PREFACE

"*Out of intense complexities, intense simplicities emerge*"

Winston Churchill

"*The legal rules regulating the settlement of securities transactions are* [...] *compared to the 'plumbing' of the international capital markets; if all goes well, not much attention is paid, but if something goes wrong* [...], *the consequences are frequently costly, and at best unpleasant*"

Matthias Haentjens[1]

The intermediated holding infrastructure of securities plays a crucial role in processing global financing. It is instrumental for the entire securities market as it ensures to streamline the delivery of financial services across the world. The need for the use of indirectly held securities emerged to transform a *complex* world, in a simple and accessible system. However, in the last decades the intermediated system has been subject to wide a debate, according to which the system is no longer a solution to *complexity*, rather a source of it.

The creation of an intermediated security infrastructure was highly demanded since the the first decades of the second half of the XX century. In particular, in the 1971 Richard B. Smith delivered a speech at the conference of the American Bankers Association that, nowadays, sounds like a prophecy.[2] It marked the beginning of a rethinking of the role of the stock certificate that Smith *simply* defined as a piece of paper.[3] Although his analysis revolved around equity certificates, it can be extended to all the other forms of securities that are ordinarily traded in the market. What he emphasised was the importance of this mere piece of paper as a vehicle of capital transformation. The main feature of the certificate is its reproductive capacity that, according to Smith, was at stake due to the cumbersome schemes of holding that hindered a clear transferability of the ownership rights. In addition, Smith argued that the plethora of related documents accompaining the certificates did not facilitate market transactions. To face this situation, the author laid out a plan that consisted of three pillars: the elimination of the certificate; the limitation of the certificate movement; the ease of certificate movement.

[1] HAENTJENS M., *The Law Applicable to Indirectly Held Securities: the Plumbing of International Securities Transactions*, 2006, p.7

[2] SMITH R. B., *A Piece of Paper Revisited*, The Business Lawyer, 26(5), 1971

[3] *Ibid*, p. 1769

To this extent, this work purports to outline the development and current situation of the intermediated securities system, in order to assess its resilience against the *complexity* of the financial market.

First, it will illustrate the risks to which this *complex* system is exposed with a focus on the use of indirectly-held securities as collateral and the solutions offered by private international law (Chapter I).

Second, the role of the UNIDROIT Convention on Substantive Rules for Intermediated Securities as the fundamental legal framework for the regulation of intermediated securities (Chapter II).

Third, the unaccomplished goal of the rules meant for intermediated securities seems to be achieved by the use of FinTech (Chapter III).

Last, a comparison between advantages and disadvantages of the intermediated holding system (Chapter IV).

1. INTERMEDIATED SECURITIES: A SUBSTANTIVE LAW ANALYSIS

1.1 GENERAL INTRODUCTION

To approach the intermediated securities system it is necessary to address some fundamental questions. What are securities? Which kind of securities are involved? Who are the intermediaries? What is an indirect holding system and why it is supposed to be less efficient than a direct one in commercial practice? What is the role of the central custodian? How is this infrastructure designed and how it works?
This section purports to present all these issues in order to provide the reader with the basic tools for a deep understanding of the intermediated holding system.

1.1.1 BACKGROUND

The definition of securities encompasses a wide range of financial products.[4] A common accepted meaning cannot be easily found as it varies according to the circumstances in which this concept is being used. Considering the Geneva Convention, the definition of securities includes both tangible securities certificates and intangible rights, such as shares, bonds or other financial assets.[5] However, for the purpose of this work, the choice of a class of securities is not relevant. What matters is the legal relationship that market participants establish with securities and how they trade them. Therefore, the term 'security' can be viewed hereinafter as the simplest form of equity and debt participations: shares and bonds.

[4] For an overview, Sec. 2(a)(1) of the US Securities Act of 1933 lays down an extended list of instruments that may fall within the scope of the meaning of security: *"The term ''security'' means any note, stock, treasury, stock, security future, security-based swap, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option, or privilege on any security, certificate of deposit, or group or index of securities (including any interest therein or based on the value thereof), or any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a ''security'', or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing".*
[5] CHUN C., *Cross-Border Transactions of Intermediated Securities: A Comparative Analysis in Substantive Law and Private International Law,* 2012, p. 39

As to the financial market, securities play a significant role, since their function is to bring together two groups of market participants: those who have capital to invest (*i.e.* investors) and those who want to borrow that capital (*e.g.* firms and public bodies). Unlike lending, firms can raise funds by issuing securities and collecting resources directly from investors. Therefore, securities markets are marketplaces where securities are bought and sold through arrangements and infrastructures designed for the handling of securities.[6] This involves a series of actors and procedures providing trading, clearing and settlement services. Such a framework shows its inner *complexity* in the intermediation stages that are nowadays the common way to trade with securities.[7] Typically, they circulate through financial intermediaries and then placed in local sub-custodians which are known as 'members' of cross-border transactions system involving indirectly held securities. To this extent, it can be argued that there is always somebody between the issuer and the account holder that has control over the books or the registry.[8] Therefore, what matters is how the different regulatory patterns facilitate investors to exercise their corporate rights against the custody risk deriving from the legal relationships between investors and intermediaries.

To begin with, the intermediated securities system is the result of a profound transformation of the financial market that dates back to the 1960s. Since then, this branch of the security market developed in such a fast way as to make the book-entry securities the large majority of financial instruments traded on capital markets.[9] The continuous growth of transactions of new sophisticated products, the expansionary policies adopted by central banks and the huge amounts of capital movements established a trend towards more liquidity. To facilitate the enhancement of trading activities, the rules governing the transferability of securities (*e.g.* equity, bonds, derivatives) had to be more flexible. In particular, securities holders and the issuers asked for a streamline process that could guarantee more efficiency at the stage of settlement. Paper certificates were converted into intangible book-entry securities, deprived of their material support and replaced by a computerised system operating through book-entries accounts, where securities were acquired through credits and debits in accounts maintained by intermediaries. The result of this transformation was the establishment of new entities, such as the Central Securities Depository (CSD), and the increasingly role of intermediaries in the securities holding infrastructure. The new settings

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6 KOKKOLA T., *Payments, securities and derivatives, and the role of the Eurosystem*, European Central Bank, 2010, p. 65

7 *Ibid*., p. 66

8 GARCIMARTÍN ALFÉREZ F. J., *The UNIDROIT Project on Intermediated Securities: Direct and Indirect Holding Systems*, Revista para el analisis del derecho, 1, 2006, p. 3

9 European Commission, *Consultation Document on conflict of laws rules for third party effects of transactions in securities and claims*, 2017, p. 8, available at <https://ec.europa.eu/info/sites/info/files/2017-securities-and-claims-consultation-document_en.pdf>

regulating the financial market produced efficiency, operational certainty, speed and safety.[10]

The implementation of this system was achieved thanks to the use of enhanced techniques: immobilisation and dematerialisation.[11] They represented the first response to a period of radical transformation in the financial industry that had its breaking point with the so-called 'paper crunch' in the United States.

Conventionally, the class of securities could be divided in two groups: bearer instruments (debt) and registered securities (equity).[12] The former were embodied in a piece of paper, and the holder of that paper was the holder of those securities. The transfer was made by delivery and since the instruments were negotiable, the *bona fide* purchaser obtained good title even if that of the transferor was defective. Contrariwise, the latter were also incorporated into pieces of paper, but the legal title derived from the entry on the company's register and paper was merely evidence of this. Both of these systems depended on the movement of pieces of paper, and, as volumes of securities and trading grew, this became expensive, cumbersome and slow. The registration of securities slowed also up trading. Indeed, in the late 1960s, the habit to overload back offices of brokerage firms with tons of transactions settlement crashed. In a nutshell, every time that a stock was exchanged in the market, a broker had to cross the street and 'ship' the physical certificate to the firm's office based in the other side of the street.[13] This was how the clearing and settlement process worked. However, the tasks those men had to deal with were burdensome and exceeded their ordinary responsibility; they acted as couriers of valuable goods rather than clerks sit behind their desk.[14] Ostensibly, the downsides of this mechanism were clear: trading had to be delayed, settlement was slow and risks of loss and theft were high. In addition, the trading volume increased and its unforeseeable effects turned out to be overwhelming.[15] The back office procedures ended up with unsustainable backlogs that caused failures to deliver securities on the settlement

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[10] APARICIO J. G., *Enhancing Shareholder Rights in Intermediated Securities Holding Structures across Borders*, New York University Journal of Law and Business, 13(2), 2017, p. 468

[11] See *supra* n. 3; also *infra §* 1.1.3

[12] GULLIFER L./ PAYNE J., *Intermediated Securities: Legal Problems and Practical Issues*, 2010, p. 1

[13] DONALD D. C., *The Rise and Effects of the Indirect Holding System: How Corporate America Ceded Its Shareholders To Intermediaries*, Institute for Law and Finance, Working Paper Series No. 9, 2007, p. 11, "*The few references it receives in legal history refer to with peculiar epitaphs such as the "back-office crisis" or the "paper crunch" because it was caused by the simple inability of brokers to process the paperwork connected with the settlement of the growing number of exchange transactions*".

[14] *Ibid*, p. 10

[15] *Ibid*, *"The volume on the NYSE more than quadrupled from about three million shares per day in 1960 to approximately 13 million shares per day in 1968 without the industry taking any serious steps to increase the efficiency of their settlement activity. During 1969, the inability of some brokerage firms to settle transactions created massive backups in deliveries, so that unperformed obligations could range from 70% to 200% of a firm's total assets"*.

date and losses from errors at brokerages.[16] As a consequence, the securities firms were stuck and some entered bankruptcy or were acquired by stronger competitors. In addition, the use of electronic means of settlement to avoid, or at least reduce, the credit risk of a time gap between delivery and payment could not operate as securities were still in paper form.

The result of the paper crunch triggered the implementation of new methods of holding securities: immobilisation and dematerialisation. Before addressing them, this phenomenon allows to illustrate the substantial difference between the direct and indirect holding system. Indeed, even if the focus has been made on the specifities of the intermediated securities, the direct holding system cannot be ignored at all. It represents the typical practice existing prior to the sweeping changes brought by the paper crunch, when investors maintained a direct legal relationship with the issuer, governed by a mere agreement between the company and the investor stipulated according to domestic rules of corporate law. However, the intermediaries were not completely removed. In such cases, the intermediaries still operate, but as mere book-keepers with no interest in the underlying securities. The legal owner of the securities – the investor - turned to intermediaries at the moment of exercise the rights to which it was entitled.[17] The presence of intermediaries even in a direct holding system can be justified according to their importance for both the investor and the issuer. For the former, the intermediation gives a safe access to its assets; for the latter, intermediaries facilitate the match between the supply and demand within the securities market. Yet, as abovementioned, the workload for the back offices of the brokerage firms became unsustainable. The physical possession of bearer certificates was risky as investors were exposed to loss and theft. As a result, "*investors no longer had a direct relationship with the issuer, but maintained an account with his bank who (possibly via more intermediaries) either held the investor's securities in custody (with respect to bearer securities) or was registered as owner in the issuer's register. Not surprisingly, this system is called an indirect holding system*".[18] In this vein, the indirect holding emerged. In respect to the legal position of the intermediary as to the holding of securities, some countries such as U.S.A. and Switzerland agreed to create a new type of property that could better guarantee not only the intermediary itself, but the interests of the investors.[19] In contrast, others argued that the intermediary is not entitled to any kind of proprietary rights and accordingly, it cannot claim any right over the securities. The differences between the two holding models for intermediated securities have

[16] LEDRUT E./ UPPER C., *International banking and financial market developments*, BIS Quarterly Review, 2007, p. 88
[17] See GARCIMARTÌN at n. 8, p. 3
[18] See HAENTJENS at n. 1, p. 11
[19] See GARCIMARTÌN at n. 8, p. 4

originated a lively debate on the benefits and downsides of direct holding versus indirect holding systems. Nonetheless, there are some widely agreed considerations on this issue: all dematerialised securities are *de facto* intermediated and, under a regulatory point of view, a reform should not necessarily distinguish between different holding models but rather concentrate on how to provide solutions that guarantee the transparency and surety of any account structure.[20] To conclude, in this scenario, there are two key concepts to bring in: automation and operational efficiency. These are the results that were achieved to cope with increase of cross-border activity, which shaped the financial market in a dematerialised and integrated form in which the exchange of securities is made through intermediaries in multi-tier holding patterns.[21]

1.1.2 IMMOBILISATION AND DEMATERIALISATION

As abovementioned, two techniques were developed to deal with the problem of too much paper.[22] The first was to maintain a paper certificate that, contrary to what typically occurred in the past, represented the entire issue of securities: the so-called 'global note'. It was immobilised under the custody of a central depository on behalf of one or more intermediaries, who then hold either for investors or for other intermediaries. This technique was firstly tested in the U.S.A. and only afterwards spread across Europe where it was used for Eurobond issues. This process led to a gradual reduction of movement and existence of physical certificates. As to the second technique, it aimed to dematerialise securities, "*which refers to the process by which all physical certificates are replaced by securities accounts*"[23]. These can be defined as "*an account maintained by an intermediary to which securities can be credited or debited or designating entries are made*"[24].

Unlike immobilisation, dematerialisation allows to eliminate the physical certificate in order to resort to an electronic system, which by way of entries in the book of a central operator, securities are recorded and transactions executed. This operation enables the settlement process to go through faster and remove the disadvantages of the paper-based system. The main benefits from the implementation of both settlement strategies were to operate with low costs. Indeed, both immobilization and dematerialization "*relyed almost exclusively on the operational safety and financial soundness of central securities depositories,*

[20] EHRENFELD J., *Global securities reporting: Industry trends, challenges and future perspectives*, Journal of Securities Operations & Custody, 8(2), 2016, p. 153; *see* also n. 9, p. 21
[21] *Ibid*, p. 152
[22] See DONALD at n. 13, p. 3
[23] See HAENTJENS at n. 1, p. 12
[24] See CHUN at n. 5, p. 40

banks, and other financial intermediaries".[25] Although the legal nature and transfer of securities will be analysed in the next paragraphs, it is important to highlight the effects of immobilisation and dematerialisation that converted securities from tangible products into intangible rights. This was literally a shock for the legal concept of negotiability as developed until then. Before the paper crunch, the bearer instruments were physical certificates incorporating the legal title for the transfer and exercise of the rights based on the security itself. After the paper crisis, the requirements for the validity of the transfer of securities did no longer include the physical transfer of the bearer instrument. Indeed, the actual delivery of tangible certificates was not required, since it was sufficient a mere electronic debit-and-credit entry in the relevant investor account, made by the relevant intermediary (transfer agent) in order to realise a transfer in favor of another person.[26] These settlement processes can be compared, but not be considered as isolated models; at least, for the legal effects that this distinction may produce. In this vein, Burke states that "[d]*ematerialisation means that the securities do not take a physical form in the sense of physical certificates – they are electronic book entries only; by contrast, immobilised securities are issued as global physical certificates but kept in a vault such as a CSD or ICSD, that is, the securities represented by the global certificate never move. As a practical matter, the difference is one of formalism*".[27] Furthermore, the individual specifities of each model reveal the crucial importance of their own combination at the stage of settlement of securities. Specifically, the use of the dematerialisation would require issuers themselves to take on the burden of 'dematerializing' share certificates; while the sole use of immobilisation would allow intermediaries to create a kind of feigned dematerialization by locking the physical certificates in their vaults and acting as custodians and fiduciaries.[28] On the one hand, dematerialization improves efficiency and control, on the other hand immobilization reduces the risk of settlement failure and fraud. Therefore, the models can be viewed as two sides of the same coin.

Having said that, the fungible nature of intermediated securities needs to be discussed deeper, in order not to oversimplify an issue that is pivotal when addressing the legal nature of indirectly held securities. Therefore, in the next paragraphs of the present section a specific focus will be dedicated to this topic.

However, the problem concerning the identification of the securities holder did not cease to exist with the dematerialisation and immobilisation. The uncertainty

[25] See APARICIO at n. 10

[26] *Ibid*, p. 476. See also TETTENBORN A., *Transfer of Chattels by Non-Owners: Still an Open Problem*, Cambridge Law Journal, 77(1), 2018, p. 151

[27] BURKE J. A./ OSTROVSKIY A., *The intermediated securities system: Brussels I breakdown*, The European Legal Forum, 5, 2007, p. 200

[28] See DONALD n. 13, p. 15

regarding the holder began even before the adoption of the two models. Indeed, there has always been a divergence between the possessor of the securities certificates and the recognition of such individual as shareholder or bondholder. Besides formalities and the risk of loss, theft, forgery or other mishaps, discrepancies between those two capacities are traditionally caused by the mismatch betwteen corporate law and property law applied to negotiable securities.[29]

To conclude, immobilisation and dematerialisation depend upon the functioning of a central securities depository (CSD). The advent of these market infrastructures, that operate at the international and national level, were instrumental to guarantee the transition from the 'personal' security-keeping to a single and institutionalized depository where all certificates were placed or, as outlined in the previous paragraphs 'immobilised'. At the beginning, the immobilisation of the physical certificate in the CSD was the first step prior to book-entry settlement of transfers; while, nowadays following technological and legal advances, the securities are dematerialised – *i.e.* they are issued only in electronic, book-entry form in the issuer's account in the books of the CSD.[30] The following paragraph will examine the functionality and internal operations of the CSD.

1.1.3 CENTRAL SECURITIES DEPOSITORY (CSD)

If globalisation has helped finance to develop and make market participants closer irrespective of the distance, the result achieved inside the financial market of securities was literally the opposite. Indeed, the disconnection – between the issuers and their investors - obtained via intermediation increased remarkably the distance between the two market forces. As a result, despite the fact that commercial agreements are directly concluded by the investor and the issuer, different new players step in at the time of the execution of the transaction, to streamline the settlement process and deliver to both parties what they stipulated in the original contract. This is what is called financial intermediation. In these terms, the objective of the interconnection among financial players is different from the one that can be assessed by merely focusing on the 'surface' of the financial operations, where the multiple intermediaries that constitute the 'knots' of this infrastructure are essential to fulfil the transactions. One of these intersections, is constituted by the central securities depository (CSD).

[29] THÉVENOZ L., *Who Holds (Intermediated) Securities - Shareholders, Account* Holders*, and Nominees*, Uniform Law Review, 15(4), 2010, p. 859
[30] See KOKKOLA at n. 6, p. 69

In modern economies[31], the volume of securities being issued and traded is so large that, in order to ensure the efficient and safe issuance, safekeeping and transfer of securities, these are issued directly in the books of a public registrar, a special entity serving a whole securities market: CSD.

The custody industry emerged in the wake of the need for investors to keep securities in a safe place, *e.g.* bank vaults. From this definition it is possible to deduce that the need for investors to safeguard their 'material' investments arose out of the evolution of the financial markets and, specifically with the development of the dematerialised holding of securities. In this sense, CSD_s act as public registrars whose books record securities that are directly issued therein. Generally, when securities are bought or sold, custodians take care of the delivery and receipt of securities against the agreed amount of cash, being referred to as 'settlement'.[32] In practice, custodians do for their customers what is commonly called 'asset servicing': they are committed to ensure investors to receive dividends, interests or any other rights to which they are entitled pursuant to the securities held by the custodian. "*Thus, in essence, the asset servicing function of a custodian involves being an information conduit liaising between issuers and the holders of their securities*".[33] One more insightful definition of CSD is offered by Gurin who states that "*CSDs therefore act as gatekeepers to the primary markets by centralising the initial recording of newly issued securities and any subsequent changes in the holding of such securities. Finally, CSD_s facilitate the financing of the economy because almost all the collateral posted by companies, banks and other institutions to raise funds ultimately flows through the securities settlement systems operated by CSD_s*".[34] Having outlined

[31] For an historical contribution on the custody of securities *see* n. 1, p. 12, "*Legally, the custody of securities was first regarded as depositum, as was the case with the earliest custody of money. This Roman law term characterises the situation in which the depositor has traceable property rights in individual deposited assets and meant in practice that the custodian had to register the securities numbers held for each individual investor. However, this practice involved increasingly burdensome administrative costs as the volume of securities in smaller denominations increased enormously. Therefore, in most legal systems depositum was replaced by so-called depositum irregulare, which refers to a mixture of the Roman law concept of mutuum (loan) and the concept depositum mentioned above. Depositum irregulare means that through depositing securities, investors acquire a right against their custodian of delivery of the same amount of securities of the same kind, since the individuality of the deposited assets is lost as they are held in one single pool. Contrary to mutuum and the custody of monetary assets, the custodian is obliged to deliver at all times the same amount of deposited securities – even in its insolvency*".

[32] WEINSTEIN S./ YEKINI S., *Transparency in Securities Transactions and Custody Chains*, International Securities Services Association (ISSA) in association with the SWIFT Institute and Coventry University, Coventry, 2015, p. 12, available at <http://www.issanet.org/pdf/ISSA_commissioned_Securities_Accounting_System_research_paper.pdf>

[33] *Ibid*.

[34] GURIN A./ STANESCU F./ TERRET M., *New rules for securities settlement in Europe*, Law and Financial Markets Review, 6(4), 2012, p. 258

the general market functions of CSD, for the sake of clarity, a brief history of the development of this infrastructure will follow.

All began after the paper crunch crisis of the 1960s. The huge amounts of paper to handle was unstainable for the brokerage firms and new forms of settlement were created. The first central depository was established in Brussels and it is now known as Euroclear. It is the largest international CSD and at the beginning of the reforms of the financial market, it was meant for "*transnational custody and settlement of international securities outside of a specific designated domestic environment*".[35] Afterwards, some years later, another CSD, operating at the international level, was created in Luxembourg, called Clearstream. In the other part of the globe, in 1975, all the U.S.A. securities were immobilised within a single custodian, the Depository Trust Company (DTC). In conclusion, there are three different institutions (DTC, Euroclear and Clearstream)[36], that govern the global securities markets, in particular, in Europe there are over 30 CSDs in the EU, generally one in each Member State and, as abovementioned, two international CSDs (ICSDs).

Having said that, the focus of the analysis shifts to the role of CSDs as enablers of global securities markets, they have been defined as 'financial utilities'.[37] Typically, central depositories do not suffer loss or are exposed to particular risks: netiher credit nor liquidity risk can affect their ordinary operations as these are borne by central counterparties, participants or parties to the transactions. They come into play at the stage of recording securities in a book-entry system and maintenance of securities at the top-tier level.[38] The CSD also oversees the issuance of securities by verifying that the amount of securities issued equals the amount of securities outstanding at all times, ensuring that there is no undue creation of securities. Consequently, the CSD usually holds two types of securities accounts: issuer accounts, and safekeeping accounts recording ownership of outstanding securities; the former are relevant for the notary function, while the

[35] NOUGAYRÈDE D., *Towards a Global Financial Register? The Case for End Investor Transparency in Central Securities Depositories,* Journal of Financial Regulation, 4, 2018, p. 281

[36] Euroclear in Brussels and Clearstream in Luxembourg mainly deal with international securities such as eurobonds (bonds issued in a foreign currency different from the one of the market where the bond is traded and issued). Despite the name "euro" it has nothing to do with the with Europe or euro currency. Different from ordinary corporate bonds issued with the national borders, eurobonds raise *complex* issues as to ownership rights given their cross-border nature.

[37] See GURIN et al. at n. 34, p. 282

[38] Regulation (EU) No 909/2014, p. 6, § 26, "*Taking into account different business models, a CSD should be defined by reference to certain core services, which consist of settlement, implying the operation of a securities settlement system, notary and central securities accounts maintenance services*". From the statement of the preamble, it can be inferred that CSDs act as 'storehouse' which provides for the safekeeping of securities; *see* also n. 7, p. 68 "*In a few jurisdictions, however, the notary function is entrusted to a separate registrar. Where this is the case, the CSD interacts with the registrar to notify it of changes in ownership and reconcile the balances of its safekeeping accounts with those of the registrar's issuance accounts*".