrative law provisions and corporate governance is epitomized by the regimes imposing limits to compensation for executive officers.⁷² In this context, financial institutions are deemed to live an “era of regulatory compliance”, in which regulatory requirements complement, or supplant, corporate law precepts.⁷³

International organizations have implicitly recognized the strategic relevance of CLIs in the pursuit of development policies. Both the UN Commission on International Trade Law (UNCITRAL) and the World Bank Group have emphasized that the achievement of the Sustainable Development Goals⁷⁴ necessitates law reforms which ensure the seamless and synergetic confluence of different commercial law branches.⁷⁵ Emblematically, the UNCITRAL Practice Guide to the Model Law on Secured Transactions has noted that coordination between contract law, property law, intellectual property law, negotiable instruments law, insolvency law, civil procedure law and secured transactions law is of critical importance to an inclusive regime for access to credit.⁷⁶ In addition, the same instrument features a chapter devoted to assisting regulated financial institutions in the coordination of secured transactions law and prudential regulation.⁷⁷

⁷¹ These set of rules are commonly known as “entry regulation” and “product regulation;” see ARMOUR ET AL., *supra* note 68, at 74–75.

⁷² See *infra* note 201.

⁷³ See Sean J. Griffith, *Corporate Governance in an Era of Compliance*, 57 WM. & MARY L. REV. 2075, 2075 (2016). (noting that “[c]ompliance is the new corporate governance” and arguing that the impact of compliance requirements is changing the way corporations operate making traditional corporate theory outdated); see also Miriam Hechler Baer, *Governing Corporate Compliance*, 50 B.C. L. REV. 949 (2009). (noting the expansion of the compliance industry, following major scandals and misconducts, but questioning the effectiveness of new compliance regimes).

⁷⁴ The international instruments adopted by UNCITRAL and the law reforms facilitated by the World Bank Group aim to establish a legal infrastructure to foster an inclusive access to credit towards the realization of the overarching goal of eradicating poverty by 2030. See G.A. Res. 70/1, Transforming our world: the 2030 Agenda for Sustainable Development (Sept. 25, 2015); and WBG Knowledge Guide *supra* n 11 at 4.

⁷⁵ See *supra* note 15.

⁷⁶ See UNCITRAL Practice Guide *supra* note 11 at 8-9.

⁷⁷ *Id.* paras 365-372. See Castellano & Dubovec, *supra* note 15. (for the first systematic analysis of the coordination failures between secured transactions law and financial regulation and for suggestions on for their possible resolution).

C. Coordination Failures

CLIs can be problematic. Almost three decades ago, Gunter Teubner presciently hypothesized that “should the law of a global society become entangled within sectoral interdependences, a wholly new form of conflicts law will emerge”.⁷⁸ Indeed, when the converging commercial law branches do not realize a fluid and synergistic interaction, legal conundrums emerge resoundingly. We posit that such coordination failures can be divided into two classes.

The first class comprises coordination failures stemming from gaps in the law.⁷⁹ In such instances, intersecting branches do not govern expressly or implicitly the CLI at hand but leave it instead either partly or entirely shrouded in silence. For example, transactions in which a registered trademark is used as collateral engender a CLI between secured transactions law and trademarks law.⁸⁰ Assuming hypothetically that a person first grants a security interest in one of their trademarks to a creditor, and then subsequently assigns this same trademark to another person, it is well-established that Article 9 governs the creation of this security interest, its enforceability against third parties (perfection) and priority against other secured creditors. It is equally uncontentious that the Lanham Act⁸¹ governs trademark

⁷⁸ Fischer-Lescano & Teubner, *supra* note 7, at 1000 (describing such collisions as “intersystemic conflicts law” that are “derived not from collisions between the distinct nations of private international law, but from collisions between distinct global social sectors”).

⁷⁹ Legal gaps (or *lacunae*) have been the subject of a vast body of scholarship. This Article is only concerned with the issue of gaps in dispositive sources of law, such as legal statutes and administrative enactments; see generally BARAK, *supra* note 16, at 66–72 (analyzing the nature of statutory gaps and providing an exhaustive bibliography); Marijan Pavcnik, *Why Discuss Gaps in the Law Notes*, 9 *RATIO JURIS* 72 (1996) (providing a map the issues created by statutory gaps); FERNANDO ATRIA, *ON LAW AND LEGAL REASONING* 76–87 (2002) (examining a broad range of theories to address statutory gaps). This Article is not concerned with the issue of whether there are social contexts in which no law applies; see HANS Kelsen, *PURE THEORY OF LAW* 242–46 (1967) (identifying this issue and presenting his theory that the law is gapless). Neither is this Article concerned with the issue of gaps in contracts, wills and other private law instruments; see Omri Ben-Shahar, *Agreeing to Disagree: Filling Gaps in Deliberately Incomplete Contracts Freedom from Contract Symposium*, 2004 *WIS. L. REV.* 389 (2004) (for an exhaustive map of the theoretical issues presented by gaps in contracts); Heinz Strohbach, *Filling Gaps in Contracts Unification of International Trade Law: UNCITRAL's First Decade*, 27 *AM. J. COMP. L.* 479 (1979) (comparatively analyzing contract gaps in the context of arbitration).

⁸⁰ For an analysis of the legal framework governing the use of trademarks as collateral, see Thomas M. Ward, *The Perfection and Priority Rules for Security Interests in Copyrights, Patents, and Trademarks: The Current Structural Dissonance and Proposed Legislative Cures Symposium: Financing the Enterprise of the Internet*, 53 *ME. L. REV.* 391, 440–48 (2001); Xuan-Thao Nguyen, *Collateralizing Intellectual Property*, 42 *GA. L. REV.* 1, 24–29 (2007); John L. Mesrobian & Kenneth R. Schaefer, *Secured Transactions Based on Intellectual Property*, 72 *J. PAT. & TRADEMARK OFF. SOC'Y* 827, 849–56 (1990).

⁸¹ Ch. 540, 60 Stat. 427 (1946) (codified as amended in scattered sections of 15 U.S.C.).

assignments. However, neither Article 9 nor the Lanham Act address conflicts between secured creditors and trademarks transferees. It is unclear whether a perfected security interest in a registered trademark prevails over either a subsequent assignment of this same trademark recorded in the Trademarks Register or even a prior unrecorded transfer. It is equally unsettled whether recording a security interest in the Trademarks Register has legal effect as actual or constructive notice for third parties. These issues are entirely uncertain.⁸²

The second class encompasses coordination failures arising from incongruences.⁸³ This occurs when the combined application of the rules and principles of the intersecting commercial law branches result in a regime that is either contradictory, dysfunctional or a combination of the two. For example, the relevant provisions may establish prescriptions and proscriptions that are either partially or entirely conflicting. Alternatively, the respective scope of application of the rules and standards in question may be unclear. Still differently, the regime hatched by the intersecting commercial law branches may, holistically considered, produce outcomes that impede the parties from achieving their intended outcomes for the transactions in question. A case in point is offered by the CLI between secured transactions law and financial regulation. When a bank with national charter⁸⁴ secures a commercial loan against an item of personal property, the ensuing transaction attracts the attention of both Article 9 and Title 12 of the Code of Federal Regulations.⁸⁵ In this scenario, conflict may ensue because secured transactions law qualifies this dealing as secured credit, whereas the applicable regulatory regime might treat it as unsecured because the encumbered asset does not possess the required attributes.⁸⁶

CLI coordination failures have diverse negative consequences, the intensity of which is scalar rather than binary. In some cases, they reduce legal certainty, as

⁸² See Ward, *supra* note 80, at 443–45; Nguyen, *supra* note 80, at 24–26.

⁸³ In this Article, we use the term “incongruence” in a sense similar to that used by Colin Diver for administrative lawmaking, albeit adapting it to the context of CLIs coordination failures; see Diver, *supra* note 13, at 67.

⁸⁴ This is the case of national banks chartered and regulated by the OCC under the National Bank Act 12 U.S.C. 1.

⁸⁵ Banks and Banking 12 C.F.R. 1–199.

⁸⁶ Only certain types of collateral can be effectively used to reduce credit risk and, thus, capital requirements. Specifically, the bank must have a first-priority interest on the collateral which must be in the form of “(i) Cash on deposit with the national bank or Federal savings association [...]; (ii) Gold bullion; (iii) Long-term debt securities that are not resecuritization exposures and that are investment grade; (iv) Short-term debt instruments that are not resecuritization exposures and that are investment grade; (v) Equity securities that are publicly traded; (vi) Convertible bonds that are publicly traded; or (vii) Money market fund shares and other mutual fund shares if a price for the shares is publicly quoted daily;” 12 C.F.R. §§ 3.2, 3.37.

parties are required to contend with a regime the outcomes of which are difficult to predict *ex ante*. In others, they increase complexity by spawning a regime that is challenging both to comprehend and operate. In others still, insufficient or flawed coordination between intersecting commercial law branches yields an incoherent regime that does not align with the parties' intended outcomes. In all these cases, there is a distortion of incentives for the involved parties.

Crucially, CLI coordination failures increase transaction costs. They render more onerous the negotiation process, the drafting of the necessary contracts, the gathering of the information required to "discover prices" and the settling of disputes. The relative burden of these "transaction costs"⁸⁷ is proportional to the intensity of the coordination failures from which they emanate. When they are minimal, the ensuing transaction costs will likely be a manageable burden that parties can offset comfortably through the benefits obtained through their voluntary exchange. However, when CLI coordination failures are substantial, they carry heftier transaction costs that will push parties to consider alternative dealings, which would have otherwise been less attractive. In the most severe cases, CLI coordination failures will have a chilling effect, generating costs of such magnitude as to completely deter parties from entering into such transactions.

Another illustrative example of these issues is provided by CLIs involving financial regulation and secured transactions law. As a general proposition, capital adequacy standards compel banks to maintain, at any point in time, a minimum level of capital (or regulatory capital) that is composed of a bank's own funds – which include shareholders' equity and equity-like instruments – and is relative to both the total assets of the bank and its actual exposure to risks.⁸⁸ The resulting framework is risk-based, as a higher portion of a bank's own funds is needed to finance riskier loans.⁸⁹ Therefore, banks are incentivized to reduce their exposure

⁸⁷ Transactions costs are the costs of participating in the markets and they are distinguished from the costs of producing a good or a service. Ronald Coase first introduced the concept of transaction costs in his seminal work of 1937; see Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937). (positing that firms emerges as mechanisms to reduce the costs affecting the production and exchange of good and services). Subsequently, he demonstrated that in situations where transactions costs are high, the initial allocation of legal rights has an impact on the efficiency of economic activities; see Ronald H. Coase, *The Problem of Social Cost*, 3 *J.L. & ECON.* 1 (1960). Oliver E. Williamson further developed the notion, indicating that each transaction produces three types of transactions costs related to monitoring, controlling, and managing transactions; see generally Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 *J.L. & ECON.* 233 (1979).

⁸⁸ See SCOTT & GELPERN, *supra* note 54, at 504–11; ARMOUR ET AL., *supra* note 68, at 290–301.

⁸⁹ This means that regulatory capital connects risk to banks' equity (or, more generally, own funds); see Castellano & Dubovec, *supra* note 1, at 71.

to credit risk in order to maximize their return on equity.⁹⁰ To this end, banks may reduce capital requirements in various fashions, including with the adoption of credit risk mitigants, such as security interests. However, as loans secured with collateral other than financial collateral are subject to the same level of capital requirements attributed to unsecured lending, banks might not be incentivized to extend loans secured with any other personal property.⁹¹ Such a conundrum affects the structure of incentives in the credit market, as legal and regulatory incentives affect lending behavior in an uneven fashion.⁹² Capital regulation only applies to banking businesses; while any prospective lender can take advantage of the broad applicability of secured transactions law. Given that capital adequacy standards induce banks to invest in operations that require less capital than asset-based lending to SMEs, the coordination failure unwittingly favors the extension of such a form of credit outside the banking system.⁹³

The use of unregistered copyrights as collateral gives rise to a CLI between secured transactions law and copyright law that presents similar issues.⁹⁴ The prevailing judicial view is that the creation of security interests in all types of

⁹⁰ See ANAT ADMATI & MARTIN HELLWIG, *BANKERS' NEW CLOTHES* 110–11 (2013) (noting that the assumptions of the Modigliani-Miller theorem on corporate finance are not met because deposit guarantees schemes as well as favorable tax treatment for debt instruments result in a lower cost of debt); see also Castellano & Dubovec, *supra* note 1, at 71 (noting that the regulatory risk-weights “are the pivot steering the choices of individual banks, as they determine the costs of funding for the extension of credit.”). The tendency of banks to maximize return on equity by reducing the cost of capital has also been associated with regulatory arbitrage strategies; see generally David Jones, *Emerging Problems with the Basel Capital Accord: Regulatory Capital Arbitrage and Related Issues*, 24 JOURNAL OF BANKING & FINANCE 35 (2000); Erik Gerding, *The Dialectics of Bank Capital: Regulation and Regulatory Capital Arbitrage*, 55 WASHBURN L. J. 357 (2016).

⁹¹ See *supra* note 86 and accompanying text.

⁹² See Castellano & Dubovec, *supra* note 1, at 83.

⁹³ See Castellano & Dubovec, *supra* note 15, at 586 (noting that capital adequacy standards play a role in shaping “a market for secured credit in which assets or transactions deemed too risky to serve as eligible credit protection are instead employed by non-bank institutions”). This tendency might fuel “shadow banking” activities, intended as credit intermediation activities occurring partially or completely outside the banking system; Steven L. Schwarcz, *Regulating Shadow Banking*, 31 REV. BANKING & FIN. L. 619 (2012) (offering an analysis of the origins of shadow banking and its regulatory challenges).

⁹⁴ See Ward, *supra* note 80, at 414–29 (assessing the use of copyright as collateral under Article 9); Alice Haemmerli, *Insecurity Interests: Where Intellectual Property and Commercial Law Collide*, 96 COLUM. L. REV. 1645 (1996) (noting the uncertainties surrounding the use of copyright as collateral); Peter L. Choate, *Belts, Suspenders, and the Perfection of Security Interests in Copyrights: The Undressing of the Contemporary Creditor Notes and Comments*, 31 LOY. L. A. L. REV. 1415 (1997) (discussing the anomalies of the perfection regime governing security interests in copyright).

copyright (both registered and unregistered) is governed by Article 9.⁹⁵ Perfection and priority of security interests in registered copyrights is subject to the Copyright Act and the Copyright Registry.⁹⁶ By contrast, perfection and priority of security interests in unregistered copyright falls within the remit of Article 9 and its filing system.⁹⁷ This bifurcation brings with a range of difficulties. Most notably, the holder of an unregistered copyright can choose – at any moment in time – to record it in the Copyright Registry and, thus, transform it into registered copyright; however, neither Article 9 nor the Copyright Act address coherently the impact of this transition regarding security interests. The resulting regime governing this CLI is that if an unregistered copyright is subsequently registered, any security interest previously perfected under Article 9 in the asset becomes ineffective against third parties. Consequently, any such security interests must be re-perfected pursuant to the rules of the Copyright Act and will be defeated by any competing claim that has been recorded in the Copyright registry in the intervening time.⁹⁸ This coordination failure renders the use of unregistered copyrights as collateral unappealing for potential secured creditors, due to being exposed to the risk of losing third party effectiveness. It disincentivizes market participants from entering into secured transactions involving these assets, producing a chilling effect that ultimately depresses their value.

⁹⁵ *In re Avalon Software, Inc.*, 209 B.R. 517 at 522-523 (Bankr. D. Ariz. 1997) and implicitly confirmed in *In re World Auxiliary Power Co.*, 303 F.3d 1120; see Ward, *supra* note 80, at 414–17 (critically analyzing these decisions).

⁹⁶ See *National Peregrine, Inc. v. Capital Federal Savings & Loan Ass'n*, 116 B.R. 194, 199-203 (C.D. Cal. 1990).

⁹⁷ See *In re World Auxiliary Power Co.*, 303 F.3d 1120 at 1131-32 (9th Cir. 2002). See Stacey G. Jernigan et al., *The Perfection of Liens in Unregistered Copyrights: Aerocon and Beyond Bankruptcy and the UCC: Points of Intersection and Conflict Symposium*, 28 OKLA. CITY U. L. REV. 645 (2003) (providing an exhaustive analysis of this decision).

⁹⁸ See Justin M. Vogel, *Perfecting Security Interests in Unregistered Copyrights: Preemption of the Federal Copyright Act and How Filing in Accordance with Article 9 Leads to the Creation of a Bankruptcy Force Play International Insolvency: Note*, 10 AM. BANKR. INST. L. REV. 463 (2002) (who describes perfection of security interests in unregistered copyright as “illusory”); Ward, *supra* note 80, at 428–29 (arguing for legal reform).

II. UNDERSTANDING COORDINATION FAILURES: THE LEGAL THEORY PERSPECTIVE

Legal scholars, lawmakers and interpreters have long grappled with gaps and incongruences in the law.⁹⁹ Extensive efforts have been devoted to defining when silence in a legal text can be said to constitute a gap, the extent to which judges and regulators are permitted to fill such gaps, and the criteria that should be used in this interpretive task.¹⁰⁰ Incongruences in the law have been the subject of even greater scrutiny.¹⁰¹ A range of canons of construction have been formulated, both to overcome contradictions that emerge within a single law,¹⁰² and to resolve conflicts between rules and standards stemming from distinct legal sources.¹⁰³ Similarly, courts and commentators have debated vivaciously the extent to which interpreters may correct, add or subtract from rules and standards the application of which would otherwise result in dysfunctional or even absurd outcomes.¹⁰⁴

This part considers first the extent to which hermeneutical instruments designed to address gaps and incongruences are helpful to address CLI coordination failures. Having outlined the inadequacy of these approaches, we turn to the notion of legal coherence for recourse, and posit that it should be placed at the heart of any interpretive method that seeks to overcome the challenges presented by the convergence of commercial law branches.

A. *Venturing Beyond Legal Consistency*

Whenever gaps or incongruences in the law surface, interpreters are confronted with choices. To guide and assist this decision-making process, scholars

⁹⁹ See generally JONES, *supra* note 16; SUTHERLAND STATUTES & STATUTORY CONSTRUCTION, *supra* note 16, at 36, 37, 40; BENNION, *supra* note 16, at 42–49; BARAK, *supra* note 16, at 66–73; CRAWFORD, *supra* note 16, at 269; CROSS, *supra* note 16, at 65–80.

¹⁰⁰ See BARAK, *supra* note 16, at 66–73; CRAWFORD, *supra* note 16, at 269.

¹⁰¹ For lawmaking perspective, see generally Gunningham & Sinclair, *supra* note 13; Diver, *supra* note 13. For an interpretive perspective see generally SUTHERLAND STATUTES & STATUTORY CONSTRUCTION, *supra* note 16, ch. 37; BARAK, *supra* note 16, at 74–80; CRAWFORD, *supra* note 16, at 263–68.

¹⁰² See BARAK, *supra* note 16, at 74–75 (offering a comparative overview of the hermeneutical approaches followed in different jurisdictions); CRAWFORD, *supra* note 16, at 263–64 (examining a range of canons of interpretation adopted by US courts).

¹⁰³ See BARAK, *supra* note 16, at 75–77; CRAWFORD, *supra* note 16, at 264–66.

¹⁰⁴ See JONES, *supra* note 16, sec. 286 (discussing the limits of the “consequentialist constructions” and suggesting that their origin can be traced back to the consequential construction); BARAK, *supra* note 16, at 79–80; CROSS, *supra* note 16, at 16 (discussing the “golden rule”); BENNION, *supra* note 16, at 41–49 (exploring consequentialist and rectifying constructions).

and lawmakers have elaborated hermeneutical methods which rely on an array of norms and conventions. Grounded in diverse theories, these interpretation tools offer elastic standards and presumptions through which substantive meaning is extrapolated from the text, structure, context, subject matter and purpose of the law under consideration.¹⁰⁵

Though not without differences, the common denominator of canons of interpretation intended to address gaps and incongruences in the law is “consistency”.¹⁰⁶ Some focus on internal consistency, addressing endogenous contradictions and ambiguities within the law under consideration.¹⁰⁷ Others concentrate instead on external consistency, tackling gaps and incongruences between distinct systems of rules.¹⁰⁸ The notion of consistency in law resonates with that formulated in philosophy of mathematics. Internal consistency demands that a system of rules and logical deductions is devoid of self-contradictions. External consistency requires that the rules and logical deductions of one system are mutually compatible with those of another.¹⁰⁹

In addressing CLI coordination failures, the limitations of canons of interpretation that focus exclusively on internal consistency are readily apparent. Branches of commercial law, while increasing in sophistication and expanding their outreach, have been developed to ensure internal consistency through rules and logical deductions that are, by design, mutually compatible. Hence, canons of interpretation aimed at promoting internal consistency are structurally unsuited to the resolution of coordination failures in CLIs, where compatibility issues emerge across multiple branches, rather than within a single one.

At first glance, canons of interpretation aimed at ensuring external consistency between distinct laws might appear more suitable interpretative tools in the context of CLIs. Among them, the *lex specialis* and *lex superior* doctrines deserve special consideration. The former establishes that when two laws cover the same subject matter, the one specifically devoted to the issue under consideration

¹⁰⁵ The literature exploring theories of legal interpretation is vast. See generally POPKIN, *supra* note 4, ch. 2–3 (for an exhaustive analysis of theories of interpretation); NEIL D. MACCORMICK & ROBERT S. SUMMERS, *INTERPRETING STATUTES: A COMPARATIVE STUDY* (2016) (for a recent comparative study of this topic).

¹⁰⁶ See BARAK, *supra* note 16, at 61–80; SUTHERLAND *STATUTES & STATUTORY CONSTRUCTION*, *supra* note 16, ch. 36, 37, 40.

¹⁰⁷ See BARAK, *supra* note 16, at 74–75; CRAWFORD, *supra* note 16, at 263–64.

¹⁰⁸ See BARAK, *supra* note 16, at 75–77; CRAWFORD, *supra* note 16, at 264–66.

¹⁰⁹ See DOUGLAS R. HOFSTADTER, GÖDEL, ESCHER, BACH: AN ETERNAL GOLDEN BRAID 94–95 (Anniversary edition ed. 1999); Hillel Bavli, *Applying the Laws of Logic to the Logic of Laws*, 33 *FORDHAM URB. L. J.* 937, 937–39 (2006).

(*lex specialis*) should be favored over that with a general remit (*lex generalis*).¹¹⁰ The latter resolves clashes between laws by giving primacy to the one holding the highest rank within the relevant legal system.¹¹¹

Neither one of these doctrines offers alone a satisfactory resolution of CLIs' coordination failures.

With regard to *lex specialis*, the identification of a special-general relationship is problematic. In CLIs, the intersecting commercial law branches are generally not in a relationship of subordination, rather they overlap and engender a new system of rules and principles that governs a determinate transaction or corporate action.¹¹² Coordination failures stem from gaps and incongruences between determinate rules, rather than the intersecting branches in their entirety. Therefore, the special-general relationship is situational and cannot be determined a priori. For example, financial regulation articulates sets of rules that govern determinate financial activities, which are concurrently subject to contract and corporate law. For certain key aspects, such as shareholders' voting rights, corporate law is the *lex specialis*; whereas, financial regulation is deemed *lex generalis*. By contrast, matters concerning the composition and responsibilities of the board of directors, this special-general relationship is inverted.

Regarding *lex superior*, this canon of interpretation is also an imperfect tool to address CLI coordination failures. In the first place, commercial law branches generally exist at the same constitutional level. Accordingly, in a CLI, it is not possible to give precedence to the rules of one of the intersecting branches based on them having a higher authority. Moreover, even when a legal system does establish that one commercial law branch is constitutionally superior to another, addressing a CLI on this basis is ineffective if not outright detrimental. For example, faithful to the Constitutional "supremacy clause",¹¹³ Article 9 provides

¹¹⁰ The *lex specialis* canon of construction has deep roots; see HUGO GROTIUS, DE JURE BELLI AC PACIS. LIBRI TRES, Bk. 2, Ch. XXIX (noting that special rules should be favored over general rules when they are either more closely related to the given subject matter or provide a more effective legal framework). See generally BARAK, *supra* note 16, at 75; Anja Lindroos, *Addressing Norm Conflicts in a Fragmented Legal System: The Doctrine of Lex Specialis*, 74 NORDIC J. INT'L L. 27 (2005); Koskeniemi Report *supra* n 1 paras 56-122 (for a comprehensive analysis of the *lex specialis* canon of interpretation in international law)

¹¹¹ See generally SUTHERLAND STATUTES & STATUTORY CONSTRUCTION, *supra* note 16, ch. 36; BARAK, *supra* note 16, at 76.

¹¹² A set of rules bound together by interpretative criteria define a self-contained system; see *supra* subpart I.A.

¹¹³ U.S. Const. art. VI, cl. 2. The body of scholarship on the supremacy clause is immense. See generally Henry Paul Monaghan, *Supremacy Clause Textualism*, 110 COLUM. L. REV. 731, 731–34 (2010) (for an exhaustive bibliography).

that its provisions are preempted by any conflicting federal law.¹¹⁴ Applying this rule, US courts have held that the federal Copyright Act regime for “mortgages” and “hypothecations” of registered copyrights preempts that laid out by Article 9 for all intangibles.¹¹⁵ Thus, this CLI between Article 9 and the Copyright Act is resolved pursuant to the *lex superior* canon of interpretation. Regrettably, such an application of federal law yields an inefficient regime that suits the needs of neither secured creditors nor debtors. Under the filing system of the Copyright Act, secured creditors are required to effectuate discrete filings for each encumbered asset, depositing the relevant transfer documents and identifying each copyright by its registration number.¹¹⁶ Recognizing the undesirable outcome produced by the *lex superior* interpretative canon in this CLI, Judge Kozinski remarked that “filing with the Copyright Office can be much less convenient than filing under the U.C.C.”¹¹⁷

The preceding discourse shows that a fetishistic pursuit of legal consistency exacerbates CLIs’ coordination problems. When internal consistency is taken as the sole interpretative criterion self-referentiality of each intersecting branch will result hardened. As gaps and incongruences will be addressed to perpetuate inner logics, the autonomous character of each branch will result bolstered. Applying such an inward-looking method of interpretation will intensify coordination failures, rather than favoring the harmonious coalescence between intersecting branches.¹¹⁸ In a similar vein, when external consistency is taken as the sole interpretative criterion, one of the intersecting commercial law branches will be bluntly given primacy over

¹¹⁴ U.C.C. § 9-109(c)(1) provides that “this article does not apply to the extent that ... a statute, regulation, or treaty of the United States preempts this article”. See HARRIS & MOONEY, *supra* note 8, at 359–64 (exhaustively analyzing this section and the emerging preemption doctrines).

¹¹⁵ *National Peregrine, Inc. v. Capital Fed. Sav. & Loan Ass’n*, 116 B.R. at 199-203, 205. See Ward, *supra* note 80, at 420–24.

¹¹⁶ See 17 U.S.C. § 205(c)-(d). These sections govern the effectiveness against third parties of copyright transfers. Under subsection 205(d), only a recording “in the manner required to give constructive notice under subsection (c)” is good against a “later transfer”.

¹¹⁷ *National Peregrine, Inc. v. Capital Fed. Sav. & Loan Ass’n*, 116 B.R. at 202 n.10.

¹¹⁸ Internal consistency is a feature that pertains to self-contained and self-referential systems of rules. Given that self-contained systems reflect sector-specific logics, internal consistency would further reaffirm such inner logics; see Fischer-Lescano & Teubner, *supra* note 7, at 1013 (indicating that self-contained regimes are “structurally coupled with the independent logic of the social sectors [of appurtenance]”). In turn, internal consistency pertains to self-referentiality because it supports the circular relationship between norms and decisions; see Teubner, *Autopoiesis in Law and Society*, *supra* note 7, at 295 (noting that a particular type of self-referentiality, termed “autopoiesis”, emerges when decisions to resolve a conflict refer to criteria that are within such system). See also Koskeniemi Report *supra* n 1 para 625 (noting that the pursuit of the consistent interpretation of one specific treaty might be at the expense of “the consistency of the multilateral treaty system as a whole.”).

the others without due regard for the CLI in its entirety. It is highly doubtful that such a mechanical interpretive approach will deliver a regime that enables the parties to carry out effectively the transaction in question according to their idiosyncratic preferences. These shortcomings suggest that a different, more systematic method is necessary to orient the concomitant interpretation of commercial law branches and resolve coordination failures. To this end, the notion of legal coherence is of critical support.

B. Legal Coherence

The notion of legal coherence has been theorized as a means to redress ambiguities and conflicts in the law.¹¹⁹ Advocated by some as an interpretive panacea and opposed by others as an undue interference on textual interpretations, its definition, conceptual perimeter and applicability have sparked sophisticated jurisprudential discourse.¹²⁰ Drawing from such debates and with the aid of legal theory and philosophy of mathematics, it becomes apparent that coherence is a composite notion with the following three fundamental traits.

First, in logic, coherence between a plurality of deductive systems requires that they are both mutually compatible and internally devoid of contradictions.¹²¹ Correspondingly, in law, coherence between a multiplicity of systems of rules and principles requires the simultaneous attainment of internal and external consistency.¹²² However, internal and external consistency alone are not sufficient.

¹¹⁹ The body of scholarship exploring the notion of coherence is vast. *See generally* Hage, *supra* note 17; Berteau, *supra* note 17; Rodriguez-Blanco, *supra* note 17; Schiavello, *supra* note 17; Peczenik, *supra* note 17; Raz, *supra* note 17; Hurley, *supra* note 17; McCormick, *supra* note 17; AARNIO, *supra* note 17.

¹²⁰ Berteau, *supra* note 17, at 371–72 (summarizing this debate and noting that “[w]hile there is wide agreement among contemporary legal theorists on the characterization of coherence in the negative as lack of inconsistencies, it is still a question how coherence might be defined in positive terms.”).

¹²¹ *See* HOFSTADTER, *supra* note 109, at 94–100. (indicating that external consistency relates to deductions that are external to the system under consideration and internal consistency relates to the mutual compatibility of logical deductions within a system). The attainment of internal and external consistency is aspirational rather than a normative prescription; inconsistency and incompleteness are inherent to logical systems. On the incompleteness theorem first formulated by Kurt Gödel *see infra* note 127.

¹²² The relation between “total consistency” and “coherence” is central to Ronald Dworkin’s argument and critique of legal positivism; *see* DWORKIN, *supra* note 5, at 119–27.

Second, for a system to be coherent its rules and logical deductions must have a “unity of purpose.”¹²³ That is to say that it must “hang together ... making sense as whole”.¹²⁴ Coherence demands that a system of rules and principles is woven together on the basis of an ordering criterion. From a normative standpoint, this entails that the coherence is only possible when a legal system possesses overarching, guiding purposes towards the realization of which its rules and principles gravitate. Such overarching, guiding purposes may be drawn from a broad social, moral, economic or political spectrum,¹²⁵ depending on the subject matter in question and the relevant jurisdiction.

Third, absolute coherence is unattainable.¹²⁶ Both consistency and unity of purpose can never be achieved perfectly. Regarding consistency, in logic and legal reasoning alike, it has been long established that a system can never be truly free of internal ambiguities and conflicts nor can it be complete.¹²⁷ Similarly, in respect of unity of purpose, it is impossible for the totality of the rules and principles of a system to all be uniformly and consonantly aligned with its overarching guiding purposes.¹²⁸ Accordingly, coherence is scalar rather than binary in nature; between the most coherent and the most incoherent solutions there lies a field of intermediate options.

The above lends robust support to the view that a legal method to address CLI coordination failures should seek legal coherence. However, attention should not be cast towards each intersecting branch discretely. Crucially, the focus should be on the intersection itself, understood as a system of logical deductions and legal

¹²³ See MacCormick, *supra* note 17, at 236 (who speaks of “unity of principle”); Raz, *supra* note 17, at 284 (who speaks of a unified set of principles).

¹²⁴ MacCormick, *supra* note 17, at 235.

¹²⁵ See *Id.* at 238; AARNIO, *supra* note 17, at 177–80; Schiavello, *supra* note 17, at 233–37.

¹²⁶ See Alexy & Peczenik, *supra* note 17 (who speak of a degree of approximation to coherence); Raz, *supra* note 17, at 287 (who notes that absolute coherence is impossible due to the pluralistic principles underlying all legal systems); MacCormick, *supra* note 17, at 248–51.

¹²⁷ In philosophy of mathematics, according to Gödel’s incompleteness theorems, every system of logical deductions is necessarily incomplete; attempts to compensate such a condition would require the implementation of complex reasoning compromising the consistency among the chain of deductions; see generally KURT GÖDEL, ON FORMALLY UNDECIDABLE PROPOSITIONS OF PRINCIPIA MATHEMATICA AND RELATED SYSTEMS (Bernard Meltzer trans., 1962). The applicability of Gödel incompleteness theorem to law have sparked an intriguing debate; for an overview see Mark Brown & Andrew Greenberg, *On Formally Undecidable Propositions of Law: Legal Indeterminacy and the Implications of Metamathematics*, 43 HASTINGS LAW JOURNAL 1439 (1992). (arguing that Gödel’s theorem indicates that law is necessarily incomplete, thus advancing a critique to legal formalism); see also Bavli, *supra* note 109, at 938. (indicating that the law itself contains “limitations on its capacity to realize formal consistency”).

¹²⁸ See MacCormick, *supra* note 17, at 245–51; Raz, *supra* note 17, at 286–87.

rules.¹²⁹ Hence, CLI coordination failures should be addressed with the aim of ensuring that internal and external consistency are simultaneously attained through a unity of purpose. Given that a CLI arises from the overlap of different branches that jointly realize a legal regime for determinate transactions, its purpose is not explicit but must be inferred. This investigation warrants careful consideration.

C. Finding Purpose

Purpose is an overworked notion in legal theory. Scholars have devoted copious time and effort to defining this concept, appraising its significance and theorizing the approaches by which it should be extrapolated.¹³⁰ At their core, purposive methods seek to link a system of rules and logical deductions to its “true reason”;¹³¹ nevertheless, different schools of thought construe this nexus on the basis of profoundly diverse constituent elements and methodologies.¹³²

For the present enquiry, the purpose of a CLI should be understood as a normative concept which comprises the underlying social and economic policies and political objectives that this system is designed to attain. Regarding the elements that should be appraised to infer such purpose, two key issues require consideration. The first is the relevance that should be attributed to the textual elements of the CLI in question.

On this matter, jurisprudence theories addressing “hard cases” – within which CLIs would typically fall – provide a useful frame of reference.¹³³ Ronald

¹²⁹ See *supra* Part I.B.

¹³⁰ The purposive method has deep roots in Anglo-American jurisprudence. SIR JOHN BAKER, *THE REINVENTION OF MAGNA CARTA 1216–1616*, 222 (2017) (who notes that, by late sixteenth century, it had long been established that readers in the inns of court had “to begin their exposition of a statute by offering a historical explanation of the mischief at which it was aimed”). BARAK, *supra* note 16, at 89; Michael S. Moore, *The Semantics of Judging*, 54 S. CAL. L. REV. 151, 262–65 (1981); L. Fuller, *The Morality of Law* (2nd ed. 1969); G. Gottlieb, *The Logic of Choice* 105 (1968).

¹³¹ This proposition can be traced back to the *Heydon’s Case* 76 Eng. Rep. 637, 638 (Ex. 1584) (in which the English Court of Exchequer interpreted an Henrician statute concerning the dissolution of monasteries, based on its construction of the “true reason” of this law).

¹³² POPKIN, *supra* note 4, ch. 2–3 (for a comprehensive historical analysis and an exhaustive bibliography).

¹³³ See generally Ronald Dworkin, *Hard Cases*, HARV. L. REV. 1057 (1974–1975); H.L.A. HART, *THE CONCEPT OF LAW* 126 (3d ed. 2012) (for the positivist approach to hard cases); JOSEPH RAZ, *THE AUTHORITY OF LAW: ESSAYS ON LAW AND MORALITY* 197 (1979); Lon L. Fuller, *Positivism and Fidelity to Law--A Reply to Professor Hart*, 71 HARV. L. REV. 630 (1957) (criticizing H.L.A. Hart’s dichotomy between standard cases that do not require a contextual approach and penumbral cases that warrant a broader contextual approach); Max Radin, *Realism in Statutory*

Dworkin axiomatically posits that textual indications are insufficient and that recourse to elements outside the semantic datum is necessary.¹³⁴ Similarly, Lon Fuller argues that textual elements are inherently indeterminate, if considered in isolation and suggests that an assessment of the context in which legal rules are intended to operate is always required.¹³⁵ In like manner, Aharon Barak argues that the semantic components of a rule only reveal the range of its possible meanings and suggests that the analysis of extra textual elements is necessary.¹³⁶ Arguably, recourse to contextual elements also finds support in H.L.A. Hart's positivist approach, whenever a case under consideration falls within the "cone of penumbra" of the applicable rules and cannot be resolved on the basis of the plain meaning of the text.¹³⁷

As CLI coordination failures are caused by gaps and incongruences between intersecting commercial law branches, it stands to reason that textual elements will generally be scarce supplying only limited indications. The search for the guiding purposes instrumental to fostering legal coherence will almost invariably have to go beyond textual elements and venture into the relevant context.

Having established that a contextual approach is required to infer the purpose of a CLI, the second issue concerns the content and boundaries of this assessment. Looking again at jurisprudence theories as a frame of reference, a rich plurality of views emerges. Ronald Dworkin broadly suggests that the relevant context from which purposes should be inferred is the "political structure" of the relevant community and in particular its principles of political morality.¹³⁸ Taking a different approach, Aharon Barak suggests that the context from which the purpose of a system of rules should be extrapolated is the combined product of the subjective intent of the legislature and the objective intent of the legal system in which it operates considered as a whole.¹³⁹

Interpretation and Elsewhere, 23 CALIF. L. REV. 156 (1934–1935) (expressing the realist approach to hard cases).

¹³⁴ See Dworkin, *supra* note 133, at 1059–61.

¹³⁵ See Fuller, *supra* note 133, at 661–70.

¹³⁶ See BARAK, *supra* note 16, at 6–7, 120–22, 148–52.

¹³⁷ See HART, *supra* note 133, at 123–26.

¹³⁸ See Ronald Dworkin, *Natural Law Revisited Dunwoody Distinguished Lecture in Law*, 34 U. FLA. L. REV. 165, 165–67 (1981–1982).

¹³⁹ See BARAK, *supra* note 16, at IX, 110, 148 (Barak theorizes that the context from which purpose should be inferred is expression of the internal relationship between the intent of the specific author ('subjective') and the intent of a reasonable author ('objective'); at the highest level of abstraction objective intent is "the intent of the system" it is "a legal construction that reflects the needs of society. It is an expression of a social ideal").

Regarding CLIs, we submit that the contextual enquiry instrumental to the extrapolation of purpose should focus on the relevant intersecting branches. As each CLI is a new system of rules and logical deductions that stems from two or more commercial law branches,¹⁴⁰ it follows that these intersecting branches offer the primary contextual datum. Hence, to identify the socio-economic goals of the CLI under consideration it will be necessary to elicit the purposes of each intersecting branch. In this respect, it should be noted that some commercial law branches are characterized by statutes that declare their underlying purposes explicitly. For example, embodying Karl Llewellyn's "principle of patent reason",¹⁴¹ the Uniform Commercial Code (UCC) states that its policies and underlying purposes are "(1) to simplify, clarify, and modernize the law governing commercial transactions; (2) to permit the continued expansion of commercial practices through custom, usage, and agreement of the parties; and (3) to make uniform the law among the various jurisdictions."¹⁴²

In similar vein, a growing number of regulatory regimes expressly state their purposes. Typically, this occurs when administrative authorities exercise their delegated powers to regulate a specific sector of the economy through "new governance" approaches.¹⁴³ New governance entails experimental regulatory

¹⁴⁰ See *supra* I.B.

¹⁴¹ See WILLIAM L. TWING, THE KARL LLEWELLYN PAPERS (1968) (citing a Karl Llewellyn 1944 stating "The principle of the patent reason: Every provision should show its reason on its face. Every body of provisions should display on their face their organizing principle.").

¹⁴² See U.C.C. § 1-103 (2019). On the interpretation of the UCC, see generally Peter A. Alces & David Frisch, *Commenting on Purpose in the Uniform Commercial Code*, 58 OHIO ST. L.J. 419 (1997); Julian B. McDonnell, *Purposive Interpretation of the Uniform Commercial Code: Some Implications for Jurisprudence*, U. PA. L. REV. 795 (1978); Mitchell Franklin, *On the Legal Method of the Uniform Commercial Code Commercial Code: Part II*, LAW & CONTEMP. PROBS. 330 (1951).

¹⁴³ See, generally, Julia Black, *Paradoxes and Failures: New Governance Techniques and the Financial Crisis*, 75 MOD. L. REV. 1037 (2012) (advancing a critical analysis on the effectiveness of new governance techniques following the global financial crisis); Saule T. Omarova, *Wall Street as Community of Fate: Toward Financial Industry Self-Regulation*, 159 U. PA. L. REV. 411, (noting the need to redefine the interactions between public and private actors through regulatory approaches that stimulate the implementation of self-regulatory measures) (2011); Dan Awrey, *Regulating Financial Innovation: A More Principles-Based Proposal?*, 5 BROOK. J. CORP. FIN. & COM. L. 273, 285 (2011) (noting the relationship between novel principle-based approaches and "new governance"); Robert F. Weber, *New Governance, Financial Regulation, and Challenges to Legitimacy: The Example of the Internal Models Approach to Capital Adequacy Regulation*, ADMINISTRATIVE LAW REVIEW 783, 838 (2010) (critically examining the application of new governance approaches in the context of banking regulation); and Cristie Ford, *New Governance in the Teeth of Human Frailty: Lessons from Financial Regulation*, WIS. L. REV. 441, 105 (2010) (indicating that new governance approaches are "underpinned by a bottom-up, decentered, horizontal experimental process" involving private actors). For an application of new

structures that are polycentric, as they transcend the public-private divide by entrusting regulated entities with key regulatory functions. In this schema, the purpose of a regulatory provision is enunciated in general principles that indicate the behavior which regulated entities must adopt. Thus, the purpose is an integral component of principle-based regulation, whereby regulatory outcomes are enunciated, while discretion as to the most suitable methods to achieve them is left to financial institutions.¹⁴⁴ Differently, “rule-based” approaches¹⁴⁵ are concerned with detailing the process that regulated entities must follow to attain the desired outcomes.¹⁴⁶

III. A NOVEL METHOD

The preceding discourse has suggested that the attainment of coherence within CLIs is instrumental to addressing their coordination failures. This requires that the relevant rules and principles are consistent both with each other and their appertaining branches, and that such consistency is attained through a set of guiding purposes inferred from both textual and contextual elements. This part articulates a two-step method that incorporates these critical elements and offers the requisite flexibility.

For both clarity and simplicity, our analysis below primarily relies on examples of CLIs that involve two commercial law branches; the additional

governance approaches in the context of FinTech see Hilary J. Allen, *Regulatory Sandboxes*, 87 GEO. WASH. L. REV. 579, 582 (2019). (arguing that some of the new approaches to regulate FinTech are an application of new governance approaches and principle-based regulation given).

¹⁴⁴ Principle-based regulation is also referred to as “outcome-based”, or “performance-based”, and is distinguished from process-orientated regulation; on this distinction see *infra* note 146.

¹⁴⁵ In finance, principle-based regulation has been heralded as an outcome orientated approach designed to foster ethical standards in a flexible manner; whereas rule-based regulation has been typically associated with a narrow mindset of formal compliance. Such a sharp dichotomy has been criticized on different grounds; for an analysis of the main limits associated to this understanding see Black, *supra* note 143, at 1043. (noting that regulatory regimes necessitate both principles and rules). Further on the connection between principle-based and rule-based regulation, see Cunningham, *supra* note 5. (illustrating how corporate law, securities regulation, and accounting are necessarily characterized by both general principles and detailed rules).

¹⁴⁶ Rule-based regulation is also referred to as “process-orientated” as the focus is on procedural requirements; whereas outcome-orientated regulation is concerned with benchmarking performance with regulatory objectives; see Cristie Ford, *Principles-Based Securities Regulation in the Wake of the Global Financial Crisis*, 55 MCGILL LAW JOURNAL 257, 275 (2010); Cary Coglianese, *Performance-Based Regulation: Concepts and Challenges*, in COMPARATIVE LAW AND REGULATION 410 (Francesca Bignami & David Zaring eds., 2016) (indicating that principle-based regulation might not be always outcome-based regulation as the former has a larger scope).

complexities generated by the presence of multiple intersecting branches will be highlighted where appropriate.

A. The First Step: Deconstructing the context

The preliminary operation required to address a CLI affected by coordination failures is to identify which commercial law branches are involved. The base case will typically involve two branches. For example, a transaction in which a newly-formed corporate entity sells blockchain tokens that are intended to confer contractually determinate voting and participation rights to their buyers, produces a CLI between corporate law and financial regulation, including securities and capital markets law.¹⁴⁷ In like manner, a transaction in which parties agree to create a security interest in a pool of copyright licenses, there will be an intersection between secured transactions law and copyright law.¹⁴⁸ More demanding cases will present CLIs that feature multiple intersecting branches. For example, a transaction in which a special purpose vehicle acquires a pool of residential mortgages and concurrently sells securities (i.e. mortgage backed securities) to investors under which it contractually promises to distribute the ensuing mortgage payments, forges a CLI between corporate law, secured transactions law and financial regulation.¹⁴⁹ Similarly, in a transaction in which a bank extends a loan secured by all the borrower's present and future patents, will yield a CLI between secured transactions law, patent law, and financial regulation.¹⁵⁰

Once the intersecting commercial law branches have been identified, attention can shift to deconstructing the problematic CLI in question by bringing into focus both its textual and contextual elements. Regarding the former, it is

¹⁴⁷ See Shaanan Cohn et al., *Coin-Operated Capitalism*, 119 COLUM. L. REV. 591 (2019) (for an exhaustive analysis of the technical and legal aspects of “initial coin offerings”); Dirk A. Zetsche et al., *The ICO Gold Rush: It's a Scam, It's a Bubble, It's a Super Challenge for Regulators*, 60 HARV. INT'L L.J. 267 (2019) (expounding the regulatory challenges created by initial coin offerings).

¹⁴⁸ See generally Andrea Tosato, *Secured Transactions and IP Licenses: Comparative Observations and Reform Suggestions Secured Transactions Law in the Twenty-First Century*, 81 LAW & CONTEMP. PROBS. 155 (2018) (for a comparative analysis of the use of IP licenses as collateral).

¹⁴⁹ See Steven L. Schwarcz, *What Is Securitization: And For What Purpose*, 85 S. CAL. L. REV. 1283 (2011–2012). (providing a general theory on securitization and an exhaustive bibliography); Tracy Lewis & Alan Schwartz, *Unenforceable Securitization Contracts*, 37 YALE J. ON REG. (2020) (who uncover a range of incongruences besetting the overlap that governs securitization contracts involving mortgage backed securities).

¹⁵⁰ See Ward, *supra* note 80, at 429–40 (analyzing of the intersection between patent law and Article 9).

necessary to determine precisely which rules and principles give rise to the coordination failures under consideration. The aim of this investigation is to chart the perimeter of the CLI and isolate its constitutive elements. The resultant data are instrumental both to classifying the coordination failures and appraising their intensity. For example, in relation to the CLI governing the use of copyright as collateral, this investigation would delve into both secured transactions and copyright sources of law to isolate the provisions that have caused coordination failures.¹⁵¹ Similarly, for the CLI that is formed when a regulated financial institution takes security in assets other than financial collateral,¹⁵² attention would have to be directed at the applicable financial regulation and secured transactions laws to dissect the rules and principles that spawn the current incongruous regime.

Regarding the contextual elements, the relationship between the CLI in question and its constituent commercial law branches needs to be appreciated systematically. The aim of this assessment is to appraise the importance of the rules and principles that engender the coordination failure under consideration, relative to their appertaining commercial law branch. For this analysis, we suggest that each commercial law branch should be viewed as a tripartite spherical structure formed of a core, a middle sphere and an outer sphere to the sphere in question. Each rule and principle involved in the CLI under consideration should be classified within one of these concentric spheres depending on its systemic relevance.¹⁵³ In like manner to the bands in the “coloured spectrum” that appears when passing white light through a prism,¹⁵⁴ the three layers of this systemization fade into each other, rather than being separated by stark demarcation lines. Accordingly, there will be borderline cases in which it might be challenging to establish exactly where a determinate rule falls within the sphere. Nevertheless, this tripartition is a valuable analytical tool, as it provides a useful framework by which the causative elements of a CLI coordination failure can be contextualized within their commercial law branch. Below we explore in detail the core, the middle sphere and the outer sphere.

¹⁵¹ See *Id.* at 414–29 (analyzing of the intersection between the Copyright Act and Article 9); Haemmerli, *supra* note 94 (emphasizing coordination failures between the Copyright Act and Article 9); Andrea Tosato, *Security Interests over Intellectual Property*, 6 JOURNAL OF INTELLECTUAL PROPERTY LAW & PRACTICE 93 (2010) (analyzing this intersection under english law).

¹⁵² See *supra* note 86 and accompanying text.

¹⁵³ See *infra* III.A.1-3.

¹⁵⁴ Between 1666 and 1672, Isaac Newton conducted experiments to study reflections, refractions, inflexions and colors of light. He observed that that white light (sunlight) passed through a prism separated into its component colors (dispersion) and formed a “coloured spectrum”. See ISAAC NEWTON, OPTICKS, OR A TREATISE OF THE REFLEXIONS, REFRACTIONS, INFLEXIONS AND COLOURS OF LIGHT, bk. I part I, Prop. II. Theor. II, Exp. 3 (1704).

1. *The Core: Policy Aims*

In our concentric systemization of commercial law branches, the core is the nucleus encircled by the middle and outer sphere. It comprises the purposes pursued by a commercial law branch, intended as its underlying social and economic policies and political objectives. These “policy aims”¹⁵⁵ serve as the foundations of their system of appurtenance. They formulate the ordering criteria and shape the development of each commercial law branch. These policy aims may be extrapolated from a range of diverse sources. In some cases, they are enshrined in statutes,¹⁵⁶ in others, they are embedded in regulatory principles,¹⁵⁷ in others still they emerge from the case law. Notably, policy aims are not immutable and can evolve over time; any such changes will be reflected in the aforementioned textual and contextual elements.

In secured transactions law, this core has been studied extensively. Pioneered by Article 9 and increasingly embraced both domestically and internationally,¹⁵⁸ the “first principle” of secured transactions law is that it should enable debtors “to secure as much or as little of their debts with as much or as little of their existing and future property as they deem appropriate.”¹⁵⁹ This axiom embodies a bundle of policy aims which are closely linked and mutually reinforcing. From a private law perspective, it is widely accepted that secured transactions law should recognize and honor a person’s liberty to use their personal property as collateral, consistently with the normative values of freedom of contract and free alienation of property.¹⁶⁰ As security interests are a type of property right,

¹⁵⁵ Throughout Part III the locution “policy aims” is used to indicate the underlying social and economic policies and political objectives. Policy aims, in fact, are key to infer the purpose of a commercial law branch, see *supra* II.C.

¹⁵⁶ See *supra* note 141 and accompanying text.

¹⁵⁷ See *supra* notes 144-145.

¹⁵⁸ See Castellano & Tosato, *supra* note 34; Anna Veneziano, *Italian Secured Transactions Law - The Need for Reform*, in SECURED TRANSACTIONS LAW REFORM 355 (Louise Gullifer & Orkun Akseli eds., 2016); Rodríguez de las Heras Ballell & Feliu Rey, *supra* note 34; Fernando D. Hernandez, *Secured Credits in Insolvency Proceedings in Argentina*, 9 INSOLVENCY & RESTRUCTURING INT’L 21 (2015); Marek Dubovec & Cyprian Kambili, *Using the UNCITRAL Legislative Guide as a Tool for a Secured Transactions Reform in Sub-Saharan Africa: The Case of Malawi*, 30 ARIZ. J. INT’L & COMP. L. 163 (2013-2014); Neil B. Cohen, *Harmonizing the Law Governing Secured Credit: The Next Frontier*, 33 TEX. INT’L L. J. 173 (1998).

¹⁵⁹ Steven L. Harris & Charles W. Mooney Jr, *A Property-Based Theory of Security Interests: Taking Debtors’ Choices Seriously*, VIRGINIA LAW REVIEW 2021, 2021-22 (1994). See generally GILMORE, *supra* note 32.

¹⁶⁰ Harris & Mooney Jr, *supra* note 159, at 2047-53, 2051-52 (the authors – who served as Reporters for the Drafting Committee to Revised Uniform Commercial Code Article 9 – declare that they “embrace the baseline principles that underlie current law insofar as it generally respects

debtors who grant security interests to their creditors are voluntarily disposing of their property; the law should uphold and respect such choices, both between the parties and *erga omnes*, albeit subject to appropriate limitations.¹⁶¹

From an economic perspective, the prevailing view is that secured transactions law should aim to incentivize the extension of credit.¹⁶² Security interests are risk mitigation devices instrumental to unlocking financing that would be unavailable on an unsecured basis.¹⁶³ They afford lenders an alternative avenue to satisfy their obligation, in the event of their debtor's default. Even when not Pareto efficient – typically due to non-consensual transfers of wealth from unsecured to secured creditors – the additional capital flows generated by secured loans deliver welfare gains that in aggregate outweigh the social costs of these dealings.¹⁶⁴ From a social perspective, there is growing recognition that secured transactions law should aim to bolster financial inclusion. To this end, the legal framework governing secured lending should be designed to empower SMEs and

the free and effective alienation of property rights and the ability of parties to enter into enforceable contracts. We believe that these principles reflect widely shared normative views that favor party autonomy concerning both property and contract.”).

¹⁶¹ See *Id.* at 2047–67 (for a forceful argument in support of this thesis).

¹⁶² See Richard A. Posner, *ECONOMIC ANALYSIS OF LAW*, paras §§1.1-1.2 (9th ed. 2014).

¹⁶³ See Giuliano G. Castellano, *Reforming Non-Possessory Secured Transactions Laws: A New Strategy?*, 78 MODERN LAW REVIEW 611, 617 (2015). (noting that one of the primary economic functions of security interests in personal property is to allow lenders to manage and mitigate credit risk).

¹⁶⁴ Law and economics literature exploring secured transactions law is vast. See generally Brian M. McCall, *It's Just Secured Credit - The Natural Law Case in Defense of Some Forms of Secured Credit*, 43 IND. L. REV. 7, 9–12 (2009) (for an exhaustive bibliography); F.H. Buckley, *The Bankruptcy Priority Puzzle*, 72 VA. L. REV. 1393, 1469 (1986) (submitting that secured credit lowers screening costs and that debtors are best placed to determine when giving security maximizes value); Randal C. Picker, *Security Interests, Misbehavior, and Common Pools*, 59 U. CHI. L. REV. 645, 678-79 (1992) (positing that secured credit avoids duplicative monitoring of creditor misbehavior); David Gray Carlson, *On the Efficiency of Secured Lending*, 80 VA. L. REV. 2179, 2213 (1994) (asserting that security interests disable the borrower from personal misbehavior). Notably, the view that secured credit is efficient is not unanimously accepted; see generally Lucian A. Bebchuk & Jesse M. Fried, *The Uneasy Case for the Priority of Secured Claims in Bankruptcy: Further Thoughts and a Reply to Critics*, 82 CORNELL L. REV. 1279, 1315-18 (1997); Elizabeth Warren, *Making Policy with Imperfect Information: The Article 9 Full Priority Debates*, 82 CORNELL L. REV. 1373, 1377 (1997); John Hudson, *The Case Against Secured Lending*, 15 INT'L REV. L. & ECON. 47 (1995); Lynn M. LoPucki, *The Unsecured Creditor's Bargain*, 80 VA. L. REV. 1887, 1913-14 (1994); Paul M. Shupack, *Defining Purchase Money Collateral*, 29 IDAHO L. REV. 767 (1993).

underserved constituencies, whose ingenuity and entrepreneurship have traditionally been stifled by the unavailability of affordable capital.¹⁶⁵

In financial regulation, the overarching purpose is to ensure that the financial system performs its primary function of allocating and deploying economic resources across industries, market participants, and over time.¹⁶⁶ Crucially, markets are not perfect. Their competitive dynamics do not always yield the desired and efficient allocation of economic resources. These malfunctions are commonly referred to as “market failures” and represent one of the primary justifications for public (regulatory) interventions in the financial system.¹⁶⁷ According to this understanding, financial regulation pursues public interests (public interest theories),¹⁶⁸ rather than being solely molded by the interests of

¹⁶⁵ See generally, FREDERIQUE DAHAN & JOHN SIMPSON (EDS.), SECURED TRANSACTIONS REFORM AND ACCESS TO CREDIT (2009) (exploring the nexus between secured transactions law and access to credit); WBG Knowledge Guide *supra* n 11 at 4 (emphasizing the importance of inclusive access to credit as a core policy aim of secured transactions law); Walsh, *supra* note 15, at 181–82; Grant Gilmore, *The Secured Transactions Article of the Commercial Code*, 16 LAW AND CONTEMPORARY PROBLEMS 27, 29–32 (1951); Louise Gullifer & Ignacio Tirado, *A Global Tug of War: A Topography of Micro-Business Financing Secured Transactions Law in the Twenty-First Century*, 81 LAW & CONTEMP. PROBS. 109, 113–16 (2018); Steven L. Schwarcz, *Empowering the Poor: Turning De Facto Rights into Collateralized Credit*, 95 NOTRE DAME L. REV. 1, 1–3 (2019).

¹⁶⁶ See Robert C. Merton & Zvi Bodie, *A Conceptual Framework for Analyzing the Financial Environment*, in THE GLOBAL FINANCIAL SYSTEM 3 (Dwight B. Crane et al. eds., 1995) (indicating that the overarching socio-economic function of allocating economic resources across border and time is realized through a sub-set of functions, including the clearing and settling of payments, the management of risks, and the deployment of capital).

¹⁶⁷ Although other reasons, such as social solidarity, lend strong support to the implementation of regulatory policies, the market failures rationale – deploying the analytical tools of economics – is commonly considered as the main reasons justifying the regulation of financial markets; see ARMOUR ET AL., *supra* note 68, at 51 (noting that the key features of financial markets make them prone to market failures); and Steven L. Schwarcz, *Controlling Financial Chaos: The Power and Limits of Law*, WIS. L. REV. 815, 818 (2012) (arguing that four types of market failures are inherent in the financial system and identifying them as “information failure, rationality failure, principal-agent failure, and incentive failure.”).

¹⁶⁸ Public interest theories have developed around the notion that regulators are benevolent agents and that the purpose of regulation is to attain publicly desired outcomes; see generally CASS R. SUNSTEIN, *AFTER THE RIGHTS REVOLUTION: RECONCEIVING THE REGULATORY STATE* (1993) (advocating for regulation to embrace further this understanding and promote public interests). Adopting a public interest approach to identify the purposes of financial regulation does not imply that regulation could be influenced by other factors, such as lobbying from interests groups or behavioral dynamics; see Giuliano G. Castellano & Geneviève Helleringer, *The Social Psychology of Financial Regulatory Governance*, in THE POLITICAL ECONOMY OF FINANCIAL REGULATION 160 (Emilios Avgouleas & David C. Donald eds., 2019) (advancing a theory to explain how group dynamics can impact the collective decision-making process of regulatory agencies).

individuals, groups, and industries (interest group theories).¹⁶⁹ Through this lens, this commercial law branch provides a set of rules and principles that instill confidence in the financial system by addressing market failures. In turn, this incentivizes markets participants to deploy their capital, supplying both short-term liquidity and long-term financing to the “real economy”.¹⁷⁰ To this end, regulation is designed to achieve two broad policy aims. First, regulatory regimes protect the integrity of financial markets, ensuring that they operate in a fair and efficient manner.¹⁷¹ This policy aim entails the safeguarding of professional and retail investors as well as savers,¹⁷² and ramifies into the variety of regimes pertaining to

¹⁶⁹ Interest group theories develop around the notion that individuals, such as market participants, regulators, or politicians, maximize their own interests. Hence, parties involved in the regulatory process seek to maximize their own utility; see generally Sam Peltzman, *Toward A More General Theory of Regulation*, 19 THE JOURNAL OF LAW AND ECONOMICS 211 (1976). (identifying the key assumptions to explain the regulatory process); George J. Stigler, *Theory of Economic Regulation*, THE BELL JOURNAL OF ECONOMICS AND MANAGEMENT SCIENCE 3 (1971). (advancing the idea that regulation is “captured” by regulated entities as they contribute to its design and interpretation for their own benefit).

¹⁷⁰ The term “real economy” refers to that segment of the economic system concerned with the production of goods and supply of services; see “Real Economy” in the *Cambridge English Dictionary & Thesaurus*, CAMBRIDGE DICTIONARIES ONLINE, <https://dictionary.cambridge.org/dictionary/english/real-economy>.

¹⁷¹ Market integrity, like financial stability, is an elusive concept that has witnessed a significant expansion in recent years. In general, behaviors that give rise to market integrity concerns encompass a variety of actions that may compromise the efficient functioning of financial markets, undermining the confidence of investors; see Janet Austin, *What Exactly is Market Integrity? An Analysis of One of the Core Objectives of Securities Regulation*, 8 WM. & MARY BUS. L. REV. 215 (2017). (noting the connection between market integrity and fairness in the context of securities regulation); and Harry McVea, *Supporting Market Integrity*, in THE OXFORD HANDBOOK OF FINANCIAL REGULATION 631, 635 (Eilis Ferran et al. eds., Oxford handbooks in law, 2015). (identifying the activities that threat market integrity and pose relevant regulatory challenges).

¹⁷² See Dodd-Frank Act *supra* note 49 § 1001 enumerating consumer protection among its central objectives. Some commentators consider the protection of retail customers as a policy objective with a separate standing; see, e.g., Eilis Ferran et al., *Introduction*, in THE OXFORD HANDBOOK OF FINANCIAL REGULATION 1, 6 (Eilis Ferran et al. eds., Oxford handbooks in law, 2015). However, the protection of customers, including investors in the retail segment of financial markets, is ultimately a matter of market integrity; see, e.g., Robert Charles Clark, *The Soundness of Financial Intermediaries*, 86 THE YALE LAW JOURNAL 1, 13 (1976). (noting that misconduct “prevents capital suppliers [such as depositors, investors, shareholders] from knowing fully the risks actually posed by a firm, and thus may prevent markets from working perfectly”). The Department of Justice established in 2018 the Task Force on Market Integrity and Consumer Fraud, with purpose of “combating fraud against consumers [...] and corporate fraud that victimizes the general public and the government” as noted by Deputy Attorney General Rod J. Rosenstein Delivers Remarks Announcing the Establishment of the Task Force on Market Integrity and Consumer Fraud, DOJ (July 11, 2018), available at <<https://www.justice.gov/opa/speech/deputy-attorney-general-rod-j-rostenstein-delivers-remarks-announcing-establishment-task>> (accessed March 2020).

conduct regulation.¹⁷³ Second, financial regulation is concerned with maintaining the safety of financial institutions and the stability of the financial system considered in its entirety.¹⁷⁴ The former aim is achieved through micro-prudential regulation;¹⁷⁵ the latter, instead, is attained through macro-prudential regulatory policies.¹⁷⁶

The debate regarding the policy aims of IP law has burned passionately for centuries.¹⁷⁷ For copyright, one view has long been that the policy aim of this commercial law branch is to grant authors absolute control over their creations because they are figments of their “personality” (personhood theory).¹⁷⁸ A different thesis has posited that the policy aim of copyright is to afford authors the just reward for their creative labor (Lockean labour theory).¹⁷⁹ A third view, increasingly prevalent, is that the policy aim of copyright is to offer a market driven incentive to stimulate the ingenuity of authors, as the proliferation of creative works

¹⁷³ For a definition of conduct regulation and its relationship with “compliance culture” see *supra* 51-52 and accompanying text.

¹⁷⁴ See Dodd-Frank Act *supra* note 49 § 112 (establishing the Financial Stability Oversight Council (FSOC) to maintain the stability of the United States financial system). Albeit commonly recognized as one of the central policy aims of financial regulation, financial stability is an elusive notion better understood as a condition where *instability* is absent; see generally William A. Allen & Geoffrey Wood, *Defining and Achieving Financial Stability*, 2 JOURNAL OF FINANCIAL STABILITY 152 (2006). (noting that financial stability is a state where episodes of instability are less likely to occur). Hence, the maintenance of financial stability results in limiting the occurrence and impact of systemic risk, defined as “a risk of disruption to financial services that is (i) caused by an impairment of all or parts of the financial system and (ii) has the potential to have serious negative consequences for the real economy;” see International Monetary Fund (IMF) et al., *Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations* (Report to the G-20 Finance Ministers and Central Bank Governors, IMF, BIS, FSB), Oct. 2009 2.; on the regulatory approaches to systemic risk see *supra* n 55 an accompanying text.

¹⁷⁵ See *supra* note 54 and accompanying text.

¹⁷⁶ On the distinction between micro- and macro-prudential regulation see *supra* n 53 and accompanying text.

¹⁷⁷ See generally ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY 6-10 (2011) (for a rich bibliography and a broad overview of the scholarly debate on the nature and justifications of intellectual property law); Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L. J. 287 (1988) (for an exhaustive account of the theories underlying IP law).

¹⁷⁸ See Christopher S. Yoo, *Rethinking Copyright and Personhood*, 2019 U. ILL. L. REV. 1039 (2019) (explaining the philosophical roots of this theory and its application to copyright law theory); Justin Hughes, *The Personality Interest of Artists and Inventors in Intellectual Property*, 16 CARDOZO ARTS & ENT. L.J. 81 (1998) (for an analysis of this theory).

¹⁷⁹ See Hughes, *supra* note 177, at 296–310 (analyzing Locke’s property theory and its application to copyright law); Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533, 1540–55 (1993).

augments social welfare (utilitarian theory).¹⁸⁰ For patent law, utilitarian theories have progressively garnered the favor of lawmakers, judges and commentators. The prevailing view is that the policy aim of this IP law strand is to incentivize the development, realization, and marketing of inventions for the economic and societal welfare that they generate.¹⁸¹ Other theoretical justifications based on natural rights,¹⁸² prospect theory,¹⁸³ and social justice,¹⁸⁴ have not gained comparable traction. Looking to trademarks law, in 19th century, the generally accepted view was that the policy aim of this system of rules and principles was to safeguard producers from competitors' attempts to misappropriate their clientele with confusing and deceptive trade signs. In the 20th century, lawmakers, courts and commentators have progressively shifted to a utilitarian stance. They have embraced the theory that the policy aim of trademarks law is to enhance the quality of information available to market participants, thereby reducing search costs and increasing both competition and economic efficiency.¹⁸⁵

¹⁸⁰ Unequivocal proclamations are found in *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984); *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975); *Mazer v. Stein*, 347 U.S. 201, 219 (1954); *Wheaton v. Peters*, 33 U.S. (8 Pet.) 591, 661 (1834). See generally Shyamkrishna Balganesh, *Foreseeability and Copyright Incentives*, 122 HARV. L. REV. 1569, 1576–77 (2009) (for an exhaustive analysis); William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325 (1989).

¹⁸¹ Famously, Abraham Lincoln described the US Patent system as adding “the fuel of interest to the fire of genius” LECTURE ON DISCOVERIES AND INVENTIONS (1858). See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (embracing an utilitarian theory of patent law); see generally Mark A. Lemley, *Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 993–94 (1997) (for a detailed explanation and an exhaustive bibliography); Alan Devlin & Neel Sukhatme, *Self-Realizing Inventions and the Utilitarian Foundation of Patent Law*, 51 WM. & MARY L. REV. 897, 897–99 (2009–2010); David S. Olson, *Taking the Utilitarian Basis for Patent Law Seriously: The Case for Restricting Patentable Subject Matter*, 82 TEMP. L. REV. 181, 181–84 (2009).

¹⁸² See Mossoff, *supra* note 38.

¹⁸³ See generally Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).

¹⁸⁴ See generally Peter S. Menell, *Property, Intellectual Property, and Social Justice: Mapping the Next Frontier Property as a Form of Governance: Panel 4: Property Rights in the Digital Age*, 5 BRIGHAM-KANNER PROP. RTS. CONF. J. 147 (2016).

¹⁸⁵ See *Qualitex Co. v. Jacobsen Prods. Co.*, 514 U.S. 159, 163–64 (1995) (stating that trademark law reduces the customers' costs of shopping and making purchasing decisions, while assuring producers reputational rewards associated with a strong brand); *Union Nat'l Bank of Tex., Laredo, Tex. v. Union Nat'l Bank of Tex., Austin, Tex.*, 909 F.2d 839, 844 (5th Cir. 1990) (stating that trademarks lower consumer search costs, foster high quality production and impede free-riding); Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet Trademark in Transition: Institute for Intellectual Property & Information Law Symposium*, 41 HOUS. L. REV. 777, 778 (2004); William P. Kratzke, *Normative Economic Analysis of Trademark*

2. *The Middle Sphere: Key Tenets*

In our concentric systemization of commercial law branches, the middle sphere exists between the core and the outer sphere. It comprises the dispositive rules and principles that articulate the legal framework necessary to realize the policy aims of a commercial law branch. These “key tenets”¹⁸⁶ are generally embedded in statutory instruments but can also stem from case law. Though with different intensity, they typically possess three traits that are interconnected and mutually influencing.

First, key tenets establish the rules and principles through which commercial law branches supplement or derogate general law or another commercial law branch.¹⁸⁷ In the context of banking law and regulation, for instance, key tenets of prudential regimes are constructed upon legal rules defining the relationship between depositors and the banker. As originally stipulated in English common law and further clarified by a rich jurisprudence developed by the US Supreme Court,¹⁸⁸ deposits are “nothing more or less than a promise to pay, from the bank to the depositor;”¹⁸⁹ forming a contractual relationship that allows banks to deploy such deposits to conduct their business and earn profits.¹⁹⁰ This legal characterization allows banks to perform their socio-economic function within the financial system.¹⁹¹ Coextensively, courts have long recognized that banking differs substantially from an “ordinary private business” because of its

Law, 21 MEM. ST. U. L. REV. 199, 214–17 (1990–1991); William M. Landes & Richard A. Posner, *The Economics of Trademark Law Articles and Reports*, 78 TRADEMARK REP. 267, 267–69 (1988).

¹⁸⁶ Throughout Part III the locution “key tenets” is used to indicate the rules and principles that fall within the middle sphere of a commercial law branch.

¹⁸⁷ See *supra* subpart I.A.

¹⁸⁸ In *Foley v. Hill*, (1848) 2 HLC 28, 9 ER 1002, Lord Cottenham delivered what could arguably be considered one of the most quoted decisions in banking law and stated that: “[t]he money placed in the custody of a banker is, to all intents and purposes, the money of the banker, to do with it as he pleases; [...] he is of course answerable for the amount [...] to repay to the principal, when demanded, a sum equivalent to that paid” *cfr supra* n 60 at 1005–1006. For a comment to see CRANSTON ET AL., *supra* note 51, at 192. (noting that “the excessive attention given to the debtor-creditor side of *Foley v. Hill* obscures the fact that the case had an important contractual basis” to explain why the depositor-banker relationship presents significant deviations from the traditional debt obligations). The contractual nature of the relationship emerges more clearly from US case law; see *infra* 189 and 190 and accompanying text.

¹⁸⁹ See *Citizens Bank of Maryland v. David Strumpf* 516 U.S. 16 (1995).

¹⁹⁰ See *Bank of Marin v. England* 385 US 99, 101 (1966) (indicating that “[t]he relationship of bank and depositor is that of debtor and creditor, founded upon contract”); see 15-5991 U.S. Reports 1 (2016) *Shaw v. United States* (2016) (stating “[w]hen a customer deposits funds, the bank ordinarily becomes the owner of the funds and consequently has the right to use the funds as a source of loans that help the bank earn profits”).

¹⁹¹ See generally Merton & Bodie, *supra* note 166.

“public nature” that, in turn, demands for it to be “properly subject to the police power of the state.”¹⁹² By holding a portion of the capital raised and converting most into means of production,¹⁹³ banks deploy deposits (liquid debts with no fixed maturity) to support the creation of loans (illiquid assets with long-term maturity).¹⁹⁴ Yet, unlike other debtor-creditor relationship, the power to receive deposits and extend loans is conferred by a special set of rules regulating nationally chartered banks.¹⁹⁵

In this schema, a principal-agent problem surfaces, whereby the banker (agent) tends to maximize returns from investing the money of depositors (principals) in order to increase profits.¹⁹⁶ Corporate structures and compensation mechanisms, may incentivize this behavior leading bankers to take excessive risk or disfavoring prudent risk-management.¹⁹⁷ As depositors are exposed to potential losses without having the power to monitor the conduct of the banker, a problem of moral hazard emerges.¹⁹⁸ To maximize the value of the firm, bank managers and shareholders are incentivized to take more risk than what would be optimal from the standpoint of social welfare and, thus, compromising safety and soundness

¹⁹² *Schaake v. Dolley*, 118 P. 80, 83 (Kan. 1911).

¹⁹³ See, e.g., CARNELL ET AL., *supra* note 54, at 66; and ARMOUR ET AL., *supra* note 68, at 277.

¹⁹⁴ From an aggregate perspective, each time a loan is extended, a corresponding deposit is created; therefore, loans generate deposits that, in turn, are the primary form of purchasing power; see Castellano & Dubovec, *supra* note 1, at 70 (indicating that liquidity and maturity transformation are key functions to support the creation of credit and purchasing power in the modern economic system). On the function of deposits as a particular form of debt see CARNELL ET AL., *supra* note 54, at 67.

¹⁹⁵ See National Bank Act 12 U.S.C. § 24 (Seventh) (traditional banking powers also include discounting and negotiating promissory notes, and “loaning money on personal security”).

¹⁹⁶ On the principal-agent problem in general see the seminal work Sanford J. Grossman & Oliver D. Hart, *An Analysis of the Principal-Agent Problem*, 51 *ECONOMETRICA* 7 (1983).

¹⁹⁷ Mechanisms to compensate managers for short-term results are typically considered to heighten the principal-agent problem, see Lucian A. Bebchuk & Jesse M. Fried, *Paying for Long-Term Performance*, 158 U. PA. L. REV. 1915 (2010). The debate is particularly lively in the context of bonuses accorded to managers; for an exhaustive analysis of the problem and its regulatory approaches see Andreas Kokkinis, *Exploring the Effects of the ‘Bonus Cap’ Rule: The Impact of Remuneration Structure on Risk-Taking by Bank Managers*, 19 *JOURNAL OF CORPORATE LAW STUDIES* 167 (2019).

¹⁹⁸ In economic theory, moral hazard is inherent to principal-agent relationships and it is defined as a problem of “hidden actions,” given that the action of the agent cannot be observed and contracted upon by the principal; see Bengt Holmstrom, *Moral Hazard and Observability*, 10 *BELL JOURNAL OF ECONOMICS* 74, 74 (1979).

aims.¹⁹⁹ The key tenets of prudential regulation are, thus, designed to address the misalignment of incentives between bankers and depositors. They depart from general rules; for instance, by introducing the principle of “stakeholders’ supremacy”,²⁰⁰ by indicating that remuneration structure should support a sound risk-management,²⁰¹ or by establishing coefficient and formulas to determine the amount of own funds that a bank must maintain for each given risk exposure.²⁰² The resulting regulatory framework supplement contract and corporate law rules to address moral hazard, by ensuring that banks have some “skin in the game”,²⁰³ and achieve stated policy aims.

The second trait, closely linked to the first, is that key tenets articulate the fundamental concepts and doctrines of their appertaining system. For example, in secured transactions law, they govern the central aspects of creation, perfection, priority and enforcement of security interests. Regarding the former, under Article 9, one such key tenet postulates that a person may create a security interest that encumbers one or all their present and future assets (floating lien),²⁰⁴ and secures any or all present or future obligations owed to a creditor.²⁰⁵ Similarly, across IP laws, key tenets dictate the cardinal elements of the legal framework governing subject matter, protection requirements, scope of protection, alienability and

¹⁹⁹ On the threats that governance mechanisms might pose to the safety and soundness of firms and markets see John E. Thanassoulis & Misa Tanaka, *Bankers’ Pay and Excessive Risk*, BANK OF ENGLAND, STAFF WORKING PAPER NO 1 (Staff Working Paper, 2015); Emiliós Avgouleas & Jay Cullen, *Excessive Leverage and Bankers’ Pay: Governance and Financial Stability Costs of a Symbiotic Relationship*, 21 COLUM. J. EUR. L. 1 (2014) (highlighting the connection between bank’s corporate governance, managers’ 201 mechanisms and financial stability).

²⁰⁰ For financial firms, the principle of “shareholders’ supremacy” – arguably, a key tenet of corporate law – is often superseded by the principle of “stakeholders’ supremacy”. In banking, this principle is enshrined in international standards, see, notably, the Basel Committee on Banking Supervision (BCBS) Corporate Governance Principles for Banks, 3 (2015) (stating that “with respect to retail banks, shareholders’ interest would be secondary to depositors’ interest”).

²⁰¹ See, e.g., American Recovery and Reinvestment Act, Pub. L. 111-5, 123 Stat. 115 (Feb. 17, 2009) in 31 C.F.R. para 30.16(b)(1) (limiting the compensation attributed to executives, and other highly paid persons, of firms that received public assistance); for a comparative analysis of different regulatory approaches see Kokkinis, *supra* note 197.

²⁰² On key function of capital requirements see Castellano & Dubovec, *supra* note 1, at 71. (indicating that “that capital requirements control the quantity of credit circulating in the economy by binding its creation to an amount of equity that is proportionate to the level of risk acquired by each bank.”). For a detailed analysis of these mechanisms, see CARNELL ET AL., *supra* note 54, at 238 et seq.

²⁰³ Prudential regimes are designed both to limit excessive risk-taking and to enhance the loss-absorption capacity of banks; see SCOTT & GELPERN, *supra* note 54, at 504–74; ARMOUR ET AL., *supra* note 68, at 290–315.

²⁰⁴ U.C.C. § 9-204. See HARRIS & MOONEY, *supra* note 8, at 39–43.

²⁰⁵ U.C.C. § 9-204(c). See GILMORE, *supra* note 32, at 917–18.

enforcement. For example, key tenets of the Lanham Act provide that trademarks holders have the exclusive right to “use in commerce” their registered “mark” and censure any person who causes a likelihood of confusion,²⁰⁶ dilution,²⁰⁷ cybersquats²⁰⁸ or engages in false advertising.²⁰⁹

The third trait is that key tenets are typically expressed at high level of generality and abstraction. Notable examples are: the general obligation to perform and enforce contracts in good faith established by the UCC,²¹⁰ the “rule of reason” in antitrust law,²¹¹ the requirement that “works of authorship”²¹² must be “original”²¹³ to be protected by copyright, and the obligations of financial immediacies to act in the “best interest of clients”.²¹⁴ This “vague” and “open-textured” nature has several advantages for key tenets, in light of their function within commercial law branches. As observed by Endicott and Spence, it “(i) allows the application of the standard to correspond to its purpose, without the

²⁰⁶ See 15 U.S.C. § 1114.

²⁰⁷ See 15 U.S.C. § 1125(c).

²⁰⁸ See 15 U.S.C. § 1125(d).

²⁰⁹ See 15 U.S.C. § 1125(a)(1).

²¹⁰ U.C.C. § 1-304. See Robert S. Summers et al., *The Conceptualization of Good Faith in American Contract Law*, in *ESSAYS IN LEGAL THEORY* 299 (Robert S. Summers et al. eds., Law and Philosophy Library, 2000) (for an extensive bibliography); Andrea Tosato, *Commercial Agency and the Duty to Act in Good Faith*, 36 *OXFORD JOURNAL OF LEGAL STUDIES* 661 (2016) (for an EU law perspective).

²¹¹ The antitrust body of scholarship of the rule of reason is vast. See Herbert Hovenkamp, *The Rule of Reason*, 70 *FLA. L. REV.* 81 (2018) (for an exhaustive analysis).

²¹² 17 U.S.C. § 102(a) (2000). US Const, Art I, § 8, cl 8. only mentions “writings”, yet this word has been given a broad interpretation; see *The Trade-Mark Cases*, 100 U.S. 82 (1879) (in which the Supreme Court explore the notion of “writings” stating it “may be liberally construed”); *Goldstein v California*, 412 US 546, 561 (1973) (“any physical rendering of the fruits of creative intellectual or aesthetic labor”).

²¹³ See 17 U.S.C. § 102(a) (2000); *Goldstein v. California*, 412 U.S. 546 (“originality” is the very “premise of copyright law”). Menell, *supra* note 184, at 894–1334.

²¹⁴ The duty of acting in the best interest of clients has been traditionally defined in the context of investment-advisory relationships; see, notably, *SEC v. Capital Gains Research Bureau, Inc* 375 U.S. 180 (1963); for a cogent analysis see See Arthur B. Laby, *SEC v. Capital Gains Research Bureau and the Investment Advisers Act of 1940*, 91 *BOSTON UNIVERSITY LAW REVIEW* 1051, 1053 (2011). (noting that “the SEC and the courts have constructed a towering regulatory edifice” to establish fiduciary duties on advisers). Internationally, the duty to pursue the best interest of clients is enshrined in Principle 2 of the International Organisation of Securities Commissions (IOSCO), *International Conduct of Business Principles* (1990). For a comparative perspective see Luca Enriques & Matteo Gargantini, *The Expanding Boundaries of MiFID’s Duty to Act in the Client’s Best Interest: The Italian Case*, 3 *486* (2017). (noting that, the duty to act in the best interest of clients originated in the U.K. and, only subsequently was absorbed in the IOSCO principles and in the European Union).

arbitrariness of precision,²¹⁵ (ii) enables the regulation of activities that simply cannot be regulated with precision, and (iii) can be a useful technique for allocating decision-making power and encouraging forms of private ordering that promote the purposes of the law.”²¹⁶

3. *The Outer Sphere: Operative Propositions*

In our concentric systemization of commercial law branches, the outer sphere encircles the middle sphere and forms the outmost layer of the entire structure. It comprises rules and principles that build upon the concepts and doctrines forged by the underlying key tenets. Albeit in varying measure, these “operative propositions”²¹⁷ have a narrow scope and govern their subject matter with a high level of determinacy. They are generally enshrined in statutory instruments and delegated administrative enactments, yet they can also stem from judicial decisions. This outer sphere is residual in nature, containing all the rules and principles of a commercial law branch that fall neither in the core nor in the middle sphere.

The legal framework governing transfers of patents offers an illustrative example of both the nature of operative propositions and their dialogue with key tenets. Under the Patents Act, key tenets state that “patents shall have the attributes of personal property” and expressly recognizes that they can be assigned, licensed and mortgaged; moreover they also state that third party effectiveness of such transactions is conditional on their recordation in the special registry held by the US Patent and Trademarks Office (patent registry).²¹⁸ Operative provisions flesh out the framework articulated by these key tenets, by establishing form requirements for these dealings, default and mandatory rules affecting their substance, and a public notice regime for their third party. Specifically, operative provisions in the Patent Act provide that alienations must be in writing and signed; furthermore, they specify which information needs to be recorded in the patents registry and the process that must be followed.²¹⁹

²¹⁵ See Diver, *supra* note 13; Gunningham & Sinclair, *supra* note 13, at 856. (noting that a principle-based approach “leads policymakers to assess their decisions against a set of design criteria that form the basis of reaching preferred policy outcomes.”).

²¹⁶ Timothy AO Endicott & Michael J. Spence, *Vagueness in the Scope of Copyright*, 121 L. Q. REV. 657, 665 (2005).

²¹⁷ Throughout Part III the locution “operative proposition” is used to indicate the rules and principles that fall within the outer sphere of a commercial branch.

²¹⁸ 35 U.S.C § 261.

²¹⁹ 37 C.F.R. §§3.11-3.28 (2019).

Similarly, in financial regulation, an example of operative provisions in the outer sphere is furnished by the rules that have a direct applicability in the compliance framework of financial institutions. Know Your Customer (KYC) rules – requiring financial institutions to collect, monitor, audit, and analyze relevant information about customers and potential customers – offer a good illustration of the mechanics characterizing operative proposition. KYC requirements, by imposing firms to perform a due diligence on clients, are key to the realization of market integrity objectives.²²⁰ Together with the customer due diligence regime (CDD),²²¹ they define a rule-based regime regulating the processes that financial intermediaries must follow to pursue the best interest of their clients (key tenet) and, thus, instill confidence in the financial system (policy aim).

B. The Second Step: Fostering legal coherence

Our suggested systemization of commercial law branches has shown that CLIs can be viewed as the junctures at which the spheres of intersecting commercial law branches come into contact. Observed in this light, coordination failures are the result of gaps and incongruences between policy aims, key tenets and operative propositions belonging to different commercial law branches. Equipped with this understanding, the second step of our method turns its attention to fostering legal coherence.

²²⁰ KYC is designed to prevent that the proceedings deriving from illicit activities are channeled into the financial system; see, e.g., the requirement to verify the identity of account holders in the PATRIOT Act § 326, Pub L No 107-56, 115 Stat 272, 298-320; and the reporting requirements established with the Bank Secrecy Act, Pub. L. No. 91-508, 84 Stat. 1114-4 (1970) (codified as amended in scattered sections of 12 U.S.C., 18 U.S.C., and 31 U.S.C.). For an overview of KYC rules in the U.S., see Genci Bilali, *Know Your Customer - Or Not*, 43 U. TOL. L. REV. 319, 325-26 (2011-2012). (noting how the need to codify KYC rules became more urgent to address emerging societal concerns, such as drug trafficking and terrorist activities). At the international level, see Financial Action Task Force (FATF), *International Standards on Combating Money Laundering, and the Financing of Terrorism & Proliferation, The FATF Recommendations* (2012 and updated in 2019) (Recommendation 10, in particular is on customers due diligence).

²²¹ Financial institutions are required to “understand the nature and purpose of the customer relationship in order to develop a customer risk profile,” in addition to performing “ongoing monitoring for the purpose of identifying and reporting suspicious transactions.” See The Federal Deposit Insurance Corporation (FDIC), Bank Secrecy Act - Customer Due Diligence and Beneficial Ownership Examination Procedures, Financial Institution Letter (FIL-26-2018), at p. 2. Available at <<https://www.fdic.gov/news/news/financial/2018/fil18026a.pdf>> (Accessed March 2020). The juxtaposition of anti-money laundering and risk-management goals indicates that regulators tend towards a broader understanding of KYC rules, albeit commentators prefer to consider CDD a distinct set of rules; see, e.g., SCOTT & GELPERN, *supra* note 54, at 1262-64.

Below we break down CLI coordination failures into two broad categories. The differentiating factor is whether or not a core sphere is involved. This division reflects our view that the path to legal coherence – in terms of the assessments to be conducted, the consideration to be pondered and the range of possible solutions to be adopted – varies markedly if the CLI coordination failure in question involves the policy aims of one the intersecting branches.

1. Coordination Failures involving Policy Aims

The first category comprises coordination failures that involve policy aims. There are two types of such failures: “multi-core” and “single-core”.

Multi-core CLI coordination failures are characterized by gaps or incongruences that stem from tension between the core spheres of two or more of the converging branches. Notably, though it is unlikely that commercial law branches with fundamentally conflicting policy aims will develop and co-exist within a single legal order, frictions may arise within circumscribed facets of their scope of application.

One such example is provided by the overlap between antitrust law and insurance law in the context of disaster risk financing.²²² Specifically, co-insurance arrangements may generate tensions between the specific socio-economic policy aim to expand the capacity of private insurers to absorb losses generated by large-scale hazards, and that of antitrust law to protect competition by preventing unreasonable restraints of trade.²²³

When faced with CLI coordination failures of this nature, fostering legal coherence will require particularly delicate interventions. There are in fact two possible scenarios that may materialize.

²²² Disaster risk financing encompasses a variety of risk-sharing arrangements involving public institutions and private (non-state) actors, including and in particular financial institutions; for an overview of these arrangements in the context of catastrophic losses that are generated by natural hazards see Giuliano G. Castellano, *Governing Ignorance: Emerging Catastrophic Risks-Industry Responses and Policy Frictions*, 35 GENEVA PAPERS ON RISK AND INSURANCE 391 (2010); Alberto Monti, *Climate Change and Weather-Related Disasters: What Role for Insurance, Reinsurance and Financial Sectors*, 15 HASTINGS WEST-NORTHWEST JOURNAL OF ENVIRONMENTAL LAW AND POLICY 151 (2009).

²²³ The problem affects different jurisdictions in different ways; see Castellano, *supra* note 222, at 408–10. (noting that a strict application of antitrust law might block the development of a market for first-party property insurance covering disaster risks). In the U.S., McCarran-Ferguson Act of 1945 reserves regulation of insurance business to the states, thus largely exempting the insurance industry from federal antitrust law; 15 U.S.C. §§ 1011-1015 (2018). However, incongruences between the due regulatory system and disaster risk financing remain; see Christopher C. French, *Dual Regulation of Insurance*, 64 VILL. L. REV. 47, 64–65 (2019). (noting, for instance, that states cannot impose specific coverages, including those for “natural disasters”).

In the first, grievances between the core spheres of two or more intersecting branches will be symptomatic of an overt incompatibility between their underpinning social, economic, and political objectives. Here, the path to legal coherence will necessitate a prioritization of the policy aims of one branch over those of another. Such policy trade-offs are commonplace in a variety of domains. Administrative agencies are often mandated to balance competing objectives;²²⁴ notably, in the context of financial regulation, this is often necessary when stability, competitiveness,²²⁵ and innovation²²⁶ are pursued simultaneously. The crucial normative decision will be to determine precisely the extent to which certain policy aims should be favored over others. For this assessment recourse to technical factors, cost-benefit analyses, risk-assessments, or broader considerations regarding societal preferences will be inevitable.

In the second scenario, discord between the core spheres of intersecting branches in question will not be the product of overt incompatibility between their underpinning social, economic, and political objectives. In such instances, it might be possible to attain legal coherence within the CLI through interventions that mitigate and de-escalate their points of friction. Here, achieving equilibrium and alignment between the policy objectives at play would be the preferable outcome.²²⁷

Single-core CLI coordination failures are characterized by gaps or incongruences that stem from tension between the policy aims of one commercial branch and the key tenets or the operative provisions of another. When grappling with such CLI coordination failures, two elements identified in our preceding analysis should be borne in mind. First, the purpose of a CLI is a function of the core of each one of the intersecting branches involved.²²⁸ Second, policy aims have the utmost systemic relevance in shaping their appertaining commercial law branch.²²⁹ Accordingly, if the policy aims of one commercial law branch are

²²⁴ See ARMOUR ET AL., *supra* note 68, at 52. (noting that in financial regulation conflicts between objectives are not uncommon and to resolve them preferences among policy aims should be clearly defined).

²²⁵ On the balance between financial stability and competition policies in the banking sector see generally Allen N. Berger et al., *Bank Competition and Financial Stability*, 35 J FINANC SERV RES 99 (2009).

²²⁶ On the trade-offs that FinTech engenders towards market integrity and financial innovation, see Brummer & Yadav, *supra* note 14, at 242. (arguing that “when seeking to (i) provide clear rules, (ii) maintain market integrity, and (iii) encourage financial innovation, regulators can achieve, at best, two out of these three objectives”).

²²⁷ For an example of such interventions see BARAK, *supra* note 16, at 363–70.

²²⁸ See *supra* subpart II.C.

²²⁹ See *supra* section III.A.1

hindered or negated in a CLI due to tension with key tenets or operative proposition of another intersecting branch, this will likely produce profoundly detrimental effects both in the CLI and the affected branch. This observation lends robust support to the view that, where a coordination failure arises because of tension between the core of one branch and the middle or the outer spheres of the other, interventions aimed at fostering legal coherence should presumptively seek to prioritize the former. Nevertheless, given that spheres are not separated by hard borders and the elements composing the core evolve over time, such prioritization demands caution. In particular, care must be taken to ensure that interventions that favor the policy aims of one branch over the key tenets or operative propositions of another should never go so far as to compromise the policy aims of the latter.

The history of the CLI that emerges between antitrust law and patent law in “cross-licensing arrangements”²³⁰ among competitors offers an illustrative example.²³¹ These transactions spark tension between the policy aims of antitrust law (ie. preventing competitors from entering into anticompetitive arrangements) and key tenets of patent law (i.e. the right of patent holder to freely license their patents).²³² Between the 60s and 90s, there was ambiguity regarding the extent to which firms operating in the same markets could enter into patent cross-licensing. Such arrangements were positively permitted under patent law, but also attracted the scrutiny of antitrust law.²³³ Following this phase of uncertainty caused by gaps in the applicable law, the solution adopted by most jurisdictions has been to carry out progressively a multiplicity of legislative and regulatory interventions that have gradually prioritize antitrust concerns.²³⁴ The reasoning supporting this choice was that the potential detrimental impact to competition law by patent cross-licensing agreements far exceeded the harm that would ensue to patent-holders if their rights to license were mildly curtailed.

²³⁰ Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination*, 76 OHIO ST. L.J. 467, 531–36 (2015) (defining patent cross-licensing arrangements as “situations in which product-producing firms agree to share technologies for some part of their production without fixing product prices or dividing the product market”).

²³¹ See 2 HERBERT HOVENKAMP ET AL., *IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW* (2D ED. 2010 & SUPP. 2014) §§ 34.2a-4.2b (for an exhaustive analysis of this topic).

²³² See Hovenkamp, *supra* note 230, at 532 (expounding all the scenarios in which cross-licensing agreements create tension with antitrust policies).

²³³ The literature and case law are exhaustively covered in 2 HOVENKAMP ET AL., *supra* note 234, § 34; *Id.* at 533–35.

²³⁴ For the US perspective, see 2 HOVENKAMP ET AL., *supra* note 234, § 34; *Id.* For an EU perspective see DEVDATTA MALSHÉ, *PATENT POOLS, COMPETITION LAW AND BIOTECHNOLOGY* ch. 4 (2018).

2. Coordination Failures Not Involving Policy Aims

The second category comprises coordination failures that do not involve policy aims. There are two types of such failures: “different-sphere failures” and “same-sphere failures”.

Different-sphere failures are characterized by gaps or incongruences that stem from tensions between the middle sphere of one of the intersecting branches and the outer sphere of the other. When addressing coordination failures of this nature, a path to legal coherence similar to that suggested above for single-core failure should be followed. Specifically, it should be borne in mind that key tenets articulate the fundamental concepts and doctrines of their appertaining commercial law branch,²³⁵ and they establish the rules and principles through which commercial law branches express their exceptional and supplemental nature.²³⁶ This suggests that where a coordination failure arises because of tension between the middle sphere of one commercial branch and the outer sphere of another, interventions aimed at fostering legal coherence should presumptively prioritize the application of key tenets over the intersecting operative provisions.

An example of the negative consequences that can occur when operative provisions are carelessly prioritized over key tenets was provided in subpart II.A. There, we discussed the CLI between secured transactions law and copyright law which materializes when this intellectual property right is used as collateral.²³⁷ We noted that the application of the *lex superior* canon of construction results in the prioritization of copyright law operative provisions (i.e. the Copyright Registry recordation regime for transfers) over key tenets of secured transactions law (i.e. the perfection regime of Article 9).²³⁸ The resulting regime positively hinders the use of copyright as collateral: it prevents parties from relying on the efficient Article 9 regime and forces them instead to follow the rules of Copyright law, which are ill-suited to for secured transactions.²³⁹

Differently, same-sphere failures feature gaps or incongruences caused by a conflict or tension between rules and principles that both belong either to the middle sphere or the outer sphere of the intersecting branches. These two cases present similarities as well as dissimilarities. They are similar in that they involve

²³⁵ See *supra* subsection III.A.2

²³⁶ See *supra* subsection III.A.2

²³⁷ See *supra* notes 113-119 and accompanying text.

²³⁸ See *supra* note 116-118 and accompanying text.

²³⁹ This regime was criticized by Judge Kozinski as “burdensome” in *National Peregrine, Inc. v. Capital Fed. Sav. & Loan Ass’n*, 116 B.R. at 202 n.10. Haemmerli, *supra* note 94, at 1694–95 (providing scorching criticism of the regime resulting from the intersection between the Copyright Act and Article 9).

a contraposition between rules and principles belonging to spheres of the same type. They diverge in that the two cases under consideration generate challenges that differ in nature and intensity. When CLI coordination failures feature conflicts or tensions between key tenets, the rules and principles in play are cornerstones of their respective commercial law branch. By contrast, when operative provisions are involved the structural impact for the intersecting commercial branches is less profound. The combination of these characteristics weighs heavily against any intervention aimed at prioritizing one set of rules and principles over the other, as neither one has greater significance either in their appertaining branch or in the CLI in question.

When a prioritization does not offer a viable solution, fostering legal coherence in the CLI must follow a different path. Specifically, its unity of purpose should be extrapolated from the policy aims of the intersecting branches. Resolving this type of coordination failure requires that rules and principles *within* the CLI are in alignment with the underpinning social, economic, and political objectives of all intersecting branches.²⁴⁰ Nonetheless, the available maneuvering space and the methods that can be deployed to ensure such co-existence of rules differ markedly, depending on the spheres involved and on the features of the rules and principles generating incongruences and gaps. Legal coherence between key tenets may often be achieved through interpretive interventions that take advantage of their open-texture and abstract nature.²⁴¹ By contrast, rules with a narrower scope and greater determinacy might often necessitate legislative reform or regulatory interventions.²⁴²

The CLI involving secured transactions law and prudential regulation offers an illustration of the method required to address coordination failures not involving policy aims. As discussed, loans that are collateralized with personal property may be treated in the same guise of unsecured credit under applicable capital requirements.²⁴³ The consequences of this incongruent treatment of secured credit are far-reaching, possibly distorting the incentive structure in the credit market.²⁴⁴ Yet, this coordination failure does not entail conflicts or tensions between core spheres. An inclusive access to credit, promoted through secured transactions

²⁴⁰ See *supra* II.C on the need for developing a purposive method to address CLI coordination failures.

²⁴¹ Albeit not a necessary condition, key tenets are typically expressed at high level of generality; see *supra* III.A.2; for some examples in this regard see notes 210-214.

²⁴² This is a direct consequence of the trade-offs between flexibility and determinacy; see *supra* note 13 and accompanying text.

²⁴³ See *supra* note 86 and accompanying text.

²⁴⁴ See *supra* notes 92 and 93 and related discussion in text.

law,²⁴⁵ presupposes and supports the safety and soundness of markets and institutions pursued by prudential regulation.²⁴⁶ Therefore, rules and principles pertaining to these different branches should co-exist within a CLI the purpose of which is to promote a “sound and inclusive access to credit”.²⁴⁷ Normatively, this understanding has powerful implications. First, approaches designed to limit the applicability of existing regulatory regimes to secured lending should be avoided, as they would result in a de-regulatory action unduly compromising the internal consistency of capital regulation and, thus, frustrating their ability to reach stated policy aims.²⁴⁸ Second, coherence can only be attained through legislative and regulatory interventions that resolve incongruences by designing a system of rules and principles that coordinate the legal and the regulatory facets of secured credit.²⁴⁹

CONCLUSION

In this article we have offered three contributions to the study of CLIs and their coordination failures. First, we have reviewed the factors that have driven the proliferation of convergences between commercial law branches, as well as the increase in the relevance of these overlaps for an expanding group of business actors. Moreover, we have delved into coordination failures, showing that their root

²⁴⁵ See *supra* note 165 and related discussion in text.

²⁴⁶ See *supra* notes 174-176 and related discussion in text.

²⁴⁷ This guiding purpose reflects the combined application of the policy aims underlying the intersecting branches under consideration. Promoting simultaneously financial inclusion and stability policies has been recommended in Castellano & Dubovec, *supra* note 15, at 539. (indicating that a false dichotomy between this policy aims may hinder the design of approaches that foster their advancement). Crucially, this recommendation is reflected goal of the World Bank to promote the establishment of “a sound and inclusive credit ecosystem” when secured transactions and prudential regulation are implemented at the domestic level; see WBG Knowledge Guide *supra* n 11 at 31 and seq.

²⁴⁸ On the notion of consistency see *supra* notes 106-109 and accompanying discussion in text. As noted, resolving CLI coordination failures through a method solely focused on preserving the consistency within one branch is likely to compromise the consistency of other intersecting branch(es); see *supra* note 118.

²⁴⁹ See Giuliano G. Castellano & Marek Dubovec, *Bridging the Gap: The Regulatory Dimension of Secured Transactions Law Reforms*, 22 UNIF. LAW. REV. 663, 684 (2017). (noting that “a comprehensive regulatory strategy, rather than ad hoc interventions, is required to unlock the full potential of secured transactions law reforms.”); Castellano & Dubovec, *supra* note 1, at 64. (indicating that “coordination between secured transactions law and prudential regulation, particularly capital requirements, should be addressed at the highest level of the lawmaking process—notably, when international soft-laws are defined.”); see WBG Knowledge Guide *supra* n 11 at 31 (stating that “[c]oordination between secured transactions law reforms and prudential regulation requires designing a jurisdiction-specific reform strategy”).

causes are gaps and incongruences in the law, the ultimate consequences of which are distortions in market incentives and increased transaction costs.

Our second contribution has been to apply a legal theory lens to CLI coordination failures. This perspective has provided us with robust arguments in support of the thesis that legal coherence should be adopted as the guiding star to reconcile tensions between commercial law branches. To this end, attention should focus on the CLI in view of overcoming coordination failures by ensuring that the relevant rules and principles are consistent both with each other and their respective branches, and that such consistency is attained through a unity of purpose.

Our third contribution has been to propose a two-step method to address CLI coordination failures. The first step suggests a systemization to identify precisely the intersecting rules and principles and appraise their systemic relevance within their appertaining commercial law branch. The second step expounds the assessments to be conducted, the factors to be weighed and the range of possible interventions that may be carried out to achieve legal coherence in the CLI under consideration.

Considered collectively, these contributions intend to have a twofold impact. At the most basic level, we want to offer an analytical framework that the legal community can employ to identify transactions which involve CLIs, recognize the presence of coordination failures and appraise their severity.

At a broader level, we aspire to spark a reasoned normative discussion. Scholars, judges and practitioners alike are too often seduced by the temptation of dealing with CLIs suffering from coordination superficially. In some cases, they intentionally choose not to engage with the relevant gap and incongruences. In others, they apodictically advocate that one of the commercial law branches involved in the intersection under consideration should prevail over the others, often motivated by partisan reasons of convenience. We posit that CLIs should be understood as systems of rules and logical deductions and that their coordination failures can only be conquered through the careful consideration of the underlying socio-economic policies and political objectives of the intersecting branches.