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Towards a Global Financial Register?

Account Segregation in Central Securities Depositories and the Challenge of Transparent Securities Ownership in Advanced Economies

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In their recent books, economists Thomas Piketty and Gabriel Zucman called for the creation of a global financial register (GFR) that would map the individual ownership of financial assets, including securities, in order to monitor and combat the rise of inequality. Zucman's proposal is to build this register using the databases of the large Western central securities depositories (CSDs), such as DTC, Euroclear and Clearstream. This Article examines the viability of these proposals in light of the technical reality of securities account structure within CSDs. It explains that because they are predominantly based on "street name" registration or "omnibus" accounts, their model is not prima facie conducive to the creation of a GFR identifying end-investors. The model evolved in that way because of the depth of the intermediation chain and continuing legal and regulatory fragmentation along national lines. Ownership information at present is located within intermediaries that have little incentive to change the model. Yet counter-examples within the emerging world (China) and in smaller Western economies (Norway) point to the possibility of more transparent CSDs. Increased transparency in these institutions would also help achieve other goals in addition to a GFR, such as improved corporate governance, better protection of corporate issuer and shareholder rights, and greater effectiveness of regulations combatting unlawful uses of the financial system. The viability of the Piketty/Zucman proposal should therefore be acknowledged, and the idea of increased transparency within financial infrastructure like CSDs given proper consideration, at a policy level that would be wider than that of financial industry circles.

TABLE OF CONTENTS

Introduction 1

I – A brief presentation of Central Securities Depositaries 5

A/ Historical development of the CSD model 5

B/ Who owns the CSDs? 8

C/ The function of CSDs 9

D/ The cross-border bridging role of CSDs 10

II – Account Segregation versus Omnibus Accounts 11

A/ Introduction 11

B/ Types of CSD security accounts 13
C/ Reasons for the dominance of omnibus accounts 17
III – Arguments in favour of Omnibus Accounting Structures (Status Quo) 19
III – Arguments in favour of End-investor Transparency through Segregated Accounts 22
A/ Facilitation of anti-money laundering and sanctions compliance 23
B/ Transparent CSDs in Smaller European Markets and Large Emerging Markets 27
C/ Corporate governance in public corporations 28
1. The position of investors 29
2. The position of issuers 30
D/ Final remarks: Furthering the cause of transparency 32
iv - Conclusion 35

INTRODUCTION

In *Capital in the 21st Century*, one of the remedies that Thomas Piketty proposes to combat the general rise in inequality is a global wealth tax that would be levied on the worldwide assets of individuals. Such a tax would amongst other things produce detailed data on capital ownership around the world, thereby forming a sort of "cadastral financial survey" that would facilitate the study of inequality and its effects on governance and democracy.[1] In a later book focusing on global offshore wealth, Gabriel Zucman examines the volume of assets that are held by economic elites around the world via legal structures registered in tax havens.[2] He points out that much of this wealth, though booked and anonymized through these jurisdictions, appears to be invested in mainstream stocks and bonds issued in the large Western economies. He therefore offers an idea that is simple and logical: the construction of a global financial register (GFR), in other words Piketty's financial cadastre, could start with the market infrastructure supporting these mainstream Western securities. The proposal would be to leverage off data currently stored in the main U.S. and EU central securities depositories ("CSDs"), which are hold top tier custody information for most Western securities.[3] Zucman proposes that the ownership data found in these CSDs be stored into a central international database that would open new regulatory opportunities for lawmakers around the world. Amongst such CSD institutions are the Depositary Trust Company (DTC) in the U.S., and Euroclear and Clearstream in Europe. At present, these institutions store and process custody and post-trade settlement data for securities representing trillions of US dollars.

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[1] THOMAS PIKETTY, CAPITAL IN THE 21st CENTURY, 2014, p. 520. On the failure of governments to implement robust asset reporting and difficulties in compiling reliable information, including for the 'global wealth reports' of global custodian banks and annual billionaire rankings by magazines such as Forbes, see p. 436-443.

[2] GABRIEL ZUCMAN, THE HIDDEN WEALTH OF NATIONS: THE SCOURGE OF TAX HAVENS, 2015.

[3] *Ibid*, p. 92-98.

Unrelated to these policy ideas emanating from two political economists, a debate happened to take place within the global securities industry in recent years concerning a functional practice known as “account segregation”. “Account segregation”, in the language of securities custody, means the segregated holding of registered securities in separate accounts or sub-accounts opened in the name of individually designated holders. The opposite model is the practice of “omnibus accounts” (or in the U.S. “street name” registration), in which registered securities belonging to several different investors or intermediaries are commingled into one account under the name of a single account holder, usually a financial intermediary. That intermediary then allocates the securities between its own clients, in its internal books, privately and outside of the purview of the central infrastructure providers. The debate on account segregation versus omnibus accounts was triggered by a series of events that occurred within the securities industry. The Madoff[4], MF Global[5] and Lehman Brothers[6] bankruptcies first shone the light on how accounting practices by intermediaries could affect the return of securities to their ultimate beneficial owners. In the EU, the debate on account segregation took place in the aftermath of the financial crisis, as newly invigorated EU financial regulators embarked on a general overhaul of the regulatory framework of the European capital markets. These initiatives inter alia included a new E.U.-wide regulation on CSDs that was adopted in 2014[7] and the construction by the European Central Bank of a pan-European post-trade settlement platform called Target-2-Securities (T2S).[8] Another event, finally, was a fine imposed in 2014 by the Office of Foreign Assets Control (OFAC) of the US Treasury against Clearstream of Luxembourg in connection with its undisclosed holding of US securities for the benefit of an Iranian counterparty that was under financial sanctions. All of these combined events triggered a bout of self-examination within the industry. The debate on account segregation stayed very technical and circumscribed to specialists, however. Although it arguably raises wider issues of principle, such as the place of transparency in finance and the increasing disconnect between investors and securities issuers, the debate unfolded within the comparatively narrow circles of industry organizations, large banks and securities regulators. One of the papers

[4] During an investigation by the SEC conducted in 2006 it became apparent that Madoff had lied about maintaining segregated securities accounts at DTC for his clients’ assets. In fact this was not the case and client securities were commingled with that of his firm at DTC in violation of federal securities law (SEC, *Investigation of Failure of the SEC to uncover Bernard Madoff’s Ponzi Scheme*, 2010, at 329-334): “*In addition to not understanding that Madoff’s apparent commingling of assets was a serious red flag and a violation of the federal securities laws,* [the investigator] *did not understand that DTC records would have quickly shown that Madoff was operating a Ponzi scheme. Specifically, DTC records would have shown that, on any particular day that Madoff’s records indicated that he held equities on his advisory accounts, Madoff did not hold billions of dollars of S&P 100 equities for his investors as he claimed*” (at 332).

[5] Rena S. Miller for the U.S. Congressional Research Service, *The MF Global Bankruptcy, Missing Customer Funds, and Proposal for Reform*, August 1, 2013.

[6] Ronald H. Filler, *Consumer Protection: How U.K. Client Money Rules Differ from U.S. Customer Segregated Rules When a Custodian Firm Fails to Treat Customer Property Properly*, 24(5) Journal of Taxation and Regulation of Financial Institutions 25 (2011).

[7] Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012 Text with EEA relevance) (hereafter, “ECSDR”).

[8] https://www.ecb.europa.eu/paym/t2s/about/html/index.en.html, The debate on account segregation is still continuing at present in the EU in connection with the role of depositaries under the UCITS V/AIF directive regulating common investment schemes and alternative investment funds.

produced in the context of this industry exercise did mention the Zucman proposal on CSDs,[9] but otherwise the underlying ideas contributing to these two very different visions of economic governance did not intersect or interact.

The purpose of this Article is to attempt to bring these two strands of enquiry together, and to examine the viability of the Piketty/Zucman proposal in light of the technical reality of existing securities markets. It deals not with the idea of a global wealth tax, but with the infrastructure that could support an incipient global financial register. In doing so, it attempts to disinter the debate on securities account segregation from its current position as a narrow, specialist-dominated issue. At present, CSDs are very far from offering the level of end-investor transparency that would support a global financial register. In the advanced Western economies, the largest CSDs are omnibus-account dominated and functionally non-transparent *per se*. There are a number of reasons for this, not least the role and influence of the intermediation echelon represented by banks and financial intermediaries, and also the fact that a large portion of the securities markets is now cross-border, i.e. involves issuers, intermediaries and investors that are located in different countries. In the largest Western markets, it is mainly the intermediaries immediately dealing with end-investors who know who these investors are; elsewhere in the chain, information is limited to the identity of the intermediary that is located one rung immediately above or below in the chain. Most CSDs also operate in this way: they know the identity of the financial intermediaries with whom they deal directly rather than that of the end-investors at the other end of the custody chain. The dominant model is one of end-investor opacity.

Once this diagnostic of end-ownership opacity at CSD level has been formulated, however, the question arises of what could or should be done about it. Industry consensus, within the securities world, is that the current model is driven by technical constraints and market efficiency, and that a more transparent model involving individual account segregation within CSDs and throughout the chain would create costly inefficiencies to the detriment of all and small retail investors in particular. To justify the status quo the industry also puts forward data privacy concerns, i.e. the need for sensitive personal data to be stored at one point only and not replicated throughout the chain (this is called “data uniqueness”). These reasons have merit, but the question whether securities ownership should be more transparent nevertheless deserves a debate. Some jurisdictions, like Norway or China, have been able to build CSDs that are more transparent. Transparency is increasing in other fields of finance, in spite of past paradigms previously thought unassailable. Banking secrecy was an industry tenet for decades in many jurisdictions (not only Switzerland), but is being eroded by reforms like the U.S. FATCA, OECD/G20 initiative on the common reporting standard (CRS) and treaties on automatic exchange of bank information (AEOI). There is a push for end-investor ownership transparency in close corporations around the world, and the reform has already been adopted in the EU despite long standing resistance in many of the member states. Economic sanctions are increasingly used as non-violent alternatives to traditional military action in foreign relations, especially in the U.S.[10] and E.U. Multilateral initiatives continue to combat tax evasion, corruption, money laundering and terrorist financing.

9 ISSA Working Group, *Discussion Paper on Transparency in Securities Transaction and Custody Chains*, 22 April 2014 (hereafter “*ISSA 2014*”), at p.6.

10 See in the 2015 U.S. National Security Strategy: “*Targeted economic sanctions will remain an effective tool for imposing costs on irresponsible actors and helping to dismantle criminal and terrorist networks*”.

Ownership transparency in securities custody chains, or its absence, affects the efficacy of all of these policy tools. In short, there are powerful reasons from *outside* the financial industry to consider that greater transparency is an important per se policy objective that may justify overcoming industry resistance.

While the wider ambition is to further the cause of transparency of ownership of all securities (stocks and bonds), this Article deals with the narrower issue of account segregation within CSDs. There are a number of difficulties with legal research in this area, because securities ownership and disclosure issues are addressed in segregated disciplines of law that are each highly specialized and tend to operate in silos. When they constituted certificated tangible goods, securities were primarily governed by property laws; now that they are mostly uncertificated, they are governed by corporate laws, securities laws and even contract laws (for international bonds). The boundaries between matters governed by corporate law and those governed by securities law are not clear cut and tend to vary between countries.[11] Questions regarding ownership transparency and disclosure belong not only to securities law but to financial regulation, including anti-money laundering laws, and to taxation. Insolvency laws also play a role. These divisions between legal disciplines are further amplified by the differences resulting from constitutional rules on whom has proper jurisdiction. Some laws (like corporate laws) are state law (in the US) or national law (in the EU), while others are federal (in the US) or EU-wide, in turn leading to separate modes of legislative reform, action and enforcement. Some disciplines may be more amenable to public policy driven reforms than others: it is interesting that despite its direct relevance to corporate law (which is national), the question of beneficial ownership of close corporations had to be resolved in the EU at the Union level, by a directive on anti-money regulations, and not through company law measures. In the US, the debate on beneficial ownership of close corporations also hinges around the state/federal law divide; attempts at transparency reform at the corporate (state) law level having been thwarted for years, they are being pushed to the federal level. All of these layers of complexity mean that a simple policy idea such as that of a global financial register touches on many different specialties and jurisdictions and becomes all that more difficult to explore even at a theoretical level. Finally, one would add that there has not been much scholarly interest in the technical question of CSDs, securities ownership and transparency of custodial chains.[12] For all of these reasons this Article does not claim to cover all of the technical ground that would be required, and takes the risk of simplification for the sake of intelligibility. It seeks to expose the existing consensus for

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11 Regarding the U.S., see James Park, *Reassessing the Distinction between Corporate Law and Securities Law*, UCLA Law Review 2017.

12 In the U.S., all of the articles published would appear to focus on equities. Over the past decades they are: J. Robert Brown, *The Shareholder Communications Rules and the Securities Exchange Commission: an Exercise in Regulatory Utility of Futility,* 13 J. Corp. L. 683 (1988), Shaun M. Klein, *Rule 14 b-2: Does it Actually Lead to the Prompt Forwarding of Communications to Beneficial Owners of Securities?* 23 J. Corp. L. 155 (1997); Marcel Kahan & Edward Rock, *The Hanging Chads of Corporate Governance*, 96 GEO. L.J. 1239 (2008), and David C. Donald, *Heart of Darkness: The Problem at the Core of the U.S. Proxy System and its Solution*, 6 Va. L. & Bus. Rev. 41 (2011). See also Constantine G. Papavizas, *Public Company Jones Act Citizenship*, 39 Tulane Maritime Law Journal 383 (2015), for a study of the impact of the U.S. securities ownership system on rules limiting foreign investment in the shipping industry. Ronald Filler has written about derivative asset segregation practices in the context of the MF Global and Lehman bankruptcies (*supra* note 6).

status quo in the field of securities accounting, and then to counter that status quo with some counter-suggestions.

This Article is structured as follows. The first section examines the CSDs themselves, as key market infrastructure institutions, and their role. It looks how they first came about, and the reasons they did not historically develop along a more transparent model. The second section examines the technical difference between omnibus accounts and segregated accounts, and the different models that exist in the U.S. and EU. The third section examines the debates that were conducted in recent year within the securities sector as regards the possible extension of account segregation, and why this extension was resisted. The fourth section, however, looks at counter-arguments against the status quo and in favour of increased transparency. To do so it examines the few existing models of transparent CSDs that already exist, in a few smaller Western markets like Norway and, importantly, in certain emerging markets and in particular China. The conclusion then offers a few rays of hope as to why the Piketty/Zucman proposal to build an incipient global financial register on the basis of the CSDs could, in fact, have real traction.

I – A BRIEF PRESENTATION OF CENTRAL SECURITIES DEPOSITARIES

Globalized finance is characterized by a disconnect between the issuers of securities, i.e. enterprises who need capital for their business projects in the real economy, including for the creation of jobs, and at the other end investors who accept to take on the economic risk of these investments. Investors include firms and finance professionals, but they also include individuals and households who wish to invest their savings into the real economy. The chain of financial intermediation both enables and obscures the connection between these layers of the economy. Public companies that issue securities no longer know who their small shareholders or bondholders are, and are often unable to obtain this information even when they ask for it. The system was not intentionally designed to create this type of anonymity, but it evolved in this manner over time, not least because of the technological and regulatory complexity of cross-border securities investment and trading. It also evolved in this way because the very technicality of the field meant that the financial industry and its regulators were not constrained by the views or preferences that might be expressed, on this subject, by the general public.

A/ Historical development of the CSD model

Despite their role at the heart of global securities markets, CSDs are little known institutions. Their initial purpose of existence was to manage the constraints generated by the physical handling of paper certificated securities. The first CSDs appeared in Austria and Germany in the late nineteenth century. The modern institution of CSDs, however, really took off in the 1970s and 1980s, in connection with two events in particular. The first event was the rapid growth of securities transactions in the 1960s and 1970s, which led to "paper crunches" in some of the main markets (New York in 1970,[13] London in the 1980s[14]). Originally, securities existed mostly as paper certificates and securities transactions involved a number of paper intensive stages including the physical transfer of the paper certificate.[15] At the end of the sixties and beginning of the seventies, the volume of transactions handled by New York broker-dealer houses had grown to such an extent that they were no longer able to process the back-office paperwork in proper time. At one point the NYSE had even ceased to operate for one day of each week in order to allow the broker-dealers to catch up on the paperwork backlog. In 1970 this led to a full-fledged "paper crunch" crisis in New York, and failure of several U.S. brokerage houses.

A second central event that helps to understand CSDs today is the creation and expansion of the U.S. eurodollar markets in Europe, also in the sixties and seventies. Not to enter into the detail of these markets, they centred on the holding of U.S. dollars and issuance of US dollar denominated bonds in Europe, outside of US regulatory oversight and avoiding the withholding taxes and capital controls introduced by U.S. governments under Kennedy and Johnson.[16] The eurobond market was largely a creation of U.S. banks, and one of them in particular: Morgan Guaranty of New York (now JP Morgan). At the time New York was nearing its paper crunch, these banks were already involved in the handling of physical eurobonds and saw that they would need a dedicated institution to facilitate the administration and settlement of these transactions outside of New York: this was to be the "Euro-clear Clearance System," first created by Morgan Guaranty in 1967/1968 in Brussels and that later became Euroclear Bank, the world's largest "international CSD" (or ICSD). A competing institution, "Centrale de Livraison de Valeurs Mobilières" or "Cedel", was created a few years later in Luxembourg, with the backing of French, German and Swiss banks who wished to get in on the action and counter the competitive threat from Morgan and Euroclear.[17] Cedel would later morphe into Clearstream. Euroclear was the first system that was developed specifically for the transnational custody and settlement of international securities outside of a specific designated domestic environment.[18] It involved the physical immobilization of the certificates in its own premises and the performance of transfers

[13] SEC, *Study of Unsafe and Unsound Practices of Brokers and Dealers* 28, 29 (Dec. 1971); PETER NORMAN, PLUMBERS AND VISIONARIES: SECURITIES SETTLEMENT AND EUROPE'S FINANCIAL MARKET (2007), p.41.

[14] The need to replace paper-based securities trading in London became acute in the 1980s after the Big Bang reform and privatizations of the Thatcher period. It led to the adoption of the TAURUS system ("Transfer and Automated Registration of Uncertificated Securities), an electronic platform which proved to be a failure and was subsequently replaced by CREST. See John Wilcock, *The City comes Unplugged*, The Independent, 13 March 1993, http://www.independent.co.uk/news/business/the-city-comes-unplugged-taurus-was-to-revolutionise-share-trading-by-replacing-huge-volumes-of-1497659.html; *Sudden Death of a Runaway Bull*, Financial Times 19 March 1993, P. NORMAN (*supra* note 13), p. 133. According to some commentators, one of the reasons for the TAURUS failure was lingering UK investor resistance to the entire dematerialization of shares. See *TAURUS Unveiled*, Global Custodian, 1 June 1990, http://www.globalcustodian.com/Magazine/1990/June-/TAURUS-unveiled/.

[15] See the references at *supra* note 9, and Donald, *supra* note 12, at 49-54 (and the sources he cites).

[16] P. NORMAN (*supra* note 13), 16-21. On the notion of "ICSD" versus "national CSD", see *infra* note 18.

[17] P. NORMAN (*supra* note 13), at 29-39.

[18] See *infra* note 22.

through a book entry system only[19] (the Euroclear system was also supported by credit services to the participants to securities transactions, since Morgan was also a bank). The Chairman of Morgan Guaranty at the time, John M. Meyer, also happened to have a policy role in the U.S.: he was the chair of a U.S. industry committee called the “Banking and Securities Industry Committee” (BASIC), which was trying to find a solution for the New York paper crunch crisis. Building on Morgan’s successful Euroclear experience, Meyer successfully advocated introducing a similar market-wide securities depositary sytem in the U.S., which would involve immobilizing all of the paper certificates within a single custodian and effecting all transfers thereafter by book entry only. The model was ultimately adopted in 1975 and became the Depository Trust Corporation (DTC).[20]

Today these three institutions, DTC, Euroclear and Clearstream, are central to the global securities markets. The value of securities held in custody by DTC, the US national CSD, was $37 trillion in 2012, and securities transactions settled by it were $110 trillion.[21] Euroclear operates the world’s largest ICSD, which handles mainly “international” securities, and owns most of the European “national” CSDs.[22] Securities held in custody within the Euroclear group in 2015 represented 27.5 trillion euros. Securities transactions processed were 675 trillion euros.[23] Clearstream, the second largest ICSD, also operates the German CSD. In 2015 it held securities in custody representing 13.2 trillion euros, and settled gross securities transactions representing 128 trillion euros.[24]

For the purpose of this Article, I will tentatively put aside the two ICSDs and eurobonds generally. Eurobonds are bonds issued in foreign currency and traded on

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19 “Immobilization” is the process whereby paper certificates are physically stored in one place (the CSD) and replaced by book entries. “Dematerialization” refers to further reforms (that also happened in most advanced economies), which altogether removed the existence of paper certificates. In both systems, securities are represented by book entries and transfers also occur via book entry only. In certain markets the immobilization or dematerialization of equities happened progressively, with certain categories of investors remaining attached to physical certificates. See in the UK Simon Keane, *Share certificates: the great Paper Chase to end*, 9 May 2013, Shares magazine https://www.sharesmagazine.co.uk/article/the-great-paper-chase-comes-to-an-end.

20 Securities Acts Amendments of 1975, Pub.L.94-29, June 4, 1975, 89 Stat. 97 (1975). The DTC system built on a previously existing more limited “Central Certificate Service” which already existed at the NYSE. On the historical narrative, see Donald (*supra* note 12) and P. NORMAN (*supra* note 13), 41.

21 http://www.dtcc.com/about/businesses-and-subsidiaries/dtc.

22 The industry recognizes a difference between “national CSDs” and “international CSD.” In short, national CSDs handle “national securities” while “international CSDs” handle “international securities.” The difference between “national” and “international” securities is not a scientific one. “National” securities are securities (stocks or bonds) issued under specific domestic frameworks that are usually statutory in origin and are set forth in the company and securities law applicable to the issuer. In contrast, “international” securities (mainly bonds, and sometimes called “stateless” securities) are securities that are issued outside of a domestic statutory framework based on cross-border corporate and contractual structuring. Most eurobonds for example are governed by an issuance prospectus that freely selects the applicable law, and are represented by global notes issued by corporate issuers often constitutive of SPVs registered in a small number of selected jurisdictions (e.g. Ireland or Luxembourg).

23 Euroclear plc Annual Report 2015, p. 2.

24 Deutsche Börse Group Financial Report 2015, p.51, available at: http://www.clearstream.com/blob/11370/5631f715ef77eac6c9e86637747717eb/gdb-annual-report-data.pdf.

international markets outside of any domestic regulatory framework, usually through the use of elaborate corporate and contractual structures. These securities raise ownership tracing issues that are more complex than for "ordinary" national securities such as shares or stocks in companies (or domestic bonds). In order to keep things simple, the focus of the Article will be mostly on the "national" CSDs that handle registration of equities (i.e. stocks and shares in corporations).

B/ Who owns the CSDs?

The largest and oldest CSDs are "user-owned".[25] They were formed by banks and financial institutions that pooled resources to create central infrastructures and become users of their services. In the U.S., the Depository Trust Company (DTC) is a subsidiary of Depository Trust & Clearing Corporation, a stock corporation belonging to the U.S. banks, breaker-dealers and financial institutions that use its services. It is staffed primarily by employees seconded from those institutions.[26] Euroclear is also user-owned. As mentioned above, it was first created in 1967/68 in Belgium by Morgan Guaranty to support the Eurobond market. In 1972, its ownership was transferred to "120 major financial institutions,"[27] although it remained fully operated by JP Morgan until 1999.[28] The third largest CSD group is Clearstream, created as Cedel in Luxembourg in 1970 "by 66 of the world's major financial institutions."[29] In 2002, Clearstram was acquired by Deustche Börse, which was itself subsequently privatized and is now 95% owned by "institutional investors".[30]

Although they were initially conceived as "international" infrastructure providers not bound into any national system, Euroclear and Clearstream used their considerable financial firepower to progressively take over most of the "domestic" European CSDs as well. In 2001/2002, Euroclear acquired the French domestic CSD, SICOVAM, as well as the Dutch and Belgian domestic CSDs. In 2002, it acquired the UK (and Irish) domestic CSD, Crest Co (since then renamed Euroclear UK& Ireland). In 2008, it acquired the Nordic CSD covering Finland and Sweden. The top company of Euroclear today is a UK registered public limited liability company (with a domicile in Switzerland).[31] Clearstream, for its part, acquired the German national CSDs.[32]

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25 The ECSDA website identifies the following categories of ownership of CSDs:. Most of the European CSDs are either user-owned or state-owned.

26 Donald, *supra* note 12, at 59.

27 Euroclear plc Annual Report 2015.

28 P. NORMAN, *supra* note 13.

29 Clearstream Customer Handbook, 28 November 2016, par. 1.1, http://www.clearstream.com/blob/10702/7bcfd68532890ee84f38d853d8e96074/hbecomp-pdf-data.pdf

30 Deutsche Börse Group Financial Report 2015.

31 Euroclear plc Annual Report 2015, p. 41

32 The Clearstream/Deustche Borse ownership model is sometimes referred to as the "vertical silo" model, in which all post-trade functions (i.e. trading, clearing and settlement) are handled within an integrated corporate group - a model which according to some commentators favors national specialization. The vertical model also exists in Italy and Spain. The opposite model is the "horizontal" model, i.e. that of Euroclear, in which post-settlement is covered on a much wider

The largest Western CSDs, therefore, are owned privately and by the financial sector itself. In the smaller Western markets and in certain emerging markets, however, many CSDs are still government or central-bank owned. The Chinese CSD Chinaclear is owned 50/50 by the Shanghai and Shenzen Stock Exchanges, both state-owned. In Russia, the national CSD National Settlement Depository is a subsidiary of the Moscow Stock Exchange, which was was originally state-owned but recently underwent privatization. At this point, NSD/MSE are still 30% owned by state-owned institutions (including the Central Bank).[33]

C/ The function of CSDs

CSDs are financial utilities. Their role is primarily functional and does not normally involve any credit or liquidity risk arising from the underlying securities transactions that they process (those risks are borne by the central counterparties, participants or parties to the transactions). Their core functions are the initial recording of securities in a book-entry system (this is referred to as the "notary service" in the European regulation), the maintenance of securities accounts at the top tier level ("central maintenance service", sometimes called top-tier safekeeping or custody) and, sometimes but not always, the operation of a securities settlement service.[34] "Securities settlement" refers to the process of discharging the obligations of the parties to any given securities transaction, which means the delivery of the securities versus the payment of the price. Once delivery versus payment has occurred, the book-entry transfer is finalized by the CSD and the transaction is deemed completed from a legal standpoint.[35] The other core functions existing in the securities markets, which are handled not by CSDs but by other market infrastructures, are the trading function (handled by stock exchanges) and the clearing function (handled by clearing houses).

As pointed out above, CSDs originally became prevalent in order to manage the difficulties connected with the handling of paper certificates. However, paper certificates are now very rare in the securities industry. This raises the question why CSDs continue to play such a central role in securities markets. Since the eighties they have in fact become an integral part of the core architecture of securities markets. They are central "top tier" custodians in the custodial chain of securities. They are facilitators of collateralization in the repo or securities lending markets, which are viewed as fundamental to the liquidity of markets. Clearly one must add that although they are theoretically "user-owned", CSDs have also become independent market players within the securities industry in their own right. It is notable that efforts to re-regulate CSDs at the European level after the crisis did not lead to any fundamental changes in their mode of operation. The purpose of the T2S reform that is

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geographical basis, but separately and independently from the running of stock exchanges or clearing houses.

[33] http://moex.com/s1352

[34] See the ECSDR (*supra* note 7). CPSS-IOSCO consider that the core role of CSDs is to provide central custody services and does not necessarily include securities settlement systems (CPSS-IOSCO, *Principles for Financial Market Infrastructures*, April 2012, paras. 1.11 and 1.12, available at http://www.bis.org/cpmi/publ/d101a.pdf).

[35] ECSDR (*supra* note 7), art.2 (7).

led by the European Central Bank (T2S), likewise, is to build an integrated IT platform for all eurozone CSDs. It is not to transform the key operating rules of the existing CSDs.[36]

D/ The cross-border bridging role of CSDs

The global power and influence of CSDs is also explained by their role as functional bridges that enable to navigate (and therefore overcome) the intractable legal complexities of international securities transactions. To be very blunt, there is no such thing as international securities law. Since physical dematerialization, an entire field of commercial law has emerged that aims to describe the rights that are held by the ultimate investors, holders no longer *of the securities themselves* but of book entries in securities accounts maintained by intermediaries (including CSDs). This is referred to as the "law of *intermediated* securities". It delivers idiosyncratic solutions that vary from country to country and are deeply embedded in national legal traditions in different fields of law such as corporate law, property law and insolvency law. These solutions define the rights of the end-investors vis-à-vis the corporate issuers at the other end of the chain and the financial intermediaries in between. Legal scholars tend to identify two overall traditions. The first, referred to as "direct ownership" systems, recognizes proprietary interests for end-investors only, with the intermediaries in between acting as service providers or agents with non-proprietary interests. This tends to be the approach adopted in continental European countries such as France, Germany or the Nordic countries. The other model, which is sometimes called "indirect holding" or "Anglo-saxon" because it prevails in the UK and US, confers certain forms of proprietary interests to the intermediaries, whether under the guise of trustee legal ownership in the English system (and beneficial ownership for the end-investors), or as statutorily defined "security entitlements" under the UCC Article 8 in the U.S.[37] Two multilateral conventions, the 2006 Hague Securities Convention [38] and the 2009 Geneva Securities Convention, [39] were negotiated to attempt to harmonize national laws, representing years of work by senior jurists, but they were signed and ratified by too few countries to enter into force. Efforts were also conducted within the EU to explore the possibility of securities law harmonization, but there too the conclusion was that national differences were simply too great to overcome. There is a significant volume of legal literature on all of these topics. What matters for the present Article is that the current panorama is one of disjointed national securities law frameworks that deliver fairly clear solutions in domestic situations that involve an issuer, intermediary (maintaining the security account) and end-investor all located in the same country, but a lot of uncertainty and complexity in cross-border situations.[40] Yet, judging by the size of cross-border securities investment and trading, these complexities never seriously constrained the

[36] It should be pointed out, however, that under the new European regulations and with the new T2S platform, European CSDs will increasingly be competing against each other. See Koen Vanderheyden and Tim Reucroft, *Central Securities Depositories Regulation: The Next Systemic Crisis Waiting to Happen?* 7(3) Journal of Securities Operations & Custody 242 (2015).

[37] Jean-Luc Thévenoz, *Intermediated Securities, Legal Risk, and the International Harmonization of Commercial Law,* 13 Stanford Journal of Law, Business & Finance 384 (2008)

[38] Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary, 5 July 2006, https://www.hcch.net/en/instruments/conventions/full-text/?cid=72.

[39] Unidroit Convention on Substantive Rights for Intermediated Securities, 10 September 2009, http://www.unidroit.org/instruments/capital-markets/geneva-convention.

[40] For an example of these difficulties, see the English *Eckerle* case discussed in Section IV.

development of the markets. One of the main explanations is that these differences in national frameworks were, in essence, functionally 'bridged' by the intermediaries via the CSDs. The CSDs, which constitute the first tier in the system above issuers, built hundreds of so-called "links" with each other through which they access each other's IT systems, thereby allowing financial intermediaries in one country to access the securities markets of other countries.[41] In this sense, the CSDs have been the linchpin infrastructure providers through which national securities markets became globally integrated, functionally, despite the absence of harmonization of any of the national private laws that govern the underlying securities. This role as "functional bridging" agents explains their continued importance in the global securities markets.

II – ACCOUNT SEGREGATION VERSUS OMNIBUS ACCOUNTS

A/ Introduction

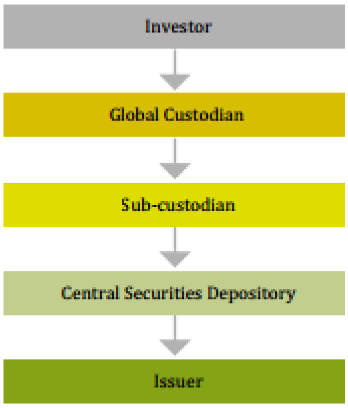
Figure 1 sets out a summarized representation of an intermediated securities custody chain, in which the investor is at the top, the issuer at the bottom, and the intermediaries and CSD in between.[42] The chart is drawn from a working paper by the Association for Financial Markets in Europe (AFME), one of the lobby groups of the financial sector.[43]

[41] On the European CSD links, see ECSDA, *Overview of CSD Links in Europe*, 26 January 2015. Two functionally very active CSD links in global markets are the "bridge" between Euroclear and Clearstream and the link between DTC in the U.S. and the Canadian CSD Clearing and Depository Services (Koen Vanderheyden and Tim Reucroft, *supra* note 36).

[42] One might point out in passing that in much of the legal literature, CSDs are referred to as "top tier" institutions in the custody chain, and are not represented to be at the "bottom" of the chain. According to the ECSDR, for example, the core services performed by CSDs including "providing and maintaining securities accounts *at the top tier* level" (ECSDR Annex, Section A pt. 2.). These semantic differences are admittedly only just that. Many of the graphic charts produced by the industry to describe the industry place CSDs at the bottom of the chain just above the issuers.

[43] AFME, *Post Trade Explained: The Role of Post Trade Services in the Financial Sector*, February 2015, http://www.afme.eu/globalassets/downloads/publications/afme-post-trade-explained.pdf.

Figure 1: Summarized securities holding chain (Source: AFME 2015)



Starting from the bottom of the chart, the securities issued by the issuer are reflected in security accounts that are maintained by the CSD. This is the first and core level of registration. In the European Union, all securities traded on an exchange must be registered in a CSD.[44] In the U.S. DTC holds all securities that are eligible to be traded on an exchange. In some countries CSDs even register securities that are not traded on an exchange.[45] When the securities are equities, the account entries in the CSD serve to support the maintenance of the legal register of shareholders, which is a mandatory document under virtually every domestic company law. Sometimes the CSD performs the formal function of corporate registrar itself (for example in Norway).[46] But even when the CSD does not formally act as registrar, it is in constant direct communication with those organizations who do maintain the register. In practice, because CSD-compatible IT infrastructure is complex and expensive, most issuers do not deal with CSDs directly and outsource that relationship to specialized service providers, called "transfer agents" in the U.S., which may be subsidiaries of banking or asset management groups or groups specializing in securities-related services. Computershare is one example, which is present in many markets across the globe. American Stock Transfer & Trust (AST) is another example, in the U.S., a market in which proxy processing is dominated by another specialized services provider, Broadridge.[47] When new securities are first issued by an issuer, it is the CSD that performs the initial registration: this is the "notary" function of the CSDs. CSDs must also verify that at any given time the number of securities recorded in the security accounts for any given security is equal to the total number of those securities in existence: this is called maintaining the 'integrity' of the issue.[48]

As Figure 1 illustrates, between the CSDs and the end-investors are multiple tiers of financial intermediaries. The first rung above the CSD are usually domestic institutions that

44 ECSDR (*supra* note 7), Article 3(2).

45 France is one example. Share dematerialization in France took place *inter alia* to support the collection of a new wealth tax introduced by the Mitterrand socialist government in the early eighties, which is the reason why it also extended to non-traded shares. See *La dematérialisation des titres non cotés*, Revue Banque, October 1984 Nr. 443, 1041-1043.

46 See below.

47 According to some reports, Computershare held 38% of active SEC registrant market share in the U.S., in 2015, with ATS second at 24%. See Audit Analytics, http://www.auditanalytics.com/blog/2015-transfer-agent-market-share/.

48 ECSDR (*supra* note 7), Article 37. See also CPSS-IOSCO, *Principles for Financial Market Infrastructures*, April 2012, Principle 11, available at http://www.bis.org/cpmi/publ/d101a.pdf.

are contractually and technologically linked up with the domestic CSD, according to prevailing domestic practices and regulations: the AFME chart refers to them functionally as "sub-custodians", but their technical designation in applicable securities regulations is that of CSD "participants."[49] In the French CSD Euroclear France (formerly SICOVAM), for example, most of the "participants" are domestic financial institutions (including a very large one, BNP Paribas Securities Services, or BP2S). Foreign financial institutions meeting certain regulatory requirements may also become participants in CSDs (depending on the domestic securities law in the CSD country). Finally a specific (and functionally very important) category of "participant" in CSDs are other CSDs: this correspond to the so-called "CSD links" that were mentioned above and enable to connect national securities markets across borders. When a CSD is "linked" into another CSD, the CSD which has the role of participant is called the "investor CSD", and the other CSD (handling the securities) is called the "issuer CSD". In practice, by linking into a foreign "issuer CSD", an "investor CSD" is providing a service to its own participants, and their clients, by giving them access to securities in the market that is covered by the issuer CSD.[50] These cross-border CSD-links have played a significant functional role in recent decades interconnecting national securities markets, by allowing investors located in one country to (indirectly) access securities elsewhere in the world.

Above the CSD participant (i.e. the "sub-custodian") are further financial intermediaries who are referred to in the chart as "global custodians." These are often international custodian banks such as Citigroup, Bank of New York or BNP Paribas who have large global custody divisions, and who form the relationship with the clients. In the domestic U.S. environment, there are also several layers above the participants in DTC. The first layer can be either a custodian bank or a broker-dealer. At the top are the retail investors. Because custodial services tend to be highly specialized and competitive in the U.S., shares held by retail investors in smaller banks often involve several layers of successive "piggy-backing" custodian relationships down the chain to DTC.[51] This means that in the U.S., even wholly domestic situations may often involve 3 or 4 layers of intermediation.

B/ Types of CSD security accounts

In theory there are several types of security accounts that can be maintained within CSDs. They go from so-called "end-investor segregated accounts" (the most segregated and therefore transparent model) to traditional omnibus accounts, in which all securities held by a participant are commingled, whether they are held for its own account, for the account of its clients or for the account of its clients' clients.

In the United States, DTC operates mainly as an omnibus market. All US stock securities are registered in the issuer registers (maintained by transfer agents) in the name of Cede & Co, DTC's nominee (Cede & Co a subsidiary of DTCC and sister company of DTC). In its own books, DTC identifies the brokerage firm acting for the investors (this is called

[49] Some of the industry literature refers to them functionally as "agent banks", see e.g. P. NORMAN (*supra* note 13), p. 15. CSD "participants" are sometimes also referred to as "members."

[50] On the different types of CSD links, see paras. 29 to 33 of Article 2.1 of the ECSDR (*supra* note 7).

[51] Kahan & Rock, *supra* note 12.

"street name" registration).[52] It is the cheapest and most widely used form of equity security ownership in the US.[53] End-investor account segregation within DTC is theoretically possible however: DTC offers a facility called Direct Registration System (DRS) to which issuers may sign up thus enabling investors to be registered directly with DTC and in the issuer's stock register.[54]. This option is sometimes viewed as inefficient, however, because sales of the securities require moving back to the "mainstream" registration system in which they are held in street name prior to the sale.[55] Yet another form of account segregation in DTC applies to securities that are issued by companies subject to foreign ownership restrictions, in certain industries such as telecommunications or shipping.[56] These accounts are called "Seg-100 Accounts." They are used to record ownership by foreign investors, with DTC in charge of monitoring that the securities registered on these accounts do not exceed the maximum threshold established by law.[57] These instances of account segregation are the exception rather than the rule, however, and the dominant model remains street name registration i.e. the omnibus account model.

The same is true in Europe. ECSDA, an organization representing 41 CSDs in wider Europe, identifies three models used by its member CSDs, as follows:[58]

- Level 1: "omnibus client segregation".[59] In this model, a CSD participant maintains a separate securities account for its own proprietary securities, and an omnibus account for all of the securities that it holds for its clients (and their

[52] Ibid.

[53] According to the Shareholder Communications Coalition (a lobby group of corporate issuers), shareholders that are directly registered typically represent 25% of shares outstanding. The rest, i.e. 75%, is registered in "street name". See Shareholder Communication Coalition presentation to Congress of May 2015 regarding the proxy system, available at http://www.shareholdercoalition.com/content/coalition-presentation-proxy-issues-may-2015. See also letter to SEC Chair White of April 1, 2015.

[54] http://www.dtcc.com/matching-settlement-and-asset-services/securities-processing/direct-registration-system

[55] Donald, *supra* note 12, at 91. See also the instruction sheet of the US subsidiary of Computershare with regard to the practical functioning of the DRS system, at http://www-us.computershare.com/Content/download.asp?docId=%7BE034FEA2-973D-44FB-900E-0CABA3AB9B72%7D&cc=US&lang=en&bhjs=1&theme=cpu.

[56] See Papavizas, *supra* note 12, for a fascinating analysis of the difficult reconciliation between the U.S. public corporation ownership structure (through street name) and foreign ownership limitations in the shipping industry pursuant to the Jones Act.

[57] Terms and conditions of DTC Settlement Service. Seg-100 Account is a mandatory segregated account that must be used in DTC for US stocks that are subject to limitations on foreign ownership (telecommunications, maritime and other sectors). Seg-100 Account is used when the securities are held for the benefit of foreign owners. If the maximum percentage of foreign ownership is exceeded (compared to the total number registered in the name of Cede & Co) DTC informs the transfer agent accordingly. The shares must be either transferred back for the benefit of a US owner or issuer limitations will apply.

[58] ECSDA, *Account segregation practices at European CSDs*, 13 October 2015, available at http://ecsda.eu/wp-content/uploads/2015_10_13_ECSDA_Segregation_Report.pdf (infra "*ECSDA 2015*").

[59] The expressions 'omnibus client segregation' and 'individual client segregation' are those used by ESCDR (*supra* note 7) Article 38.

clients). The client securities are all commingled and the CSD does not hold any information on the identity of clients or intermediaries at the higher levels.[60]

- Level 2: "individual client segregation". In this model, the participant maintains separate accounts at the CSD for its proprietary securities but also for its individual clients, i.e. client securities are not commingled. This means that the participant (sub-custodian) will maintain many more accounts at the CSD. However, this does not mean that the CSD holds information on the identity of the clients. In most cases, the accounts are still maintained in the name of the participant (sub-custodian in Figure 1) and do not lead to individual names of investors being disclosed upfront within the CSD.
- Level 3: "end-investor segregation". This is the most transparent and most segregated model. Separate securities accounts are maintained in the CSD for each individual end-investor; referring to Figure 1, this means separate securities accounts in the CSD for all of the following categories: the proprietary securities of the participant (sub-custodian), the proprietary securities of the participant's client (the global custodian), and the proprietary securities of the participant's clients' clients, i.e. the securities of the end-investor at the very top. ECSDA points out that in this model, "the information on the identity of the end-investor is usually attached to the securities account maintained at the CSD, although the CSD has no direct relation with the end-investor". The securities account is often managed, from an operational standpoint, by the participant (i.e. sub-custodian in Figure 1), which is also referred to as "account operator". This is the model that would be most suitable to support Zucman's idea of using CSDs to build a global financial register.

These are, therefore, the theoretical models that are available. ECSDA identifies four groupings of European countries according to the transparency of their model and ability to identify end-investors in the CSD (see Figure 2).

[60] There is no longer any "full" omnibus model in Europe, in which client securities and proprietary securities would be entirely commingled.

Figure 2: Country CSD classification per Groups (source: ECSDA 2015)

Group A: Omnibus markets CSDs do not have direct access to information on the identity of individual clients of CSD participants or on end investors, even if CSD participants use different accounts for segregation purposes.	14 countries (15 CSDs): AT, BE, CH, DE, FR, HU, IT, LT, LV, NL, PL, PT, RU, UA
Group B: Hybrid markets with individual client segregation CSDs offer a special type of account allowing CSD participants to segregate securities of individual clients, whereby the CSD has direct access to information on the identity of individual clients.	2 countries (4 CSDs): ES, LU
Group C: Hybrid markets with end investor segregation CSDs offer a special type of account allowing CSD participants to segregate securities of end investors, whereby the CSD has direct access to information on the identity of end investors.	9 countries (9 CSDs): CY, CZ, DK, EE, IS, RO, SE, SK, UK
Group D: Segregated markets CSDs offer a special type of account allowing CSD participants to segregate securities of individual clients or end investors whereby the CSD has direct access to information on the identity of individual clients or end investors. In addition, the use of segregated accounts is legally compulsory for domestic participants and/or investors, at least for shares and sometimes for all financial instruments.	12 countries (13 CSDs): BA, BG, FI, GR, HR, ME, MK, MT, NO, RS, SI, TR

The study shows that the largest grouping in wider Europe, by very far, is that of "omnibus markets" (Group A). It includes France, Germany, Switzerland, Italy, the Netherlands, Austria or Belgium. These CSDs do not support any functionality that would confer end-investor visibility. The UK is categorized by ECSDA as a "hybrid market", in Group C, owing to the possibility of opening "personal membership" accounts within the CREST system of the UK CSD, for what are "de facto end-investor accounts" under the "sponsorship" of CSD participants. In reality, however, this is somewhat misleading because there are only a few thousand such accounts,[61] out of a total of about 377,000 accounts reported to be open within CREST.[62] The dominant volume of activity in CREST remains performed through omnibus accounts opened by intermediaries.[63] Total security transactions processed in CREST in 2015 were 272 trillion euros, making it the largest national CSD in Europe, well ahead of Euroclear France, Clearstream Germany or even the Clearstream ICSD).[64] So, to summarize, all of the largest CSDs are primarily omnibus-account based.

At the other end of the spectrum there are a few fully segregated European markets. All are comparatively small, at present including Bulgaria, Finland, Greece, Hungary,

61 ECSDA 2015, *supra* note 58, p. 14. The right in the UK for individual members to be registered directly within CREST is consistent with the lingering preference of many retail investors, in that market, for physical share certificates and direct shareholder registration by issuers (see *supra* note 14).

62 For a summary of the key figures, see the very useful ECSDA database of member CSDs, available at http://ecsda.eu/facts/2015database.

63 ECSDA 2015, *supra* note 58 p.15.

64 See the ECSDA 2015 database, *supra* note 62.

Norway or Turkey.[65] These markets belong to the "transparent" or "direct holding" category referred to above. Even in these markets end-investor segregation does not apply to all securities, however: it is usually mandatory for equities only, and for domestic participants and investors. Foreign participants in these transparent CSDs are usually able to open omnibus accounts, including for domestic equities. So the preliminary conclusion remains, therefore, that the vast majority of CSDs operate on the basis of omnibus securities accounts and are non-transparent *per se* with regard to end-investor identity.

C/ Reasons for the dominance of omnibus accounts

Why is it so? An obvious reason is that few domestic regulatory frameworks actually require end-investor account segregation in the first place. When end-investor account segregation is implemented, it is usually because it is mandated by local legislation or regulations or because even when not mandatory, the practice developed very early on because of the preferences of domestic issuers and investors supported by tax laws and pricing policies of the CSD itself. In Norway, for example, domestic law technically allows individual end-investors to own securities through nominee or omnibus accounts, but the practice that prevails is for individual-end investors to hold all of their securities in a segregated nominative account at VPS, the Norwegian CSD, which reports directly to the tax authorities (thereby saving banks and investors the trouble), and because it is convenient for investors.[66]This is then supported by a domestic private law framework in which the rights of account holders at VPS are clearly defined by law (and enforceable against third parties) and a corporate law framework that confers to the CSD the formal role of registrar, thereby saving corporations the effort of having to maintain the register themselves or appoint a service agent. In other words, "transparent" CSD models today, in which end-investor information is held within the CSD, are national models that developed along those lines from the beginning and are supported by coherent domestic legislation in a number of fields that include property law, taxation and corporate law. Such conditions are not necessarily easy to replicate elsewhere.

The new European regulations recognize the diversity of the national models and leave the decision to implement CSD account segregation to the participants.[67] If a participant decides to segregate its client accounts, the CSD is required to accept this, but there is no indication anywhere in the regulation that segregation might be desirable per se, as a general rule. The only obligation that is placed on CSD participants is that they must offer their clients the choice between omnibus client segregation and individual client segregation, and

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[65] In some of the literature these fully segregated markets are divided into "beneficial owner markets" (in which account holders are considered as beneficial owners and segregation or disclosure is generally required) and "direct holding markets" (where end-beneficial owners are segregated at CSD level – this group includes the Nordic countries: Sweden, Norway, Denmark, Iceland and Finland) (AFME, *Post Trade Settlement Committee Task Force on CSD Account Structure, CSD Account Structure: Issues and Proposals*, 19 March 2012).

[66] Lars Afrell and Karin Wallin-Norman, *Direct or Indirect Holdings – a Nordic Pespective,* Unif. Law Rev. 2005-1/2, 277; *Account Segregation Q&A*, interview of Alexander Nervik, head of Investor & Issuance services at VPS, 2 December 2015, available on the website of the South African CSD Strate at http://www.strate.co.za/blog/2015/12/account-segregation-qa/.

[67] ECSDR (*supra* note 7), Article 38.2.

that they must inform clients of the costs and risks associated with each option. CPSS-IOSCO, a body representing central banks and securities commissions, is also fairly aloof regarding account segregation. Its 2012 "Principles for financial infrastructures" indicate that a "CSD should employ a robust system that ensures the segregation of assets belonging to the CSD from the securities belonging to its participants", and that "the CSD should segregate participants' securities from those of other participants through the provision of separate accounts." It is only "where supported by the legal framework" that a CSD should "support *operationally* the segregation of securities belonging to a participant's customers *on the participants books* and facilitate the transfer of customer holdings to another participant."[68] These statements show the preference of the global regulators: securities segregation should continue to occur in the books of the participants, and not at CSD level, and the involvement of CSDs in segregation should be limited to "operational support" when consistent with a specific domestic legal framework.

Fundamentally, in order to understand why omnibus accounts remain central to CSDs in advanced markets one must consider the history of the industry and the objectives of the various stakeholders in the regulatory process, as well as the limited voice that has been given to date to external stakeholders that might have had an interest in greater transparency. Industry reports produced in recent years show that the financial intermediaries situated between the issuers at the bottom and the investors are strongly in favour of preserving and extending the current omnibus model, which confers a central role to them and not to issuers or to the underlying market infrastructure, and that regulators have not opposed these industry preferences. The main voices in favour of account segregation at present would appear to be certain issuers of equities, for whom account segregation would simplify shareholder identification, and non-financial regulators such as tax authorities and money-laundering or sanctions compliance authorities. The position of investors themselves remains a question mark: associations of small shareholders have been vocal in defending more segregated shareholder registration in certain countries, in order to facilitate exercise of shareholder rights, but there are other categories of investors who may continue to harbour the desire for anonymity. In the following two sections, I will review the industry arguments that have been put forward to preserve the current model based on the omnibus accounting structure. I will then review the contrary voices or arguments that can be found in favour of greater transparency through increased account segregation. Some of these voices, interestingly, are found in the practice of emerging market countries who seem to be seeking a different path from that followed by their longer established Western counterparts.

[68] CPSS-IOSCO, *Principles for Financial Market Infrastructures*, April 2012, par. 3.11.6 under Principle 11, p. 74, available at: http://www.bis.org/cpmi/publ/d101a.pdf.

III – ARGUMENTS IN FAVOUR OF OMNIBUS ACCOUNTING STRUCTURES (STATUS QUO)

In an industry that was built on enormous investments in technology and that processes transactions in the hundreds of trillions annually, it is not surprising that incumbents should wish to preserve the status quo and avoid additional costs arising from imposed change to their model. All industry publications in recent years have unanimously expressed hostility towards the idea of expanded account segregation. In a paper entitled "Post Trade Settlement Committee Task Force on CSD Account Structure" (2012), the AFME recommends that "*there should be no mandatory obligation to segregate by end-investor at the level of a CSD, as any such obligation places a heavy operational burden on all intermediaries in the custody chain, and will have the effect of limiting access for some categories of end investor to that CSD*". The key arguments put forward are operational simplicity, data uniqueness and cost. Simplicity and cost are objectives because of the depth of the intermediation chain in cross-border context: "*if there were to be mandatory segregation by end beneficiary at all CSDs across the world, then this would be unsustainable (given that there would be hundreds of millions, if not billions, of end-investors, over one hundred CSDs, in many cases three intermediaries in a custody chain.*" The paper adds that a "*decision by a custodian bank, especially a custodian bank in a different country, and at the end of the custody chain, to offer its clients access to securities in a market or CSD with mandatory segregation will imply very significant extra costs in account structure and maintenance for potentially all the securities that it holds in custody. A typical consequence may be that a custodian bank decides to restrict its service offering for retail clients*."[69]

As regards data privacy concerns, the risk identified is the same: information on personal identity would have to be replicated throughout the chain, thereby multiplying risks of errors, disruptions and one might add, leaks: "*data should be stored and maintained in one place only, and not stored in multiple locations, so that – if the data change – there not be the requirement that the update be effected in multiple locations, with the associated risk that not all updates are effected in the same manner, or at the same time*." In a later paper AFME adds that this principle is also relevant for the purposes of risk management: "*the last intermediary, i.e. the bank with whom the investor holds the securities account, always holds segregated accounts for all its clients and is responsible for the client identification (KYC) and all due diligence duties over clients and transactions*."[70]

Further arguments are put forward about operational efficiencies relating to the practice known as 'internalization', collateralization and repo management. In many markets, omnibus account structures enable sub-custodians to handle securities transactions inside their own books without ever impacting the CSD: this is referred to as "internalization" and may represent a significant portion of transactions in markets where a small number of large

[69] Industry commentators also point out that account segregation throughout the custody chain could create new operational risks. See for example John Gubert, *Why Account Segregation Might be a Bad Idea*, Global Custodian, 20 November 2015, http://www.globalcustodian.com/John-Gubert/Why-account-segregation-might-be-a-bad-idea/,

[70] AFME (*supra* note 43), p. 13.

sub-custodians have a strong position.[71] Internalization takes away business from the CSDs but is viewed favourably by sub-custodians (for obvious reasons). Yet another operational argument is regarding repos and securities lending. Omnibus accounts facilitate such transactions because they provide sub-custodians with large pools of the same securities not segregated between end-investor or prior level intermediaries: in that sense omnibus accounts facilitate liquidity within markets. These arguments may be relevant for the sub-custodians down the custody chain which are in contact with the CSDs, rather than the global custodians at the top who deal with end-investors.

The AFME's conclusions in favour of preserving omnibus account structures was mirrored at a later stage by ISSA (International Securities Services Association), an industry group representing global securities firms which also includes representatives of the largest U.S. and Asian firms (in addition to the Europeans). In 2015 ISSA formed a working group whose specific focus was on "Financial Crime Compliance Principles for Securities Custody and Settlement," following the significant fine imposed on Clearstream by OFAC (more on this below). Since the Clearstream incident had involved an omnibus account structure, the working group examined the omnibus/segregated account divide more generally and commissioned a study by British academics that would review the benefits and costs of the two accounting systems.[72] The academic study conducted a quantitative survey amongst market participants (including CSDs) that remained very supportive of omnibus account structure. For 77% of the respondents, omnibus accounts were prevalent in their jurisdiction, and most respondents believed that the "*omnibus account structure offers more advantages and is more beneficial to market participants and stakeholders than other account structures*" (here the authors of the study recognized that the finding was probably "shaded" by the make-up of the respondent group). Drawing on prior studies by other firms and the work of a few academic scholars, the British authors were inconclusive regarding any benefits that might accrue from expanded account segregation. Their final words were to state that "*No one doubts that achieving transparency in securities transactions and custody chains is a good goal for both regulators and the global securities industry to work to in order that civil society has confidence that its capital markets are not used for nefarious purposes. However, this discussion needs to be informed by a realistic sense for what can be done and the externalities that will be incurred for an industry that is already subject to significant cost as well as competitive and regulatory pressures at this time.*"[73] Following up on this report, ISSA proposed additional compliance principles that would be recommended in the context of continued use of omnibus accounts, but did not suggest that the use of such accounts should be discontinued as a matter of principle.

[71] A 2009 study by the then Committee of European Banking Supervisors (now the European Banking Authority) found that settlement internalization represented only a small proportion of transactions (1 to 3%), but that in some cases it could reach 30%. CEBS, *Report on the outcome of CEBS's call for evidence on custodian banks' internalisation of settlement and CCP-like activities*, 17 April 2009, at https://www.eba.europa.eu/documents/10180/16151/Report+on+the+outcome+of+the+call+for+evidence+on+custodian+banks+activity.pdf.
France has traditionally been considered a market where internalization was significant.

[72] Stuart Weinstein and Sina Yekini, University of Coventry, writing for ISSA, *Transparency in Securities Transactions and Custody Chains, Study on the Benefits and Costs of Securities Accounting Systems*, 20 August 2015.

[73] *Ibid*, at 26.

Another powerful voice coming out in active support of the financial industry's preference for omnibus accounts is the European Central Bank, in the context of the T2S project. T2S is a common IT platform that was decided by the ECB in 2006/2007 and has been built since then at great cost and effort.[74] Its objective is to provide all Eurozone CSDs with a common IT platform on which all securities transactions will be settled. The CSDs will be "plugged" into the common platform and will continue to serve as key linchpins of the system. They will also start to compete with one another. Commentators have written in this regard that in order to survive, some national CSDs will have to refocus on their "other" core functions, i.e. precisely notarial and custody services.[75]

In terms of functionality, one of the T2S working groups expressed very clear views *against* expansion of CSD account segregation within T2S, in order to keep the technical complexity at a manageable level: "*it is recommended that account segregation is minimised, in particular at the higher level of the settlement chain (i.e. at issuer CSD level). Account segregation that needs to be propagated through the settlement chain should be avoided. If account segregation is required, this should be implemented at the lowest possible level of the settlement chain*."[76] The group admits, however, that "*of course this should not be understood as going against the account choice principle, i.e. that investor and issuer CSDs should be free to offer to their participants the possibility to operate segregated accounts on a voluntary basis*."[77] As explained above, there are several smaller Eurozone CSDs that already function on a 'transparent" basis with end-investor account segregation (for example Greece and Estonia). These CSDs will somehow have to make their model compatible with T2S.

So we see that there is in-principle aloofness vis-à-vis account segregation, on the part of European securities regulators (reflected in the 2014 ECSDR) and global securities regulators too (CPSS-IOSCO 2012 principles). In the European Union, a working group on the topic of company law harmonization (a subject discussed for decades) had flagged the general notion that full shareholder transparency was a desirable goal in general: *"companies*

[74] Peter Norman explains that a contributing factor to the ECB's decision to build T2S may have been frustration at market actors' inability to spontaneously form a Europe-wide integrated platform for post-trade settlement across the Eurozone. P. NORMAN, at 250. As mentioned above, the sector is currently divided into two competing models. The first, "horizontal" model is the that of Euroclear, which runs the largest ICSD and CSDs in the UK, France, Belgium, the Netherlands and the Nordics. The second model is that of "vertical silo" structures integrating post-trade settlement on a narrower geography with other parts of the securities value chain, and in particular the exchanges. It is the model adopted by Clearstream, which operates the second largest ICSD and the CSD in Germany and became a subsidiary of Deutsche Börse, and that of the national CSDs in Italy and Spain, which are subsidiaries of the stock exchanges in those countries.

[75] John Gubert, *Are CSDs the New Global Custodians?* Global Custodian, 4 May 2016, http://www.globalcustodian.com/John-Gubert/Are-CSDs-the-new-custodians-/. In the European context, Gubert writes that "Many CSDs are about as valuable as third rate country flag carrying airlines," having "poor security, limited product, high cost and genuinely little value other than the local language service they offer to their indigenous clients." See also Koen Vanderheyden and Tim Reucroft, *supra* note 36.

[76] *CSD Account Segregation Rules*, ECB/Eurosystem T2S Harmonization Steering Group, 13 May 2013, p.7.

[77] *Ibid* p. 8

should be allowed to know who their shareholders are.[78] This same idea was put before another working group focussing on securities law harmonization (also an area without significant progress in recent decades). The findings of that working group, once again, were dismissive of expanding account segregation. In 2013 it concluded that:

"*According to several Member States, the investor should be known to the last account provider in the holding chain and does not have to be known by the issuer directly. A number of Member States doubted whether the financial market infrastructures would be the appropriate structure for dealing with investor identification as there would be a lot of data to be collected, in particular if there are many retail shareholders. They noted that there are already legal tools in place to force final investors to disclose their identity to issuers, such as a shareholders register or the Takeover Bids Directive. Another Member State, where issuers have an option to call identification of beneficial owners, noted that there is no issuer demand for such changes.*"[79]

In short, this working group (too) found that the burden placed by end-investor account segregation on the CSDs as financial market infrastructure providers would be too great. Nor did it think that there was any real demand amongst issuer corporations for such detailed data.

III – ARGUMENTS IN FAVOUR OF END-INVESTOR TRANSPARENCY THROUGH SEGREGATED ACCOUNTS

In the face of an overwhelming industry and regulatory preference for status quo in the advanced Western economies, the task then is to identify those technical arguments that can still be presented in favour of end-investor transparency through increased account segregation, over and beyond the obvious interest for the Piketty/Zucman global financial register. I propose to present these arguments along three lines. First, there is growing pressure for increased transparency from non-securities regulators whose role is to combat the use of the financial system for money laundering and other nefarious purposes; this is illustrated by the 2014 fine imposed on Clearstream Banking by the US Treasury OFAC. In this respect, industry analyses would seem to confirm that technologically the tools are already available. Second, transparent market infrastructure systems do after all already exist in some of the smaller European markets, and are now preferred in some of the larger

78 European Commission, *Action Plan: European company law and corporate governance - a modern legal framework for more engaged shareholders and sustainable companies,* COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, 12 December 2012. See at p. 4 the following "line of action": "*Enhancing transparency – companies need to provide better information about their corporate governance to their investors and society at large. At the same time companies should be allowed to know who their shareholders are and institutional investors should be more transparent about their voting policies so that a more fruitful dialogue on corporate governance matters can take place."* http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0740&from=EN

79 European Commission, *Summary of the Seventh Meeting of the Member States Working Group on Securities Law Legislation*, Brussels, 24 May 2013, http://ec.europa.eu/finance/financial-markets/docs/securities-law/130524_minutes_en.pdf

emerging market CSDs, which must mean something. Third, in the particular area of equities, end-investor identification without CSD support remains a challenge for corporate governance in the face of which some individual investors and corporate issuers do in fact see a systemic need for change. Finally, greater transparency through CSD account segregation would be aligned with other important transparency initiatives that are occurring on a multilateral basis.

A/ Facilitation of anti-money laundering and sanctions compliance

In January 2014, Clearstream Banking in Luxembourg (one of the two ICSDs) was fined $152 million dollars for holding US securities with total nominal value of $2.8 billion for the ultimate benefit of the Central Bank of Iran (CBI), a blocked person under U.S. sanctions legislation.[80] The CBI had originally held a direct securities account at Clearstream, which itself held an account at a US bank which served as final custodian of the US securities. The CBI account was disclosed by Clearstream to OFAC following an investigation in 2007/2008; however, instead of closing the account and terminating its holding of the US securities through the US custodian, Clearstream just transferred them to the client omnibus account (at Clearstream) of an unnamed European commercial bank. The transactions are described as follows in the official settlement agreement that was made public by OFAC:

> *"Between February 7, 2008 and February 29, 2008, Clearstream, acting on instructions from the CBI, transferred the aforementioned 26 securities entitlements from the CBI's account at Clearstream to a recently-opened custody account for a European commercial bank at Clearstream. The European bank maintained two accounts at Clearstream – a proprietary account opened in the 1970s to hold its own assets, and a "customers" account that the bank opened in January 2008, just prior to the transfer of the 26 securities entitlements, to hold the assets of third parties. The transfers were made free-of-payment ("FOP") to the European bank, meaning that there was no exchange of cash or other payment made within Clearstream's settlement system to the CBI in return for the securities entitlements. Clearstream instructed relevant personnel to monitor the transfer instructions it received from the CBI for explicit references to an Iranian beneficiary, but it did not otherwise take steps to determine whether the CBI was retaining beneficial ownership of the securities."*

OFAC's conclusion was that in fact, "*the European bank was acting as custodian for the CBI's assets. The FOP transfers of the securities entitlements were accomplished by internal accounting entries on the books of Clearstream. As a result of the transfers, the record of ownership on Clearstream's books changed, but the beneficial ownership did not, resulting in the CBI's interest being buried one layer deeper in the custodian chain.*"[81] It concluded that "*Clearstream's exportation of services from the United States to the CBI continued after the securities entitlements were moved from the CBI's account at Clearstream to the*

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[80] *Settlement Agreement* by and between the U.S. Department of the Treasury's Office of Foreign Assets Control and Clearstream Banking SA (Luxembourg), January 15, 2014, available at: https://www.treasury.gov/resource-center/sanctions/CivPen/Documents/20140123_clearstream_settle.pdf.

[81] Ibid *Settlement Agreement*, para. 7.

European bank's custody account for the CBI,"[82] constituting a violation of U.S. executive orders and regulations prohibiting certain financial transactions with designated Iranian parties.

Clearstream was fined $152 million and took a number of remedial actions – which included tighter monitoring of the use of omnibus accounts and restricting such accounts to parties capable of properly monitoring their own customers (as the unnamed European bank did not). It is notable, however, that Clearstream was not required to discontinue the use of omnibus accounts. See OFAC's description of the remedial actions:

> *"Clearstream has taken remedial action by strengthening its sanctions compliance controls and implementing enhanced policies and procedures, customer due diligence, automated transaction screening, and employee training. Specifically, measures adopted by Cleastream to strengthen its sanctions compliance controls include, among other things: (i) conducting enhanced customer due diligence as well as account and transaction monitoring in order to increase Clearstream's understanding about the beneficial ownership of securities in its systems – including, for example, requiring information about customers' relationships with any sanctions persons or countries; (ii) limiting which of its customers are eligible to hold omnibus accounts based on the risk profile of the customer and other compliance standards, and (iii) requiring customers to certify that they will not use or permit the indirect use of their accounts with Clearstream for any transaction, service, or relationship that would violate applicable sanctions law.*"[83]

The Clearstream case is perhaps most instructive not on its specific facts per se, but for the discussion that it prompted within the securities industry. For some commentators the case was a "game changer."[84] A discussion paper produced by ISSA in April 2014 is most informative in this regard.[85] It acknowledged that "even if the regulatory pressure for reform does not materialise, there is a case for asking whether greater transparency would be appropriate," and that "building greater transparency into the system would be one way of forestalling public pressure for reform."[86] This is the report that comments (fairly neutrally) on the Zucman proposal, writing that "Zucman […] proposes in his well received 2013 book *La Richesse Cachée des Nations* "to create a global register of securities indicating on a named basis the ultimate owner of each share and each bond," and that "the CSDs and ICSDs would operate the system." This ISSA report goes on to review several theoretical sets of measures that could be explored to introduce greater transparency, which are interesting because they were clearly technologically possible and therefore give an idea of the possible options that might in fact be followed by regulators to force beneficial ownership identification throughout the custody chain. The discontinuance of the practice of omnibus accounts was one of the options listed, but it was quickly excluded, the report noting cryptically that "leaving aside the benefits of the omnibus model, one difficulty with [removing omnibus accounts] is that it would only identify the principals behind securities transactions rather than the successive layer of the intermediation chain *if the industry put in place additional features"*. This would seem to constitute an implied reference to the costly

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82 Ibid *Settlement Agreement*, paras. 8, 10 and 11.

83 Ibid *Settlement Agreement*, para. 14.

84 Weinstein and Yekini, *supra* note 72, at 6.

85 ISSA 2014, *supra* note 9. This is the report that remarked upon the Zucman proposal.

86 Ibid, p. 7.

structural investments that would become necessary, within the industry, if account segregation were to be implemented in a meaningful manner.

Short of doing away with omnibus accounts, another technical tool discussed in the 2014 report was the adapation of “covering message” standards. In the securities and payments industry, “covering message” standards are the standards that were developed by specialist organizations such as SWIFT in order to enable participants to send and exchange information within their respective IT systems. These messages correspond to specific formats, for example the MT5XX format used in the securities markets, or the MT202 or MT202 Cov formats used in the payments industry for transfers of funds between banks. Advanced messaging systems now used in the payments industry for wire transfers through intermediary correspondent accounts deliver enriched information that indicates the identity not just of the immediate parties, but also of the ultimate principals to the transaction. These enriched standards were developed precisely because of increased anti-money laundering scrutiny of the banking sector in recent decades. The suggestion of the ISSA working group, therefore, was that the experience of the payments industry be drawn upon by the securities industry by analogy: “Such a development could represent the equivalent of an MT202 COV message standard in the MT5XX series of messages”, and that “one notable benefit of such an approach, as it has been for the correspondent banking industry, would be to enable meaningful screening of transactions by providers.”[87]

The report added an interesting note, in this regard, regarding the extent of tax information that already circulates within the securities custodial chain. In cross-border environments, income streams from the holding of securities (in the form of dividends or coupons) often give rise to withholding taxes in the source country that are payable either by the issuer or by a designated intermediary in the chain (depending on the countries). These withholding taxes may then give rise to offsets, credits or reimbursements (in whole or in part) under the various applicable double tax treaties. In order to support all of these processes a lot of tax related information already circulates up and down the custodial chain, regarding the residence and status of the ultimate beneficiary of the payments. This too might then constitute a blueprint for enhanced end-investor identification:

> “*The industry today in fact copes with the transmission of a great deal of information relating to final beneficial ownership in the context of tax processing. In an exemption or a reclaim procedure, custodians typically transmit beneficial ownership data and related certification information upstream to the tax authorities of the issuer’s country. In that sense, a parallel information chain with richer information than is contained in the accounting of securities balances can be said to exist. Do tax processing standards and practices signpost an approach which could be taken more broadly?”*[88]

At the end of the day, however, the report tentatively concluded that these options were all problematic. Information messaging would be too costly and might create additional operational risks, including in relation to data privacy. “*The costs of such an approach should*

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[87] The use of enriched transaction messaging was proposed as an industry solution by the head of compliance at Clearstream (*Dominic Hobson talks to Mark Gem: the Future of the Omnibus Account*, 2014, http://www.clearstream.com/blob/68322/bc8ff5e084310b7a98ec5f39eff47c0a/hobsonseries14mgem-data.pdf).

[88] ISSA 2014 (*supra* note 9), p. 12.

not be underestimated. The development of the standard in terms of message formats is not likely to prove the greatest cost. The transmission of end buyer and seller information down the settlement chain would require providers to screen substantial amounts of data on parties who are not their clients. That would require both substantial operational and IT investments and invevitably slow down execution. In addition, providers would need to consider the risk exposures that would flow from holding this data".[89] These arguments echo the industry preference for "data uniqueness" expressed by the AFME.

A third possible approach identified by ISSA in 2014, finally, was the constitution of technological "audit trails" that would enable regulators to retroactively track the parties to securities settlements transactions. This would be different from "live" covering messages accompanying each single transaction. Rather, it would involve introducing simpler forms of additional transaction coding that would retroactively allow to reconstitute chains of transactions *ex post*. Such a system is currently being developed in the US pursuant to the SEC's Rule 613 on securities trading activities. One of the downsides identified by ISSA for this approach, however, was the absence of a transnational regulatory agency "with the authority to acquire the information from each intermediary to obtain a consolidated view of the principals and the actors involved in a given transaction".[90]

In short, one takes away from this ISSA working paper that a number of technological solutions for end-investor identification do already exist, within the securities industry. However, they all fall victim to the industry's preferences for status quo (including for cost mitigation), and the perceived absence of sufficiently strong or consistent regulatory pressure applied on a transnational basis. Ultimately, the only measure that was recommended by ISSA following the Clearstream case were enhanced client due diligence verifications on omnibus account structures in the context of anti-money laundering compliance procedures. Accepted compliance standards across the industry had for many years been that client due diligence was not required on a client's client, or on clients behind an omnibus account.[91] Industry recommendations following Clearstream increased these obligations, albeit only marginally, by requiring one additional level of due diligence.[92] These ISSA standards represent not "hard" law or regulations, but self-developed best practices within the securities industry itself. They fall very short of mandatory identification of end-investors holding individual securities.

Two positive conclusions can be nevertheless be drawn from the Clearstream case. The first is that there is, in fact, growing compliance pressure placed on the global securities industry, and that transparency is more relevant as a theme now than it was 5 or 10 years ago. The pressure is admittedly emanating from regulators outside of the securities sector, like OFAC, but it is there nonetheless. It adds to the pressure created by other transparency measures that are currently being rolled out, like FATCA, the CRS, AEOI and beneficial

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89 Ibid, p. 12.

90 Ibid, p. 13.

91 IOSCO, *Principles on Client Identification and Beneficial Ownership for the Securities Industry*, May 2004, Principle 5 at 10; FATF *Money Laundering (ML) and Terrorist Financing (TF) in the Securities Sector*, 2009, paras. 111-113, 119; Weinstein and Yekini, *supra* note 72, 9

92 ISSA, *Financial Crime Compliance Principles for Securities Custody and Settlement*, 27 August 2015, 11 and 23; and more generally, ISSA, *Financial Crime Compliance Principles for Securities Custody and Settlement – Background & Overview*, 6 October 2015.

owner identification in close corporations. The second conclusion is that the technological means of end-investor identification in the securities markets do in fact already exist, at least to a certain extent. If they are not implemented, it is because of the current priorities of both the securities industry and its regulators. These priorities include objectives such as systemic stability, market liquidity or cross-border integration. They could very well in the future also include greater transparency. This would happen if there were a political paradigm shift similar to the ones that have taken place in the payments industry (enriched messaging systems to combat money laundering and terrorist financing), and in relation to bank secrecy (automatic reporting and exchange of bank account information around the world to combat tax evasion).

B/ Transparent CSDs in Smaller European Markets and Large Emerging Markets

A second line of argument in favour of expansion of account segregation within CSDs is to point to the existing 'transparent' systems that already exist, in some of the smaller European markets but also in a few of the large emerging economies. As regards the European markets, we have already mentioned the case of Norway, in which the CSD lists all individual shareholders in domestic companies, acts as formal registrar and reports back directly to the tax authorities. Estonia and Greece are two other examples of small size markets that operate a transparent system within the Eurozone.

There are also examples within the emerging world. The CSD China Securities Depository & Clearing Co Ltd, commonly referred to as "Chinaclear", operates a system that is transparent for all shares issued by Chinese companies and held by domestic Chinese investors. These securities are the Chinese "A shares", denominated and traded in RMB, issued by domestic limited corporations and open to domestic investors primarily (and certain foreign investors).[93]In the transparent system of A shares, Chinaclear registers individual shares in the name of the individual end-investor. It also provides the listing of shareholders directly to the corporate issuers on a monthly fee-free basis.[94] The segregated system is supported by the existing legal framework, which confirms legal title to the shares on the basis of the entry in the securities accounts of Chinaclear.[95] This is not a small market by any standards. The total market value of securities held in custody at Chinaclear was reported to be RMB 57.9 trillion for 2015, i.e. approximately $8 trillion:[96] that number may be less than DTC or Euroclear Banking, but it is the general vicinity of the national CSDs of Germany, France or the UK. Chinaclear also reported that in 2015, it had maintained securities accounts for over 99 million investors.[97] This very high figure, presumably, is precisely attributable to the fact that its CSD structure is fully transparent for domestic equity holdings. If Chinaclear

[93] A shares are to be distinguished from the "B shares," which are listed on the Chinese exchanges in foreign currency.

[94] Computershare, *Transparency of Share Ownership, Shareholder Communications and Voting in Global Capital Markets*, March 2015, p. 5; Wenwen Liang, *The Geneva Securities Convention and its relevance for China*, Law and Financial Markets Review, July 2012, 288.

[95] Wenwen Liang, ibid.

[96] China Securities Depository and Clearing Corporation, 2015 Statistical Yearbook, p. 7 available at http://www.chinaclear.cn/zdjs/editor_file/20161027105301152.pdf.

[97] China Securities Depository and Clearing Corporation, 2015 Statistical Yearbook, p. 7 available at http://www.chinaclear.cn/zdjs/editor_file/20161027105301152.pdf.

is able to operate such a complex system with so many end-investor accounts, it would not be unreasonable to imagine that the same performance could be expected of the larger Western CSDs.

Other emerging markets are implementing transparent models as well. In South Africa, the national CSD Strate offers a direct registration system referred to as Segregated Depository Accounts (SDAs).[98] In a recent law article Strate's head of legal and regulatory affairs, Maria Vermaas, expressed strong views challenging the dominance of omnibus accounting and in favour of more account segregation. She comments that "the practice to use omnibus securities accounts has become entrenched in many States, and the law has tended to support their existence."[99] She recognizes that this was due to a "combination of historical reasons, tradition and operational reasons," "especially in the 'older' markets," but adds that "the lack of client demand for segregated securities accounts seems to be driven by intermediaries who have built their businesses and practices around omnibus accounts", and that the resulting "entrenchment" may "hinder the necessary growth for better practices and structures in an intermediated system to protect the ultimate account holder (beneficiary)."[100] After listing the legal advantages of account segregation, in her view, particularly in the event of insolvency of intermediaries, she goes on to regret that "segregation has not been developed to its full potential in the Geneva Securities Convention", and considers that "segregation should have been a policy choice."[101] She concludes by noting that "the time has come to further address risk and transparency in the global market by critically analysing segregation in each State", and that "from a legal, regulatory, and investor protection point of view, proper segregation in fully segregated securities accounts must be offered to investors as the default standard".[102] These strong views expressed by a senior executive in the world of emerging capital markets are interesting. They go against the grain of the accepted wisdom in the advanced markets. The lesser weight of path dependency in these newer markets may well widen their options and give them greater freedom to press forward with pro-transparency reforms. Their in-principle preference for transparent structures casts, however, a negative light on the default policy choices that are being made in the Western markets through the continued preference for status quo.

C/ Corporate governance in public corporations

A third argument proposed here in favour of expanding end-investor account segregation is drawn from the field of corporate law. Here we move away from securities trading towards the area of corporate law and governance. The question is that of shareholder status and identification in public corporations. In the presence of deep intermediation chains, corporate issuers no longer know nor communicate directly with the investors at the other end

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[98] http://www.strate.co.za/servicing-your-assets/segregated-depository-accounts. Strate is 44% owned by the Johannesburg Stock Exchange (which is itself listed), with the remaining shares held by South African and foreign banks. Strate Corporate Profile, 2015, p.5, available at http://www.strate.co.za/sites/default/files/pages/attachments/Strate%20Profile.pdf.

[99] Maria Vermaas, *The call for proper segregation in intermediated systems*, 18 Uniform Law Review 589 (2013), 596.

[100] Ibid, 596

[101] Ibid, 601-602.

[102] Ibid, 605.

of the chain. Scholars having examined this problem in the U.S. have referred to it as the "Heart of Darkness,"[103] or the "Hanging Chads of Corporate Governance."[104]

1. The position of investors

When investors choose to invest in equities, normally this gives them greater governance rights than when they invest in bonds. Investors as shareholders are normally entitled to vote at annual general meetings, express views on questions submitted to them (including increasingly in relation to executive compensation) and participate in the appointment of the board. The presence of deeply intermediated custodial chains, however, means that in many cases end-investors are no longer able to exercise these rights. In the context of a recent parliamentary enquiry on executive compensation in the UK,[105] the UK Shareholder's Association, a lobby group representing small shareholders, pointed out that in 2014 some 59% of shares in UK companies were held in "multiple-ownership pooled nominee accounts". They wrote that in such cases, "investors do not have the rights of shareholders, and in particular do not have voting rights." Worse, "those rights are not cancelled but belong to the owner of the account – typically a financial institution with different interests to those of the beneficial owners of the company."[106] In the U.S., Marcel Kahan and Edward Rock have exposed the multiple "pathologies" that, according to them, result from the complex voting system necessitated by multiple custodial tiers. They write that "absent a fundamental reconstruction of the ownership structure, the existing system will continue to be noisy, imprecise and disturbingly opaque."[107] For David Donald also, the current U.S. system, "impedes the effective exercise of voting rights."[108]

In cross-border context, the disenfranchisement of minority shareholders because of excessive intermediation chains was illustrated in a recent English court case, *Eckerle v Wickeder Westfalenstahl GmbH*.[109] The case involved an English plc, DNick Holding plc, which was listed on the German stock exchange. The shares were held through three successive layers of intermediation. At the top (immediately above the issuer) was the Bank of New York (BNY) acting as common depository agent for all of the issued shares (save a few). BNY held the DNick shares on trust for the "holders of accounts" at Clearstream, the second layer of intermediation. Clearstream maintained a register of the "interests" in the shares in the name of its own account holders, which were custodian banks and financial institutions (the third level of intermediation). These institutions held the security accounts opened for the ultimate end-investors. Throughout the past history of DNick, there had been numerous instances of corporate events or communications in which the ultimate investors

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103 Donald, *supra* note 12.

104 Kahan & Rock, *supra* note 12.

105 https://www.parliament.uk/business/committees/committees-a-z/commons-select/business-innovation-and-skills/news-parliament-2015/corporate-governance-inquiry-launch-16-17/

106 UKSA, *Majority of investors in UK companies do not have shareholder rights*, posted 27 October 2016, http://www.uksa.org.uk/

107 Kahan & Rock, *supra* note 12, at 1227 (abstract).

108 Donald, *supra* note 12, at 43 (abstract)

109 Eckerle & Ors v Wickeder Westfalenstahl GmbH & Anor [2013] EWHC 68 (Ch) (23 January 2013).

were referred to loosely as "shareholders," and had been able to exercise shareholder voting rights at general meetings.[110] When minority shareholders representing 7.2% attempted to challenge a corporate resolution, however, they were denied the formal status of shareholders. After reviewing the articles of the company and provisions of the 2006 Companies Act, the English judge concluded that they were not shareholders under the act, but merely holders of "*the ultimate economic interests in underlying securities amounting to a specific percentage of the shares held by BNY on trust for the Clearstream account holders whose customers*" they were.[111] This was obviously very detrimental to the investors and the judge recognized that his reading of the law deprived "*the Claimants as indirect investors of the sort of protection which those who formulated the 2006 Act thought ought to be extended to minority shareholders,"* which was *"not a particularly comfortable conclusion at which to arrive."*[112] This was a textbook example of the legal risks resulting from multiple intermediation in a cross-border context. Despite the proximity and sophistication of the two systems involved (English law and German law), the interposition of three levels of intermediation was fatal to the end-investors' claim to exercise certain formal shareholder rights. The shares of the English plc in this case had been registered at Clearstream in the name of the custodian banks. It is unclear whether direct registration in the names of the end-investors would have made any difference in the end, on the legal analysis, but one can at least say that on the face of it, the small number of ultimate shareholders in this case did not seem to warrant such a long intermediation structure. At the very least, the *Eckerle* case suggests that somehow these complex intermediation chains end up existing "automatically," as default structures, without there being full appreciation of the consequences on the ultimate end-investors or their ability to exercise the rights that should normally accompany the economic risk they accepted to take on.[113]

2. The position of issuers

The previous section was about the position of the end-investors, at one end of the custodial chain. At the other end of the chain are the corporate issuers. For them, the question is about access to information on the identity of their shareholders. The main automatic mechanisms that exist, at present, are mandatory self-disclosure requirements that are placed by the securities laws of most advanced economies on large shareholders exceeding certain thresholds, usually 3 or 5% of voting rights. In the US, these mandatory disclosures are known as the Schedule 13D or 13G filings.[114] In the UK, the mandatory

110 Ibid, par. 14(k), (l).

111 Ibid, par. 14(g)

112 Ibid, par. 31.

113 Commenting on the *Eckerle* case, Eva Micheler concludes that the real problem is that of excessive intermediation, which according to her cannot be remediated if policy makers continue to consult only with the current actors of the financial sector (Eva Micheler, *Intermediated Securities and Legal Certainty*, LSE Working Paper 3/2014).

114 15 U.S.C. § 78m(d), applicable when an investor acquires more than 5% of a publicly traded equity. Institutional investment managers exercising investment discretion over more than $100 million must produce a periodic Schedule 13F.

notification is set out at the Disclosure and Transparency Rules (DTR) Chapter 5,[115] and the periodic form is referred to as a TR-1.

When mandatory reporting thresholds are not met (or not complied with), issuers end up with very limited tools. Under English company law, a corporate issuer has the theoretical right to request ad hoc disclosure at any time of all persons holding "an interest" in its shares, i.e. all the beneficial owners behind the intermediaries in the custodial chain. In order to obtain the information the issuer (or its agent) sends a cascading notice (called a section 793 Notice) to the first level of intermediaries registered in the CSD system (CREST). Each such intermediary is then normally required to provide the identity of the person on behalf of which it holds the shares, or move the request up one rung.[116] Industry participants view the process as problematic, however, because it is largely manual, not standardized, and also because difficulties occur when intermediaries are outside of the UK (Switzerland and Luxembourg are cited).[117] In theory, failure to respond to a section 793 Notice in the UK constitutes a criminal violation. Absence of response also allows the issuer to impose penalties, e.g. by removing voting rights. However, such penalties are rarely enforced in practice.[118] A similar mechanism exists in France under the name of "bordereaux de transmission nominatifs." There too, however, the system often fails to deliver issuers with answers, when borders have been crossed and intermediaries are no longer in France.[119]

In the United States, the system for indirect shareholder communications is set forth at SEC Rule 14. The rule defines how issuers may request broker-dealers to communicate investor information and/or proxy materials for the exercise of voting rights. There is one important twist in the U.S., however: contrary to the situation in the UK and in France, U.S. investors are entitled to request from their intermediaries that their identity *not* be disclosed to the corporate issuer. This is the famous U.S. distinction between OBOs (objecting beneficial owners) and NOBOs (non-objecting beneficial owners), which has existed since the eighties, and for which OBOs represent a clear majority (of shares held), including most institutional investors.[120] The U.S. system for shareholder communications has for many years been considered either seriously defective or altogether broken, by legal practitioners,[121]

[115] DTR 5.1: Notification of the acquisition or disposal of major shareholdings (https://www.handbook.fca.org.uk/handbook/DTR/5/1.html).

[116] UK Companies Act 2006, sections 793 to 795.

[117] Computershare, *Transparency of Share Ownership, Shareholder Communications and Voting in Global Capital Markets*, March 2015; ECB/Eurosystem, T2S Taskforce on Shareholder Transparency, *Market Analysis on Shareholder Transparency Regimes in Europe*, 21 February 2011, available at: https://www.ecb.europa.eu/paym/t2s/progress/pdf/subtrans/st_analysis_regimes.pdf??37612a2ca2536d82208128d7711f4bfd.

[118] For an exception see the case of Éclairs Group v JKX Oil and Gas plc, https://www.supremecourt.uk/cases/docs/uksc-2014-0175-press-summary.pdf.

[119] Computershare, *supra n*ote 117.

[120] According to Allen Beller and Janel Fischer, OBOs represent 75% of shares registered in street name (Allen L. Beller & Janel L. Fisher, *The OBO/NOBO Distinction in Beneficial Ownership: Implications for Shareowner Communications and Voting*, white paper for the Council of Institutional Investors, February 2010, at 5). According to SIFMA, NOBOs are a majority (73%) among retail investors, but 71% of institutional investors are OBOs corresponding to 91% of institutionally held shares (SIFMA, *Report on the Shareholder Communications Process with Street Name Holdings, and the NOBO-OBO Mechanism*, June 10, 2010, at 7).

[121] Beller & Fisher, *supra* note 120.

representatives of public corporations[122] and scholars alike.[123] Reforms called for involve questioning the OBO/NOBO distinction,[124] downsizing the role of the intermediaries in corporate communications, and if possible introducing direct registration systems in the CSD itself.[125] This Article is not the place to analyse all of these proposals which are, ultimately, technical and centred on the specific U.S. system. I do suggest, however, that in the U.S. as in most other advanced economies, there is substantial discomfort with the excessive distance that now exists between retail shareholders and corporate issuers. In most countries, reformist policy makers are looking for ways to shorten the distance and remove some of the opacity. Direct end-investor registration in the CSDs would be fully consistent with such policy objectives.

D/ Final remarks: Furthering the cause of transparency

A few final remarks can be made on the wider impetus that transparency initiatives have enjoyed since the 2008 financial crisis. Overall these reforms seem to enjoy considerable popular support in the general public. The first stage, arguably, was the adoption of the U.S. FATCA law in 2010 as part of the then U.S. economic stimulus plan. It requires foreign reporting banks to transmit information on the balances appearing on all cash deposit accounts and securities accounts maintained by the banks for U.S. persons (i.e. US citizens or permanent residents). Following FATCA, the Automatic Exchange of Information (AEOI) initiative of the OECD gained impetus and was endorsed by the G20, first in 2012 and then again in 2013. A Common Reporting Standard (CRS) was developed in 2014 that is now being adopted across the world through hundreds of bilateral or multilateral intergovernmental agreements. As of December 2016, 1300 agreements have been executed covering 50 jurisdictions, with information exchanges expected to begin in September 2017.[126] In the EU, registers of beneficial owner information in close corporations have now become mandatory.[127] These reforms all point in the same direction. They create new obligations that are placed on the banking industry, i.e. the rung in the custodial chain closest to end-investors, and on corporations, i.e on the issuers at the bottom of the chain. There doesn't seem to be any reason why intermediaries and central market infrastructure providers should be exempt from the thrust towards additional transparency obligations that underpin these new instruments. As regards the technological aspects, a number of options already seem to exist. Further technological advances in connection with distributed ledger

122 See the work of the Business Roundtable and Shareholder Communications Coalition.

123 Kahan & Rock, *supra* note 12; Donald, *supra* note 12.

124 Beller & Fisher, *supra* note 120.

125 See the analysis by Kahan & Rock (*supra* note 12) of the Iberclear CSD system. David Donald, for his part, goes farther and advocates the maintenance of shareholder registers by issuers directly and not through DTC or any other central custodian.

126 http://www.oecd.org/tax/automatic-exchange/international-framework-for-the-crs/.

127 Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC, Recitals 13 and 14, and Article 30.

technology and blockchain could also present opportunities, which the CSDs could attempt to harness.[128]

From the standpoint of systemic financial governance, the need for production of disaggregated (granular) data on global securities ownership was one of the policy outcomes of the 2008 crisis. In the European Union, a dedicated regulation was adopted in October 2012 to provide the European Central Bank with "comprehensive statistical information on the exposure of economic sectors and individual banking groups in the euro area […] to specific classes of securities and on the links between the economic sectors of holders and issuers of securities […]". According to the regulation, the need for disaggregated or granular data "became evident during the financial crisis, as risks to financial stability due to contagion mechanisms at the level of individual financial institutions, generated by specific classes of securities, could not be properly identified from aggregated data". Regulation 1011/2012 was rolled out in the Eurozone countries to implement mandatory reporting by financial institutions, security by security, to the national central banks.[129] In the United States, the U.S. Treasury department collects monthly, quarterly and annual information on securities holdings from brokers-dealers, banks and other intermediaries, as well as issuers, regarding non-resident holdings of US securities and US resident ownership of foreign securities.[130] The format of this data reporting was expanded in 2012 in the aftermath of the financial crisis.[131] These initiatives show how systemic data collection on holdings of individual securities is already under way on a disaggregated basis by central banks or other financial agencies. Nominative data on the end-security holders would only be an additional step down this same path. The data could admittedly be collected from the intermediary

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128 The largest Western CSDs have produced research papers on the impact of distributed ledger technology in recent years. One of the possible consequences of these new decentralized technologies is that they may in fact render central infrastructures like the CSDs partially redundant, hence giving rise to possible resistance on their part. DTCC produced a report in January 2016 entitled *Embracing Disruption: Tapping the Potential of Distributed Ledgers to Improve the Post-Trade Landscape*, in which it comments that "*it is an open question for the financial industry as to whether the current use of central, responsible authorities, such as central repositories and custodians, is a desirable future state or whether distributed systems using mathematics and cryptography to guarantee integrity is a better alternative*." Its conclusion (perhaps not surprisingly) is that "*the most logical and least risky way forward would be for the existing, regulated and trusted central authorities to introduce the standards, governance and technology to support distributed ledger implementations. The use of existing, regulated entities would naturally engage the regulatory community to support the potential policy changes that may be needed to allow this technology to succeed*." The European CSD association ECSDA reached a similar conclusion in September 2016 (http://ecsda.eu/archives/5165): "*CSDs and other financial market infrastructures (FMIs) are expected to maintain a central role in securities markets and will be key actors in ensuring a smooth and successful implementation of DLT* [distributed ledger technology] *in post trade*."

129 Regulation (EU) No 10U.11/2012 of the ECB of 17 October 2012 concerning statistics on holdings of securities (ECB/2012/24), OJ L 305, 1.11.2012, p. 6. See the presentation by the ECB of this new disaggregated data on securities holding by ECB at: https://www.bis.org/ifc/events/ifc_isi_2015/010_amann_presentation.pdf

130 Treasury International Capital (TIC) data reporting system, 22 U.S.C. 3101 et seq.; E.O. 11961; 31 C.F.R. 129, https://www.treasury.gov/resource-center/data-chart-center/tic/Pages/index.aspx.

131 Erika Brandner, Fang Cai and Ruth Judson, *Improving the Measurement of Cross-Border Securities Holdings: The Treasury International Capital SLT*, Federal Reserve Bulletin, May 2012, 1-28, https://www.federalreserve.gov/pubs/bulletin/2012/PDF/Cross-BorderSecurities_FINAL.pdf

echelon, but in light of industry resistance implementation at CSD level may be more achievable.

A final remark is in connection with the question of investor anonymity. In the E.U., shareholder anonymity *per se* does not exist as a general principle, nor is it viewed as desirable. The accepted general rule is that corporate issuers are fully entitled to know the identity of all of their shareholders (notwithstanding all of the practical difficulties that have just been described). In the U.S., however, there is still some sensitivity to the desire for anonymity that is presumed to underpin the position of OBOs.[132] Proponents of direct communications and abolition of the OBO/NOBO distinction suggest that privacy concerns could be accommodated by allowing investors to hold their shares through nominee accounts. The U.S. debate is not settled on this and the OBO/NOBO divide continues to exist. It is intriguing, however, that approaches to the question of investor anonymity should be so different in the U.S. and in the E.U. At the end of the day, the question touches on the delicate matter of personal wealth, its disclosure, and the appropriate level of privacy that individuals are comfortable with or entitled to demand. These are themes with powerful cultural undercurrents. The cultural element could, in fact, be more relevant to understanding the different approaches to account segregation in financial infrastructure than meets the eye at first. It is perhaps not surprising that it is Norway that was able to achieve an entirely transparent system. The counterpoint should be made, however, that CSD end-investor segregation does not in any way mean that this information should become public. CSDs are private organizations and their activities are fully confidential, as with any other private institution. CSDs would no more publicly communicate on investor securities balances than banks communicate on cash, deposit or securities balances held in their accounts today. CSD account segregation would just open a series of new policy tools, which could then be deployed by regulators and lawmakers in ways that would be considered appropriate in each country depending on its own circumstances and preferences. This might include the automatic production of lists of shareholders to be sent to corporate issuers in real time and at little cost (i.e. without intermediaries). It could involve direct access to centralized information on individualized securities holdings to assist regulators policing markets against unlawful practices. It would give lawmakers the ability to have the information sent to domestic taxing authorities, directly or via AEOI. And of course another application would be to feed a consolidated international database tracking securities ownership across the globe, in other words the Piketty/Zucman global financial register. There is growing awareness in the advanced Western economies of the dangers to democracy and social cohesion represented by rising wealth inequality (as Piketty correctly warned in his book). New tools are required to deal with this governance challenge, and it is entirely reasonable to look at how existing infrastructure could be redeployed in the public interest for this purpose.

[132] Some authors question whether many retail investors are actually aware of the distinction and fully understand its implications. A 2006 survey seems to indicate, in this respect, that when fully informed a majority of retail investors would in fact prefer to be NOBOs (Beller & Fisher, *supra* note 120, p. 12.). In addition to investor desire for privacy, U.S. lobby groups emphasize the commercial value that is attributed by brokers and intermediaries to nominative information about their client affiliations. See SIFMA 2010, *supra* note 120, at 2, 6 and 10, and its recommendation that “Any modifications to the current system should not compromise the security of a brokerage firm’s proprietary or confidential information, such as its information on client affiliations.”

IV - CONCLUSION

Globalized finance is now characterized by a structural disconnect between investors and households who wish to invest their earnings in the real economy and enterprises who issue securities to fund their businesses. The holding of securities in markets that increasingly operate across borders involves a thick intermediation echelon that obscures the connection between issuers and investors. Central securities depositories, which are market infrastructure providers handling the top tier custody of securities, epitomize that disconnect. The custody systems that developed within the large Western CSDs are mostly based on “omnibus accounts”: this means that the securities held in these institutions by financial intermediaries for the benefit of their clients are not segregated, and that the CSDs do not hold any information on the identity of the ultimate beneficial owners. Any information on beneficial ownership that is held within the system belongs to the intermediation echelon, i.e. the custodian banks, broker-dealers and other intermediaries, who in many cases do not share that information including with the issuers of the securities. This is true even in relation to equity securities, despite the obvious importance for corporate governance of direct communications between issuing corporations and actual shareholders bearing the economic risk.

The reason the main Western CSDs are non-transparent per se is that they were first built as technical institutions dedicated to removing the logistical problems generated by paper certificated securities. Once paper certificates were no longer prevalent, they then continued to exist as central infrastructure providers *inter alia* because of their ability to build technological links and functionally bridge the regulatory differences that continue to exist to this day between national securities markets. And finally, although they are theoretically “user-owned”, CSDs such as DTC, Euroclear and Clearstream have become powerful players in their own right. One of the important findings of this Article is that a considerable body of work and research has in fact already been produced, on this topic, by research groups working within the industry. These groups of professionals possess significant resources, are able to draw on the knowledge of key actors within the sector and can actively participate in the design of regulatory reform. This is conducive to status quo and ensures that reforms remain consistent with existing interests, illustrating path dependency in this industry.[133]

So on the face of it, despite their vast resources and technology, CSDs seem like unsuitable candidates for the building of a global register of financial assets, and the Piketty/Zucman proposal would appear to have little chance of gaining traction. But that is only the face of it. CSDs are still viable options for the inception of a GFR for a number of reasons. Although the largest Western CSDs are non-transparent, there are examples of smaller CSDs in Europe, like Norway, that show that it is possible to achieve transparency even in advanced economies. Some of the largest emerging market CSDs are also being built along more transparent models. This seems to the case, in particular, of the Chinese CSD Chinaclear, which handles a significant volume of transactions and more end-investor accounts than the largest Western CSDs. If this is operationally achievable by Chinaclear, it can surely be done by the Western CSDs as well. A number of technological processes are already available that would make end-investor segregation possible, not counting the future possibilities that might be offered by the development of distributed ledger technology or

133 On path dependency, see Donald, *supra* note 12, at 99.

blockchain. Transparency reforms in securities custodial chains would be following in the wave of transparency reforms already occurring in contiguous sectors; in the end, end-investor account segregation in the CSDs may well be less invasive than recent transparency measures already deployed in the context of FATCA, the CRS/AEOI reforms and EU campaign to disclose beneficial ownership in close corporations. Transparency in CSDs would give also greater traction to international policies such as the fight against tax evasion and money-laundering, and financial sanctions to combat geopolitical risk.

Much of this may depend only on political will and the conduct of a debate on securities infrastructure at a wider plane than that of the financial services industry and its existing regulators. European policy could might be well placed to take leadership on this, as they have already done for transparency of close corporations. Following in the footsteps of scholars who have already written on the subject and advocated reform, the ambition of this Article was advance knowledge of this theme and if possible contribute to a wider debate.

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