

# Introduction

---

Ordinary commercial transactions are typically concluded in two phases. The first involves an agreement to sell and buy. For example, Steve agrees to sell IBM stock or 100 bags of corn to Brian who in turn commits to pay the purchase price. These agreements are composed of reciprocal promises to deliver and pay. The second phase of these transactions involves performance of these promises, which in this case will be delivery of the stocks or corn in exchange for payment. This second phase is known as settlement. Commercial transactions and undertakings consist of these two components. First, parties agree or promise to do something and second they execute or settle those prior promises.

For the most part, intermediaries facilitate the completion of both phases. Securities brokers execute their customers' orders to sell IBM stock and then credit the proceeds of those sales to the customers' securities accounts. Banks issue letters of credit at the request of customers and then pay the beneficiaries by crediting funds to their deposit accounts if they present complying documents. Futures commission merchants execute their customers' orders to purchase commodity contracts on commodity exchanges and then credit those contracts to commodity accounts. These intermediaries and the functions they perform have become the cornerstone of contemporary commercial transactions. Banks facilitate transfers of funds, securities intermediaries execute their customers' orders to buy and sell investment securities and futures commission merchants acquire commodity contracts for their customers. The contemporary commercial marketplace cannot function effectively without ensuring that participants are able to undertake such promises. Of equal importance is the need for the marketplace to be equipped with modern legal and technological mechanisms to settle promises, make the corresponding rights acquired upon execution of those promises available to investors and allow investors to dispose of such rights efficiently. Intermediaries not only play a significant role in the first phase of commercial transactions but they also ensure that the

second phase is completed efficiently. They do so primarily by maintaining accounts for their customers, to which they make credit and debit entries representing rights and assets resulting from transactions.

These two phases of commercial transactions are completed in different segments or ends of the marketplace. One segment, which may be referred to as the 'front-end', is the market in which assets, such as shares, bonds and commodity contracts are issued and traded. The front-end thus involves the exchange of promises, execution of buy and sell orders and conclusion of agreements. Historically, front-end transactions were completed in personal meetings between buyers and sellers and later in the form of distance selling with the parties entering into contracts remotely. These transactions are now executed at centralized markets, including stock exchanges such as the New York Stock Exchange (NYSE) and commodities exchanges such as the Chicago Mercantile Exchange (CME). In these markets, assets are issued, listed and traded among investors remotely. The front-end is the environment for floor traders, brokers and banks that execute sell and buy orders. This environment is based on electronic communication channels through which orders to buy and sell securities, commodity contracts and transfer funds are submitted and executed.

The other segment of the marketplace, referred to below as the 'back-end', is where transactions concluded in the front-end are ultimately settled. The back-end involves the actual transfer of assets. Unlike the front-end, represented by transactions conducted on stock and commodities exchanges, the back-end has remained largely ignored and hidden from the sight and interest of investors as well as the public at large.<sup>1</sup> The function of the back-end is to ensure that investors will be able to enjoy the rights they have acquired no matter how risky or safe these rights are. The back-end is not concerned with the quality or marketability of financial assets and its mechanisms equally process transfers of safe instruments such as AAA-rated government bonds and risky instruments such as junk bonds issued by low-rated corporations. The back-end is the quiet mechanism ensuring investors that they receive what they originally bargained for.

Entities operating in the back-end include central securities depositories such as the Depository Trust Company (DTC), central counterparties such as the CME clearinghouse and administrators of large-value funds transfer systems (LVFTS) such as the US Federal Reserve Banks.

---

<sup>1</sup> Nathalie Aubry, *Regulating the Plumbing of Europe*, 23(11) J.I.B.L.R. 578 (2008).

These entities do not operate a trading marketplace. Instead, they supply the technological framework in which transactions executed in the front-end are settled and commercial assets are delivered from sellers to buyers, debtors to creditors and vice-versa. Overall, the two segments complement each other and their co-existence may be illustrated as follows.

Suppose that Brian instructed his securities intermediary Morgan Stanley to buy shares of IBM and commodity contracts for the delivery of corn. Morgan Stanley executed his order to buy the stock on the NYSE. Similarly, a commodities trading unit of Morgan Stanley executed Brian's order on the CME to buy the corn commodity contracts. Brian received confirmation that both trades were successfully executed. Once Brian's orders are executed on the NYSE and on the CME, the transactions proceed to the settlement phase, which entails the transferring of assets. The IBM stock and the corn commodity contracts will be transferred to Brian's securities and commodities accounts and in exchange his accounts will be debited for the funds corresponding to the purchase price of the stock and commodity contracts. In this illustration, settlement is the exchange of funds for securities and commodity contracts. Modern settlement mechanisms for such transactions do not rely on the physical delivery of security certificates for cash or checks. Instead commercial assets whether they are securities, commodity contracts or funds are held in accounts maintained by intermediaries and transferred by electronic book entries to such accounts. Custody and maintenance of securities, bank, and commodity accounts, and the transferring of assets to and from such accounts, are all back-end functions.

A number of differences exist between front-end trading and back-end transfers. From the commercial perspective, the most important difference is the distinction between the discrete notions of the contract and account relationship. While a front-end transaction is centered on a contract to buy or sell securities or commodity contracts, the ensuing back-end transfer is based on a pre-established relationship. This relationship exists in the form of an account maintained by an intermediary whose rights and duties are not necessarily derived from a specific time and transaction-circumscribed contract. For example, in the front-end, a contract is entered into between sellers and buyers, such as when Brian chooses to buy IBM stock from another investor who wants to sell. Subsequently the back-end transfer creates, or more typically modifies, the relationship between Brian and his intermediary Morgan Stanley when Morgan Stanley credits the IBM stock to Brian's securities account. Although the focus of this book is on this relationship, transactions that

are executed in the front-end will nevertheless be explained in a summary fashion before a discussion of the back-end functions is introduced.

Securities, bank and commodity accounts are special types of relationships that differ from other types of accounts, such as accounts receivable or credit card accounts. The entity obligated on these commercial accounts is an intermediary that is typically a financial institution. In contrast, an account receivable may be owed by a retailer that has just purchased a shipment of toasters from a manufacturer agreeing to pay the purchase price within 90 days. Commercial accounts also hold items of property belonging to customers that credit card accounts and receivables do not. The quality of commercial accounts is reinforced not only by creditworthy intermediaries but also through mandatory insurance, segregation of customer assets from those of the intermediaries and strict regulation. For instance, banks that are authorized to maintain deposit accounts are subject to capital reserves and securities intermediaries are subject to the requirement to segregate customer assets from their own. Credit card issuers are not required to segregate their customers' assets from their own because they do not hold any assets, and ordinary accounts receivable are not required to be insured through mandatory schemes.

The back-end systems for the holding and transfers of securities, funds and commodity contracts are all critical components of the contemporary commercial marketplace. This marketplace also includes derivatives (such as swaps), the investment activities of insurance companies, special purpose vehicles that purchase mortgage loans and issue mortgage-backed securities and the like. All these segments have their respective front and back-ends. However, this book focuses only on those segments in which the rights of participants are incorporated into commercial accounts maintained by intermediaries and that are available to individual investors. Analyses of the various types of securities, commodity contracts and monetary items, their functions, uses and risks are also outside the scope of this book.

The ultimate objective of this book is to identify a set of principles that underlie securities, bank and commodity account relationships. This book attempts to explain how securities, funds and commodity contracts are transferred, who account holders and intermediaries are, what the nature of the relationship is between the two, what the connection is between these relationships, what the rights of account holders are against their intermediaries and how account holders may use their assets as collateral. Another equally important objective is to provide recommendations on reforms and modernizations of the law of commercial accounts in developing countries.

This book is divided into three Parts, which separately address the back-ends transfers of I) securities, II) funds and III) commodity contracts. Each of these Parts will examine:

- 1) *historical evolution* of transactions and relationships in securities, payments and commodities markets;
- 2) *transformation* from property rights in identifiable assets to intangible rights against intermediaries;
- 3) *structure* of holding systems where accounts are maintained;
- 4) *top-level relationships* between a central entity and their (clearing) participating intermediaries;
- 5) *lower-level relationships* between intermediaries and their account holders;
- 6) *rights of account holders* against their intermediaries;
- 7) *transfers* of account-based rights; and
- 8) *security interests* in account-based rights.

## HISTORICAL EVOLUTION

Each Part includes a short history of the transaction and the particular relationship into which it evolved. While the purpose is not to provide a detailed historical report, some of the key developments in each area are highlighted. It will be demonstrated that securities, bank and commodities transactions trace their roots to the era of Hammurabi, where the first primitive securities and commodity contracts were introduced. The historical summary then proceeds with a discussion of the particular aspects of Roman law that had a significant impact on the evolution of modern account-based relationships. It will be argued that modern accounts in which intermediaries hold assets for their customers, to a certain extent, rely on the law of deposit as developed by the Romans.

The sections on history then examine the medieval practices shaped by merchants, primarily during the trade fairs. Many of these business practices laid the foundation for the later development of negotiable promises to pay and to deliver, which in turn, over time, became the backbone of many modern commercial undertakings. This medieval era culminated in the establishment of the first organized exchanges for securities and commodity contracts as well as rudimentary account-based relationships. The sections will then examine the practices of English goldsmiths in the seventeenth century. By accepting deposits and issuing

receipts that represented deposited money and valuables, these goldsmiths had a considerable impact on the development of modern money and credit.

Lastly, these sections will cover the last decades of the twentieth century, since it was a time that witnessed a number of transformative processes in the marketplace. Securities began to be immobilized within central securities depositories (hereinafter CSD) and dematerialized in the form of electronic entries to accounts maintained by intermediaries. Balances on bank accounts gradually replaced banknotes and checks as the primary payment mechanism in commercial transactions. Commodity exchanges introduced new futures and options contracts and clearinghouses facilitated their holdings in accounts with intermediaries.

## CHARACTERIZATION OF THE RIGHTS OF ACCOUNT HOLDERS: THE TRANSFORMATION FROM PROPERTY RIGHTS IN IDENTIFIABLE ASSETS TO FUNGIBLE RIGHTS AGAINST INTERMEDIARIES

The history sections in the Introduction to each Part will set the stage for an analysis and characterization of the rights conferred on holders of contemporary accounts. The nature of rights held by contemporary investors has changed alongside the transformation from a transaction between a seller and a buyer to the established relationship between a seller/buyer and his intermediary. Historically, sellers dealt directly with buyers and their dealings involved direct exchanges of securities or commodities for payment. No third party facilitated these exchanges. These transactions involved both the trade and its settlement completed by transferring possession of the physical securities and cash.

Nowadays, most commercial transactions involving securities and commodity contracts, and many transactions involving goods, are not concluded in the presence of the seller and the buyer. Instead, the parties order their intermediaries to buy/sell securities and commodity contracts. Intermediaries do not deliver security certificates to their customers but credit and debit their accounts. Unlike physical delivery of cash and certificates between two parties, in this case, intermediaries facilitate trading, transfers and settlement. A similar transformation occurred on the seller's side with respect to the form of payment. Instead of receiving cash, intermediaries credit their customers' accounts. The bilateral transaction that previously involved an exchange of security certificates for payment in cash has been replaced with a relationship under which

intermediaries electronically transfer funds, securities and commodity contracts. One can identify two different levels of fungibility present in the three types of account relationships. On the one hand, securities and commodity account holders retain property rights to their fungible assets while bank account holders' rights are of a contractual nature. Funds deposited to bank accounts become 'ultrafungible' because the depositors lose any property rights thereto.

## THE PYRAMIDAL STRUCTURE OF ACCOUNTS HOLDING SYSTEMS AND THE LINKAGE

Accounts relationships between intermediaries and their customers are units in a larger structure of accounts holding systems. These systems operate in a pyramid-like model, which typically consists of at least three different levels.<sup>2</sup> At the bottom of the pyramid are investors who enter into transactions, which are reflected by credits and debits to their commodity, securities and bank accounts maintained by intermediaries. These individual account relationships between investors and intermediaries constitute the bottom level of securities, bank and commodity accounts holding systems. The upper or intermediate level is populated by intermediaries and their respective arrangements with other intermediaries and central entities. Similar to the bottom level, these arrangements are represented by accounts maintained by intermediaries for one another. Only some intermediaries have been authorized to access central entities, and therefore those that have not must establish a relationship with one of these clearing intermediaries. Finally, at the top of the pyramid are the operators of LVFTSs, CSDs and commodity clearinghouses. These central entities maintain accounts for their participating (clearing) intermediaries. Unlike the Egyptian pyramids that were built from stone and mud bricks, the commercial system pyramids are assembled from intangible account relationships.

The account-based systems that involve securities, funds and commodity contracts are closely linked. This linkage is legal and, risk-based as well as technological. Furthermore markets, central entities, intermediaries and investors are connected on a global level through modern

---

<sup>2</sup> Edward Gerald Corrigan, *Perspectives on Payment System Risk Reduction*, in *THE U.S. PAYMENT SYSTEM: EFFICIENCY, RISK, AND THE ROLE OF THE FEDERAL RESERVE: PROCEEDINGS OF A SYMPOSIUM ON THE U.S. PAYMENT SYSTEM SPONSORED BY THE FEDERAL RESERVE BANK OF RICHMOND* 129, 130 (David B. Humphrey ed., KLUWER ACADEMIC PUBLISHERS, BOSTON, MA, 1989).

communications systems.<sup>3</sup> With the advent of new technologies, access to various segments of the marketplace located in different parts of the world has become almost effortless. One may buy commodity contracts on a futures exchange established in Europe and use a US-based intermediary to hold those contracts in a commodity account. Of course, these connections also have the potential to expose accounts holding systems to various risks, the most critical being systemic risk, or the risk of the failure of one institution causing a domino effect of collapses to the other institutions.<sup>4</sup> Every level of the accounts holding system is exposed to a certain degree of risk and uncertainty. While failures at the bottom level should not endanger the stability of the entire system, default of a critically important intermediary or the central entity may expose the entire system to the domino effect of failures. Central entities are typically viewed as systematically important and subject to special regulation and supervision.<sup>5</sup> The higher in the pyramid a failure occurs, the higher the chances of systemic failure.<sup>6</sup> Central entities and particularly clearinghouses are one of the systematically important connectors

---

<sup>3</sup> Robert C. Merton & Zvi Bodie, *A Conceptual Framework for Analyzing Financial Environment*, in THE GLOBAL FINANCIAL SYSTEM, A FUNCTIONAL PERSPECTIVE 3 (Dwight B. Crane, Robert C. Merton, Kenneth A. Froot, Zvi Bodie, Scott P. Mason, Erik R. Sirri, André F. Perold & Peter Tufano eds., HARVARD BUSINESS SCHOOL PRESS, BOSTON, MA, 1995); DALVINDER SINGH, BANKING REGULATION OF UK AND US FINANCIAL MARKETS 24 (ASHGATE PUBLISHING LTD., HAMPSHIRE, UK, 2007) and Peter Allsopp, Bruce Summers & John Veale, *The Evolution of Real-Time Gross Settlement: Access, Liquidity and Credit, and Pricing*, in FINANCIAL INFRASTRUCTURE SERIES: PAYMENT SYSTEMS POLICY AND RESEARCH 10 (The World Bank, 2009).

<sup>4</sup> Corrigan, *supra* note 2, at 130. The European Central Bank defined systemic risk as 'one institution's inability to meet its obligations that makes other institutions unable to meet their obligations, resulting in significant liquidity and credit problems that threaten the stability of, or confidence in, markets.' Diana Chan, Florence Fontan, Simonetta Rosati & Daniela Russo, *The Securities Custody Industry*, European Central Bank, Occasional Paper Series No. 68, 34 (August 2007), available at <http://www.ecb.int/pub/pdf/scpops/ecbocp68.pdf> (last visited 9 December 2013).

<sup>5</sup> The DTC has been designated as a systematically important financial market utility by the US Financial Stability Oversight Council, see <http://www.treasury.gov/initiatives/fsoc/Documents/2012%20Appendix%20A%20Designation%20of%20Systemically%20Important%20Market%20Utilities.pdf> (last visited 9 December 2013).

<sup>6</sup> The Committee on Payment and Settlement Systems of the Bank for International Settlements in its *Consultative Report on Principles for Financial Market Infrastructures* 5 (2011) found that '... FMI (payment systems, central

for the three types of holding systems. Ben Bernanke, until January 2014 Chairman of the Board of Governors of the Federal Reserve System, observed that clearinghouses provide one of the links that connect individual segments of the financial marketplace and, more specifically, that the clearing and settlement systems of commodity and securities markets are closely interconnected with the banking system.<sup>7</sup>

## THE CLEARINGHOUSE AND RELATIONSHIPS AT THE TOP LEVEL

All three accounts holding systems for securities, funds and commodity contracts are supported by a central entity that provides specialized services at the top of the pyramid. The central entity may perform various functions, including ensuring stability in the system and protecting its participants against the risk of default. However, the primary role of central entities is to provide clearing and settlement, also known as post-trade services. Clearing is less glamorous than trading but is the core function of modern commercial systems and significantly increases market efficiency.<sup>8</sup> Both clearing and settlement processes occur after trades between individual buyers and sellers have been executed. Clearing is a process that involves administrative functions, such as matching trade data submitted by intermediaries, as well as risk management that involves, *inter alia*, novation of transactions.<sup>9</sup> In contrast, settlement is the final transfer (delivery) of assets, such as securities and commodity contracts, in exchange for funds. Each of the three Parts in this book will examine in detail the clearing and settlement functions.

Most securities holding systems are supported by an entity that performs clearing and settlement functions. However, unlike in the commodities accounts systems, a number of securities central entities do not become counterparties to all securities transactions. In payments

---

securities depositories, securities settlement systems and central counterparties) also concentrate risk. If not properly managed, FMIs can also be sources of financial shocks, such as liquidity dislocations or credit losses ...’.

<sup>7</sup> Ben S. Bernanke, *Clearing and Settlement during the Crash*, National Bureau of Economic Research Conference: *Stock Market Volatility and the Crash*, *Dorado Beach* (16–18 March 1989) in 3(1) REV. FIN. STUD., 1990, at 139.

<sup>8</sup> TINA P. HASENPUSCH, *CLEARING SERVICES FOR GLOBAL MARKETS 1* (CAMBRIDGE UNIVERSITY PRESS, NEW YORK, NY, 2009).

<sup>9</sup> Robert R. Bliss & Robert S. Steigerwald, *Derivatives Clearing and Settlement: A Comparison of Central Counterparties and Alternative Structures*, 4Q ECON. PERSP. 22 (2006).

systems, the operator does not become the central counterparty to every obligation to pay and receive payment. If Morgan Stanley is obligated to pay one million dollars to JP Morgan Chase, the Federal Reserve Bank will neither become the beneficiary of the Morgan Stanley credit transfer, nor assume an obligation to pay JP Morgan Chase. Fedwire, operated by the Federal Reserve Banks, merely credits and debits transfers to the banks' accounts.

Clearing and settlement in securities and commodities accounts systems entail processes not characteristic for clearing and settlement in the bank accounts system. Furthermore, clearing and settlement of funds in the bank accounts systems involve only the 'cash leg' in which one participant makes a transfer and its bank account is debited, and the other participant receives the transfer and its bank account is correspondingly credited. In contrast, clearing and settlement in securities and commodities accounts systems also modify proprietary rights to securities and rights to future delivery of commodities that are transferred in exchange for payment. These and other differences will be further examined in the respective Parts.

## RELATIONSHIPS AT LOWER LEVELS BETWEEN INTERMEDIARIES AND ACCOUNT HOLDERS

Intermediation is at the core of the law of accounts holding systems.<sup>10</sup> Intermediaries perform a number of critical functions, including to:

- 1) establish and maintain accounts for their customers;
- 2) execute customers' orders to transfer assets and funds in and out of those accounts;
- 3) perform clearing functions for certain transactions of their customers;
- 4) provide credit to their customers;
- 5) enable third parties to perfect security interests in assets and funds maintained in accounts;
- 6) provide advisory services;
- 7) facilitate enforcement of corporate rights embedded in securities; and
- 8) reduce monitoring costs for customers.

---

<sup>10</sup> Joseph H. Sommer, *A Law of Financial Accounts: Modern Payment and Securities Transfer Law*, 53(4) BUS. LAW. 1181, 1200–1 (1998).

While in developed economies intermediaries specialize in servicing particular areas of the marketplace with a clear distinction among securities intermediaries, commodity intermediaries and commercial banks, in many developing countries, banks are the dominant intermediaries through which investors can access all three accounts holding systems.<sup>11</sup>

The objects of accounts relationships between intermediaries and their customers are fungible assets of an intangible nature, including funds, securities and commodity contracts. Fungibility benefits issuers, obligors and holders of these assets because assets divided into standardized units are much easier to trade.<sup>12</sup> These fungible assets are dealt and transferred by values, numbers, and other measurements, and held as such in accounts.<sup>13</sup> One of the main objectives of this book is to explain the nature of these relationships. All three types of account relationships trace their roots to the law of irregular and regular deposits, as developed by the Romans. Under the irregular deposit, ownership rights to deposited assets were transferred from the depositor to the depository, and this deposit became the basis for modern bank account relationships. In contrast, under the regular deposit, the depositor remains the owner and the depository obtains 'naked' possession, without any rights to dispose of the object deposited. For centuries, securities, money and commodities were placed with intermediaries for regular deposits (custody).<sup>14</sup> This type of deposit presently exists in the form of safe-deposit boxes provided by intermediaries. It will be argued below that modern accounts holding structures now rely instead on irregular deposits because they dispense with the appropriation of rights to specific items of property.

Gradually it became a common practice for intermediaries to commingle the property of their customers. Once commingled, the depositor could no longer trace his rights to specific securities, banknotes or commodities. The inability to trace rights to specific objects transformed

---

<sup>11</sup> See AUGUSTO DE LA TORRE & SERGIO L. SCHMUCKLER, *EMERGING CAPITAL MARKETS AND GLOBALIZATION, THE LATIN AMERICAN EXPERIENCE* 4 (STANFORD UNIVERSITY PRESS, PALO ALTO, CA, 2007).

<sup>12</sup> Eva Micheler, *The Legal Nature of Securities: Inspirations from Comparative Law*, in *INTERMEDIATED SECURITIES, LEGAL PROBLEMS AND PRACTICAL ISSUES* 131, 145 (Louise Gullifer & Jennifer Payne eds., HART PUBLISHING LTD., OXFORD, UK, 2010).

<sup>13</sup> DAVID COX, *PROPERTY RIGHTS IN MONEY* 24 (OXFORD UNIVERSITY PRESS, OXFORD, UK, 2008).

<sup>14</sup> 'Custody' may have different meanings and is not typically a legal term of art. Edward H. Klees, *How Safe Are Institutional Assets in a Custodial Bank's Insolvency?*, 68(1) *BUS. LAW.* 103, 105 (2012).

the ownership into a different kind of right. For funds deposited to a bank account, the ownership right became a contractual claim against the bank for repayment of the funds. The bank account has become a credit relationship. For commodities, ownership right became a co-ownership interest in the bulk belonging to multiple depositors, and eventually a contractual claim against the intermediary. Holders of securities have been granted a special right (security entitlement) in some jurisdictions that does not fit into any of the existing categories of property rights. In contrast to this special right, many civil-law jurisdictions apply co-ownership property concepts to the rights of securities accounts holders.

## RIGHTS AND PROTECTIONS OF ACCOUNT HOLDERS

Account holders must be provided an assurance of safety and protections against losses that may be sustained by the improper conduct of an intermediary. Otherwise, account holders may be reluctant to hold their assets through intermediaries. As a result, appropriate protective mechanisms must be built into accounts holding systems. The demand for such protective measures has been recently increased as a result of failures by major intermediaries, including Lehman Brothers, Washington Mutual, MF Global and the largest Colombia broker, Interbolsa S.A. The accounts holding systems studied in this book provide a variety of such protective measures, including regulation and capital reserve requirements that in combination create a safety net for the rights of account holders.<sup>15</sup> The safety net is composed of different components in each of the three accounts holding systems.

The primary safeguard for customers of commodity and securities intermediaries is the requirement to segregate the customer property from that of the intermediary. In other words, the intermediary may not maintain its own securities and commodity contracts in the same account with the securities and commodity contracts of its customers. Customers also regularly deposit funds with their securities and commodity intermediaries for trading purposes. Similarly, such funds must be segregated from the funds belonging to intermediaries. In contrast, bank customers do not have the right to demand that the bank segregate their funds from its own funds because upon deposit the bank becomes the owner of such

---

<sup>15</sup> Jerry W. Markham, *The CFTC Net Capital Rule – Should a More Risk-Based Approach be Adopted?*, 71 CHI.-KENT L. REV. 1091, 1098 (1996).

funds.<sup>16</sup> Upon deposit, there is no longer a distinction between ‘their’ and ‘the bank’s’ own funds. As a consequence of segregation, commodity and securities intermediaries are obliged to maintain the same quantity of securities and commodity contracts that are credited to the accounts of their customers. On the other hand, banks are required to maintain only fractional reserves against the deposits of their clients, which allows them to use deposit funds for loans and similar activities.

Insurance of claims is the primary safeguard for bank account holders, yet it is only a secondary safeguard for the holders of securities accounts. In the case that insurance coverage is insufficient, bank account holders have a claim against the general assets of the intermediary. In other words bank depositors’ uninsured claims will be satisfied from the general assets of the bank within the class of unsecured claims. The rights of securities account holders are protected first by segregation and second, in the case of shortfalls, by insurance. If insurance does not cover all losses, the accounts holders then have a claim to pro-rata distribution of the intermediary’s own unencumbered assets of the relevant issue.<sup>17</sup> Their claims are secured to the extent that the intermediary maintains securities. As for the rights of commodity account holders, their primary safeguard is the segregation of assets. In the past, legislative proposals to institute mandatory insurance protecting customers of commodity intermediaries have been repeatedly rejected in the United States. However, such proposals have been recently revived in the aftermath of a number of failures by commodity intermediaries such as MF Global. Additionally, absent of any insurance coverage, when the claims of commodity account holders have not been satisfied in full, holders may assert their claims pro-rata with other unsecured creditors against the commodity intermediary.

Accordingly, rights of securities accounts holders are protected by segregation, secured claims against the intermediary’s assets and insurance. Rights of commodity accounts holders are also protected by segregation and unsecured claims against the intermediary’s assets, but remain uninsured. Finally, rights of deposit accounts holders are protected by insurance and unsecured claims against the insolvent bank’s general estate but their claims do not relate to any segregated assets.

---

<sup>16</sup> Harry Boul, *Money in the Bank Is Not Money, and It’s Not in the Bank*, XXXI(3) AM. INSOL. INST. J. 22, 23 (2012).

<sup>17</sup> Joseph H. Sommer, *International Securities Holding and Transfer Law*, 18 ARIZ. J. INT’L & COMP. L. 685, 695 (2001).

## TRANSFERS OF ACCOUNT-BASED RIGHTS

Since settlement of contemporary commercial and financial transactions does not rely on the physical delivery of money, security certificates and actual commodities, the law must recognize an alternative transfer mechanism that ensures that the transferee effectively acquires the bargained-for rights, and that those rights are immune from the claims of third parties. It will be demonstrated that the common transfer mechanism for all three types of accounts systems is book entries. Rights to securities, funds and commodity contracts are effectively acquired and transferred by book entries made by intermediaries to the accounts of their customers. However, since book entries are merely accounting functions, the law must provide for the consequences of such entries.

Credits and debits mechanically transfer securities, funds and commodity contracts as well as modify relationships of customers with their intermediaries. From the mechanical perspective, credits and debits do not transfer identifiable assets such as specific banknotes or security certificates. Instead, 'the title to the value' is transferred, rather than a title to an identifiable asset or to the money itself.<sup>18</sup> These transfers modify the relationship between the customer and his intermediary. From the customer's perspective, the value of such relationships may increase or decrease over time as transfers are credited or debited to the account.<sup>19</sup> Alan Greenspan, the former Chairman of the Board of Governors of the Federal Reserve System, explained that when a funds transfer is completed, the monetary claim of the transferor against the bank is reduced and almost simultaneously the monetary claim of the beneficiary against its bank is increased.<sup>20</sup>

From a legal perspective a book entry causes rights or value to be transferred by novation. Book entries to accounts do not rely on the traditional concepts of assignment and negotiation because of the phases in which book-entry transfers are effectuated. These phases are: 1) the extinguishment (modification) of the original obligation and 2) establishment of a new obligation (or modification of the already existing one).<sup>21</sup>

---

<sup>18</sup> COX, *supra* note 13, at 165.

<sup>19</sup> Book entry transfers reflect changes in liability to the account holder. PHILIP R. WOOD, SET-OFF AND NETTING, DERIVATIVES, CLEARING SYSTEMS 323 (2nd edn., SWEET & MAXWELL LTD., LONDON, UK, 2007).

<sup>20</sup> *Ibid.*, at 270 and Alan Greenspan, *Remarks on Evolving Payment System Issues*, 28(4), Part 2, JOURNAL OF MONEY, CREDIT AND BANKING 689, 691 (1996).

<sup>21</sup> J. B. Ames, *Novation*, 6(4) HARV. L. REV. 184, 185 (1892).

The negotiability doctrine is inapplicable to transfers in modern accounts holding systems because of the absence of writings. Yet the goal of negotiability, which is to free the asset of conflicting claims and liability, remains important for intermediated account-based systems.<sup>22</sup> Professor Rogers, the Reporter for the 1994 revision of the Uniform Commercial Code (UCC) Article 8, noted that negotiability rests on the assumption that abstract rights are embodied in writings that are physically held or delivered to the claimant of these rights.<sup>23</sup> In contemporary systems rights are no longer transferred by delivery of writings. Professor Rogers added that ‘one must constantly bear in mind that what matters is not the instruments themselves, but the abstract rights represented by the instruments, and that the objective is to design an effective system of title recognition for the abstract rights’.<sup>24</sup> Abstract rights have been divorced from writings and have become embedded in securities, bank and commodity accounts, which provide an effective system of title recognition.

In addition to the recognition of novation, laws and rules that govern securities, bank and commodity accounts systems must clearly identify the moment at which the transfer order, as well as the actual book entry, becomes final and irreversible.<sup>25</sup> Finality of transfer is one of the most important features in all three accounts systems. The high velocity of transfers and the millions of transactions that are processed on a daily basis require clear and predictable rules of finality. Each Part of this book will examine the finality rules present in the particular accounts holding system.

---

<sup>22</sup> Charles W. Mooney, Jr. & Hideki Kanda, *Core Issues under the UNIDROIT (Geneva) Convention on Intermediated Securities: Views from the United States and Japan*, in INTERMEDIATED SECURITIES, LEGAL PROBLEMS AND PRACTICAL ISSUES 69, 95 (Louise Gullifer & Jennifer Payne eds., HART PUBLISHING LTD., OXFORD, UK, 2010).

<sup>23</sup> James S. Rogers, *Negotiability, Property, and Identity*, 12 CARDOZO L. REV. 471, 480 (1990).

<sup>24</sup> James S. Rogers, *Negotiability as a System of Title Recognition*, 48 OHIO ST. L.J. 197, 224 (1987).

<sup>25</sup> Robert R. Bliss & Chryssa Papathanassiou, *Derivatives Clearing, Central Counterparties and Novation: The Economic Implications*, 20 (8 March 2006), available at [http://www.ecb.int/events/pdf/conferences/ccp/BlissPapathanassiou\\_final.pdf](http://www.ecb.int/events/pdf/conferences/ccp/BlissPapathanassiou_final.pdf) (last visited 9 December 2013).

## THE USE OF ACCOUNT-BASED RIGHTS AS COLLATERAL

Account holders may not only sell their rights but they may also use them as collateral to secure obligations. Account-based rights are very valuable collateral for three particular reasons. First, the value of securities, funds and commodity contracts is easily determinable because there is a public market for all of them. Second, account-based rights are highly liquid. In other words, securities and commodity contracts may easily be disposed of, practically immediately upon default of the borrower. Finally, perfection of security interests in account-based rights may be achieved without having to satisfy onerous formalities typical for most secured transactions in some jurisdictions. Despite the attractive collateral value of rights held in securities, bank and commodity accounts, only a few jurisdictions (e.g., Canada and the United States) provide for comprehensive special rules on taking security interests in such rights and accounts.

Security interests typically become effective against third parties once the creditor has taken some action to make them public. This is typically achieved by filing or registration. Publicity of security interests in account-based rights is achieved through the presence of an independent third party – i.e., the intermediary – that functions as the bookkeeper for all transactions with the account-based rights, whether outright transfers or collateral arrangements. Perfection of security interests in account-based rights should depend on the ability of the secured creditor to control the collateral also allowing the debtor to retain disposal rights.<sup>26</sup> Nevertheless, in some economies filing (registration) continues to play an important role and is viewed as the only mechanism that provides sufficient transparency for collateral arrangements. Each Part of this book will analyse and compare the requirements for perfecting security interests in account-based rights.

---

<sup>26</sup> See Luc Thévenoz, *Intermediated Securities, Legal Risk, and the International Harmonization of Commercial Law*, 13 STAN. J.L. BUS. & FIN. 384, 443 (2008), for a similar recommendation with respect to security interests in securities and bank accounts.

## LEGAL REGULATION – IDENTIFICATION OF BEST PRINCIPLES

The ultimate objective of this book is to identify the key principles and features that underlie contemporary accounts holding systems. A number of efforts to bring about some level of harmonization on an international level have already failed. Drafters of future legislation should realize that the new world of securities, bank and commodity accounts is based upon mechanical communications, intangible rights and relationships.<sup>27</sup> The core of the emerging law of commercial accounts addresses the relationships between customers and their intermediaries rather than the property rights to identifiable assets.<sup>28</sup>

Rapid development of commercial markets outpaces not only legal regulation but also the implementation of tools for mitigation and more effective management of risks.<sup>29</sup> In a number of jurisdictions laws still focus on and regulate transactions with identifiable assets and property rights while transactions in contemporary markets involve intangible and fungible assets and account-based relationships.<sup>30</sup> Legislators must take responsibility for adopting efficient rules on enforcing rights, protecting investors and adequately regulating participants in these systems.<sup>31</sup> Legislation and regulation of account-based rights must be comprehensive and take into account the linkages among the three accounts holding systems. The call for effective legislation governing these systems has been made by the most prominent figures in contemporary finance. Bernanke, until January 2014 Chairman of the Board of Governors of the

---

<sup>27</sup> Sommer, *supra* note 10, at 1183.

<sup>28</sup> *Ibid.* at 1184.

<sup>29</sup> Donald L. Kohn, *The Evolving Nature of the Financial System: Financial Crises and the Role of the Central Bank*, Speech at the Conference on New Directions for Understanding Systemic Risk, New York (18 May 2006).

<sup>30</sup> ERICA JOHANSSON, PROPERTY RIGHTS IN INVESTMENT SECURITIES AND THE DOCTRINE OF SPECIFICITY 1 (SPRINGER-VERLAG BERLIN HEIDELBERG, BERLIN, GERMANY, 2009).

<sup>31</sup> Governments should also be mindful and supportive of self-imposed industry regulations. However, self-regulation standing on its own will not work without a government-sponsored and effective oversight framework. See Andrea M. Corcoran, Ronald B. Hobson, Gregory J. Kuserk, Karen K. Wuertz & Derek West, *Designing a Derivatives Complement to Cash Markets in Developing Countries*, in INTER-AMERICAN DEVELOPMENT BANK, FOCUS ON CAPITAL, NEW APPROACHES TO DEVELOPING LATIN AMERICAN CAPITAL MARKETS 373 (INTER-AMERICAN DEVELOPMENT BANK, WASHINGTON, DC, 2003).

Federal Reserve System, referred to such legislation as the ‘software’ of the financial system, and said that:

I want to construe ‘financial infrastructure’ very broadly, to include not only the ‘hardware’ components of that infrastructure – the physical systems on which market participants rely for the quick and accurate execution, clearing, and settlement of transactions – but also the associated ‘software,’ including the statutory, regulatory, and contractual frameworks and the business practices that govern the actions and obligations of market participants on both sides of each transaction.<sup>32</sup>

Bernanke’s ‘software’ (legal infrastructure) and ‘hardware’ (organizational infrastructure) will be referenced throughout this book. The Conclusion of this book identifies a set of principles underlying contemporary account-based relationships.

---

<sup>32</sup> Ben S. Bernanke, *Reducing Systemic Risk*, Speech at the Federal Reserve Bank of Kansas City’s Annual Economic Symposium, Jackson Hole, Wyoming (22 August 2008), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20080822a.htm> (last visited 9 December 2013).