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RESEARCH REPORT

SECURITIES HOLDING SYSTEM AND "SEE-THROUGH" MARKET SUPERVISION —— INTERNATIONAL EXPERIENCE

CONTENTS

Page

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SUMMARY

In order to enhance the efficiency of Hong Kong-Mainland cross-border market surveillance under the mutual market access scheme — Stock Connect, a new investor identification system (the Investor Identification (ID) Model) was introduced on 26 September 2018 for Northbound trading, i.e. trading of eligible securities on the Shanghai Stock Exchange and the Shenzhen Stock Exchange by Hong Kong and international investors via Hong Kong’s market infrastructure. In October 2019, the two regulators across the border jointly announced that an investor ID regime for Southbound trading, i.e. the trading of eligible securities on the Stock Exchange of Hong Kong (SEHK) by Mainland investors via the Mainland’s market infrastructure, will be implemented soon. Subsequently, the two Mainland exchanges released in December 2019 their respective revised rules on Stock Connect and the SEHK released in January 2020 its revised Rules of the Exchange, all to be effective on 13 January 2020, for implementation of such regime for Southbound trading.

The course towards the launch of the Investor ID Model in Hong Kong has aroused considerable controversies in the Mainland and Hong Kong, given their different market structures, operating models, and legal systems. These controversies revolve around the adoption of a “see-through” investor account model as in the Mainland market, versus the multi-tier depository system using nominee accounts as in the Hong Kong market.

In many markets around the world, especially in the developed markets including Hong Kong, the use of nominee accounts for securities holdings is very common. Such an indirect holding system offers benefits in respect of settlement efficiency and securities safekeeping. These markets have their market structure and practices, as well as rules and regulations long established and framed to work with the nominee account system. At the same time, regulators in these markets are trying their best to achieve a balance between market efficiency and investor protection as well as maintaining market integrity.

The advancements in technology associated with securities trading, and the growing nexus of the global investing community and their trading activities across markets and product types, have posed challenges to regulators on market supervision to identify market abuses and to ensure market integrity. There is a trend among global markets to adopt the “see-through” market supervision model that requires the identification of the customers of intermediaries, i.e. the end-investors, for each order and transaction. The “see-through” approach introduced by each market is designed in a way to suit their own market structure and practices and will not demand fundamental changes to these. If managed properly, the nominee account system remains an extremely efficient and modern system for holding securities. Moreover, the nominee service and other services offered by custodian banks facilitate client access to, and participate in, the global financial system, interconnecting asset managers, brokers and other intermediaries, as well as financial market utilities such as central securities depositories. Their diverse service offerings in the industry have helped nurtured the wide spectrum of highly efficient financial activities in the modern global financial market.

The beneficial regulatory approach for a specific jurisdiction would depend on its market structure and practices, as well as legal requirements. The investor ID regime in the Hong Kong market for Northbound trading under Stock Connect (and that for Southbound trading alike) is considered a “see-through” approach designed to achieve a balance between the need for cross-border market supervision, and the long-established Hong Kong market structure that is different from that in the Mainland.

1. BACKGROUND: THE ISSUE CAUSED BY SYSTEM DIVERSITY UNDER STOCK CONNECT

The launch of Shanghai-Hong Kong Stock Connect (Shanghai Connect) in November 2014 and subsequently Shenzhen-Hong Kong Stock Connect (Shenzhen Connect) in December 2016 have unprecedentedly connected the Mainland and Hong Kong securities markets for cross-border mutual market access. Shanghai Connect allows foreign investors to trade eligible stocks listed on the Shanghai Stock Exchange (SSE) — Northbound (NB) trading, through the trading, clearing and settlement platforms in the Hong Kong market. Under the same scheme, Mainland investors are allowed to trade eligible stocks listed on the Stock Exchange of Hong Kong (SEHK), the securities market arm of Hong Kong Exchanges and Clearing Limited (HKEX) — Southbound (SB) trading, through the trading, clearing and settlement platforms in the Mainland market. Shenzhen Connect is a similar scheme between SEHK and the Shenzhen Stock Exchange (SZSE). (Shanghai Connect and Shenzhen Connect are hereinafter collectively referred to as the "Stock Connect" scheme)

The Mainland market and the Hong Kong market are, in fact, very different in multiple dimensions; including regulatory frameworks, trading systems, clearing and settlement systems, as well as securities depository, custody and registration systems. The connectivity platform established between the two markets' infrastructures under Stock Connect has successfully linked up the market operations on two sides of the border without the need for investors on either side to adapt to the operational practices on the other side. While it brings about operational convenience and efficiency, it also complicates market supervision and regulation. In addition to supervising market participants in the home market, the regulator of each market will also have to monitor home market trading activities of investors from the other market, in order to identify and deal with irregularities such as market manipulations.

Such market monitoring and supervision work over cross-border trading activities has become more and more important as both NB and SB trading under Stock Connect have been ever increasing. The average daily turnover value (ADT) of NB trading (total buy and sell) increased by more than 2 times from RMB 5,584 million in 2014 to RMB 20,410 million in 2018, with its percentage share of the Mainland A-share market ADT increased from 0.56% in 2014 to 2.75% in 2018[1]. The ADT of SB trading increased by 13-fold from HK$929 million in 2014 to HK$12,707 million in 2018, with its percentage share of the Hong Kong Main Board market ADT increased from 0.51% in 2014 to 5.94% in 2018[2].

The infrastructural systems for a market are often designed and modulated to cater for the needs for market supervision and regulation, apart from meeting the needs of market participants for operational efficiency and market transparency. The infrastructural system designs of world markets often differ due to the differences in their established market practices and regulatory models. Moreover, the expectations of the market regulator and market users may differ because of their different objectives and interests. In respect of market transparency, for example, investors may not want to be identifiable to the market for the orders they place with traders, while the regulator may request for detailed investor information in order to exercise close market supervision.

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1 Source: Computed from HKEX's daily data on NB trading and the monthly market statistics of the SSE and the SZSE. The trading period in 2014 commenced from the launch date of Shanghai Connect, 17 November 2014. Data for Shenzhen Connect and the corresponding Shenzhen A-share market are included from the launch date of Shenzhen Connect, 5 December 2016. Total buy and sell NB trading values were halved to give one-sided trading value to calculate its percentage share of the whole market's one-sided turnover value.

2 Source: Computed from HKEX's daily data on SB trading and its monthly market statistics. Total buy and sell SB trading values were halved to give one-sided trading value to calculate its percentage share of the whole Main Board market's one-sided turnover value.

The Mainland and Hong Kong stock markets have very different development history, both in time and in substance, resulting in very different market practices and regulatory models. In respect of securities depository, custody and registration, both markets have a single central depository company which, however, differ to a certain extent in their functional roles. In the Mainland, the central securities depository (CSD) is China Securities Depository and Clearing Corporation Limited (CSDC), which was established in March 2001 as the central clearing house for securities transactions on SSE and SZSE[3]. Securities issuance has been dematerialised in the Mainland, with scripless shares deposited and registered at CSDC at issuance and upon settlement of securities transactions. **The Mainland market adopts a "see-through" market supervision model**, under which investor accounts are opened in investors' real names at CSDC. Although CSDC does not have a direct relationship with the investors, whose securities accounts are managed by their brokers (the securities companies), it has a complete record of securities holdings at investor account level, and each order input must carry the investor's securities sub-account number at the respective exchange. In this way, the market regulator, i.e. the China Securities Regulatory Commission (CSRC), as well as frontline regulatory functions of SSE and SZSE have a direct line of sight into each investor's trading activities.

In Hong Kong, the CSD is Hong Kong Securities Clearing Company Limited (HKSCC), a subsidiary of HKEX, which acts as the central clearing house for securities transactions on the HKEX securities market. Unlike the Mainland market, investor accounts are optional rather than mandatory under the Hong Kong system. Securities are held in custody of brokers or custodians which are participants of HKSCC. Custodian participants may also hold securities on behalf of other custodians. **The multi-tier depository system in Hong Kong**, and actually in many international markets, puts the identities of the actual beneficial holders (the ultimate investors) in veil, and is considered not in alignment with the Mainland's "see-through" model. Instead of having a direct oversight of investors' trading activities as the Mainland market regulator, the Hong Kong market regulator, i.e. the Securities and Futures Commission (SFC), normally obtains trading information, by requiring individual brokers to identify clients, orders and trades, for regulatory and market surveillance purposes.

The differences in the regulatory and operational models of the Mainland and Hong Kong markets have given rise to difficulties in cross-border market supervision over trading activities under Stock Connect. As the Chief Executive Officer of the SFC said[4], the SFC's usual practice of obtaining client trading information from brokers "has become a strain on our internal resources as well as the industry" and the Mainland regulator has "no meaningful data for surveillance purposes when global investors trade Mainland securities through Stock Connect", and similarly for the Hong Kong regulator in identifying investors of SB trades.

As a result, the SFC and the CSRC have worked on a new investor identification system for Stock Connect which would give both regulators direct, real-time line of sight into cross-market orders and trades at the client level. This began for Northbound trading on 26 September 2018 (see section 6 for details on this Northbound Investor ID Model).

The course towards introducing the new investor identification system has aroused considerable controversies in the Mainland and Hong Kong, given their different market structures, operating models and legal systems. There were calls for the Hong Kong market to adopt the Mainland market's "see-through" investor account model since its multi-tier depository system is considered to lack transparency on investor identification, which makes

3 Securities transactions on the SSE and SZSE were formerly cleared and settled by the respective exchanges' clearing houses before the establishment of the CSDC. The CSDC is the basic structure of the unified national clearing and settlement system in the Mainland, which was effected on 1 October 2001 when the operations of the two clearing houses, which had become subsidiaries (or branches) of the CSDC, were aligned under the new structure.

4 Keynote speech at the 8th Pan Asian Regulatory Summit by Mr. Ashley Alder, Chief Executive Officer of the SFC, 10 October 2017.

market supervision difficult. Conversely, global investors are generally concerned about privacy under the Mainland "see-through" model without the use of nominee accounts which is the common international practice[5].

In fact, the Mainland securities market, through its three decades' development that has been tuned to the special characteristics of the domestic market and participants, has evolved into a market model very different from the general model of international markets. While it may be impractical to ask for alignment of one model with the other, global market regulators are nevertheless moving towards a form of "see-through" model for market supervision of investor trading activities in order to enhance regulatory efficiency and effectiveness. The international practices and the recent trend are discussed in sections 2 to 5.

2. BASIC MODELS OF SECURITIES HOLDING

Securities trading has a history of over a century in world capital markets. Along with the evolution of the capital market with ever growing trading volumes, the model of securities holding also evolved from the "direct holding system" to the "indirect holding system" and securities have become largely immobilised or dematerialised instead of in physical form.

Under the **direct holding system**, investors take physical possession of securities and directly exercise all the rights attached to the securities they own, thereby avoiding custody risk — the risk of losing securities held in custody by an intermediary. The settlement of a securities transaction under this system involves the delivery of physical certificates. The ownership of securities by the beneficial holder, i.e. the investor, is registered directly on the issuer's share register. In order words, there is a direct relationship between the securities issuer and the investor where the issuer will need to directly communicate with the investor on corporate matters and this is very costly and time-consuming. Moreover, securities safekeeping and settlement of physical certificates are costly and risky to investors too. To reduce risks and safekeeping costs, beneficial owners typically employ a custodian to hold the securities on behalf of them. This gave rise to the indirect holding system, which is further promoted by the immobilisation and dematerialisation of securities in modern stock market operations at exchanges and CSDs.

Under the **indirect holding system**, beneficial owners of securities hold the securities through market intermediaries (the nominees) which include securities brokers, custodian banks and CSDs too. Securities are held in **nominee accounts** in the names of the market intermediaries on behalf of the beneficial owners. The nominees' names, instead of the beneficial owners' names, will appear in the share register, thereby disconnecting the relationship between the issuer and the beneficial owner. The indirect holding system is further classified into **single-tiered holding systems** and **multiple-tiered (multi-tiered) holding system**. In a multi-tiered holding system, the top tier is often the CSD and the lower tiers consist of financial services firms such as brokers and custodians which act as nominees for the investors. This tiered holding structure provides a pragmatic model for investors seeking to invest in jurisdictions where it is not easy for foreigners to open a trading account, as they could utilise the nominee services of an intermediary in the domestic market.

The nominee system significantly enhances the efficiency of securities transfer and cost reduction in securities safekeeping. There are, however, certain drawbacks which mainly result in the possible impairment of investor interests, e.g. account abuse by the nominee and the ascertaining of shareholder rights in case of default or bankruptcy of the intermediary operating the nominee account. In the light of this, a new system has been derived — the

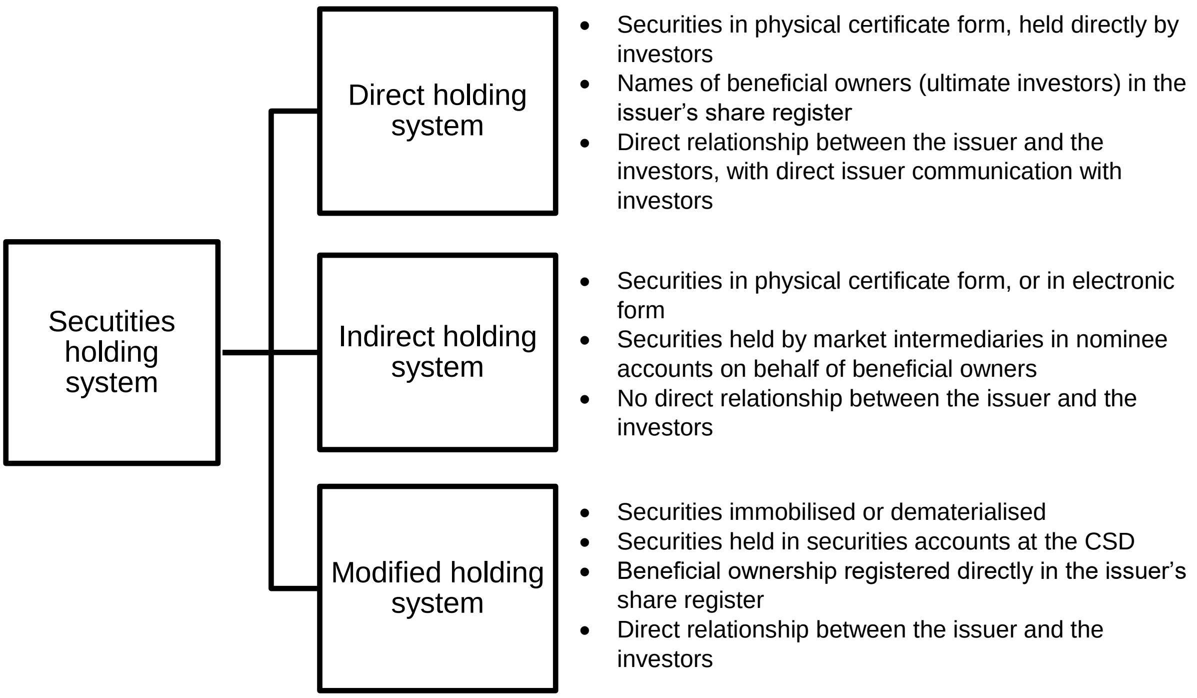
5 Source: Various Hong Kong media reports during the period of August to September 2017.

modified holding system, under which the investor's ownership is registered directly on the issuer's register without the need to hold physical certificates personally[6].

In both the indirect holding system and the modified holding system, securities are immobilised or dematerialised and held in securities accounts at CSDs. In the modified holding system, investors may open personal accounts at the CSD and changes in ownership are registered in the issuer's share register upon settlement of securities transactions. In other words, issuers maintain direct relationships with investors under the modified holding system as they do under the direct holding system. Securities are often held in the direct registration book-entry form or in their personal accounts at the CSD, with updates of ownership upon settlement of securities transactions being done electronically. It is apparent that the modified holding system offers the advantages of ownership protection under the direct holding system and the advantages of efficiency and cost saving to investors under the indirect holding system. However, the shift to the modified holding system often requires considerable resources, market sophistication and a certain level of technological development.

Figure 1 illustrates the various types of securities holding systems and their characteristics and Figure 2 shows the respective structures of a single-tiered holding system and a multi-tiered holding system.

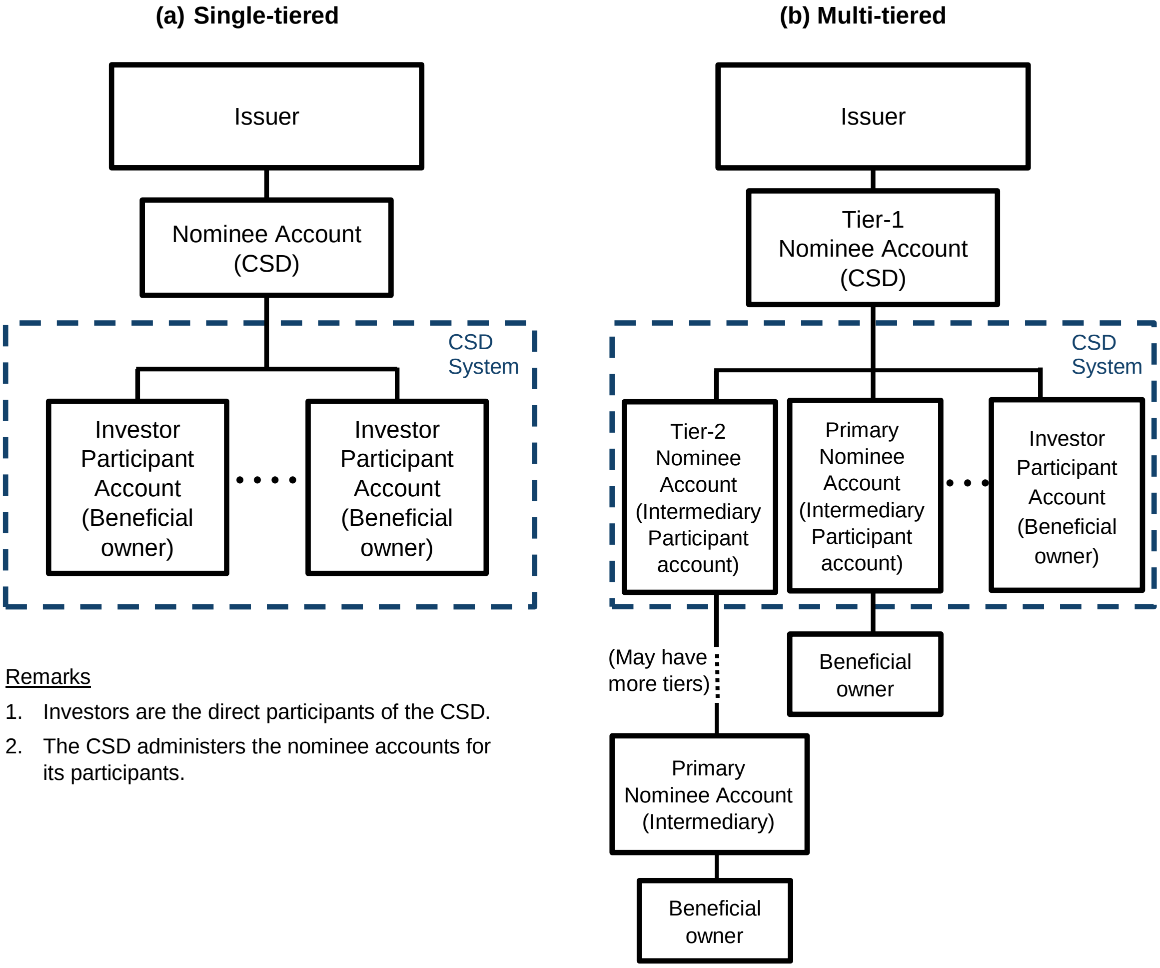
Figure 1. Types of securities holding system



Source: IOSCO EMC 2011 Report.

[6] See the report, *Regulation of Nominee Accounts in Emerging Markets — Final Report*, Emerging Markets Committee of the International Organisation of Securities Commissions (IOSCO), October 2011, for more information about the three types of securities holding system (referred to as the *IOSCO EMC 2011 Report* in this paper).

Figure 2. Nominee account structures under an indirect holding system



Remarks
1. Investors are the direct participants of the CSD.
2. The CSD administers the nominee accounts for its participants.

Remarks
1. Multiple layers of intermediaries (nominee account operators) exist between the issuer and ultimate investors (beneficial owners).
2. Primary nominee account is the bottom-tier account holding securities owned by the ultimate investors.

Note: In modern securities market operation with a CSD, the CSD will act as the top-tier nominee to appear in the issuer's share register. The CSD participants, with participant accounts opened at the CSD, may act as nominees for their client investors. Sometimes, the top-tier CSD nominee account is excluded such that a structure with a single layer of participant accounts in the CSD acting as nominee accounts for the intermediaries' client investors is referred to as a single-tiered structure.

Source: HKEX analysis.

According to the International Organisation of Securities Commissions (IOSCO), the indirect holding system is widely adopted as the benchmark system across the globe for holding securities, and if managed properly to guard against abuse, it is an extremely efficient and modern system for holding securities[7]. Very often, the nominee account operators under the indirect holding system assume the role of a custodian for its client investors, providing safekeeping and administrative services related to the holding and transfer of the securities in custody. Table 1 presents the terminology commonly used, and the roles of the various parties involved, in the indirect holding system. Nevertheless, a jurisdiction may adopt one or more of the basic three types of securities holding system as they see appropriate pursuant to their own market structure, investor demand and regulatory needs.

[7] Source: IOSCO EMC 2011 Report.

Table 1. Terminology used in the indirect holding system and the roles of parties involved

Term/Party	Explanation
Beneficial owner	A person or an entity who enjoys the benefits of ownership of the security, including the rights to vote and to dividends, even though the title to the security is in another name.
Central securities depository (CSD)	The institution which dematerialise or immobilise physical certificates, transfers ownership through book entries to electronic accounting systems and takes over the custody of securities in physical certificate form or in the electronically dematerialised form, increasing efficiency and reducing risks associated with securities transactions.
Custodian	Often referred to as "custodian bank": A financial institution that holds customers' securities, in electronic or physical form, for safekeeping in order to minimise the risk of their theft or loss. The roles of custodians include safekeeping and administering shareholdings and associated corporate actions, and facilitating the exercise of shareownership rights such as voting, for the beneficial owners.
Dematerialisation of securities	Securities exist without physical share certificates, but with the ownership registered in electronic form.
Immobilisation of securities	Security certificates are immobilised in the CSD where securities transactions can be cleared and settled among accounts of market participants without delivering any physical certificate by market participants.
Nominee	A person or a firm into whose name securities are transferred upon settlement of a securities transaction while the customer of the nominee remains as the actual owner of the securities.
Nominee account	A type of account set up by a nominee for purposes such as administering securities or other assets on behalf of their beneficial owners. A nominee account may be administered for the benefit of a single investor or a group of investors.
Omnibus account	Also known as pooled nominee account: A type of nominee account in which a primary nominee account operator handles the collective position of securities of more than one investor in a single account. The nominee account operator keeps separate records for each customer in its back office.

Source: IOSCO EMC 2011 Report, Wikipedia, Investopedia.

3. SECURITIES HOLDING SYSTEMS IN SELECTED MARKETS

According to international standards recommended by IOSCO[8], securities should be immobilised or dematerialised and transferred by book entry in CSDs to the greatest extent possible. In case a direct holding system is adopted, but in which the CSD is not the official registrar of the issuer, IOSCO recommends that a transfer of securities in the CSD should result automatically in the transfer of legal title to the securities in the official register of the issuer[9]. Most securities markets in the world comply with these international standards, with the adoption of some kind of indirect securities holding system or modified holding system. The following sub-sections give a brief overview of the models adopted by selected major exchange markets[10]. (See Appendix for a summary of the key features for each market.)

8 *Recommendations for securities settlement systems*, issued jointly by the Committee on Payment and Settlement Systems (CPSS) of the central banks of the Group of Ten countries and the Technical Committee of IOSCO, November 2001 (referred to as the *CPSS-IOSCO Recommendations* in this paper).

9 See: *Assessment methodology for "Recommendations for securities settlement systems"*, issued by the CPSS and the Technical Committee of the IOSCO, November 2002.

10 The focus here is on listed equity securities. Different markets may adopt different operating models for other securities such as fixed-income securities and money market securities.

3.1 Australia[11]

There are two kinds of register for holding securities in Australia — **CHESS subregister** and **issuer-sponsored subregister**. Securities are dematerialised, i.e. no paper certificates are issued for either subregister, although a few foreign companies listed on the Australian Securities Exchange (ASX) may still offer paper certificates. The principal register for any particular company is made up of the combined holdings registered on both the CHESS subregister and the issuer-sponsored subregister.

CHESS stands for the Clearing House Electronic Subregister System, which is operated by ASX Settlement Pty Limited, a wholly-owned subsidiary of the ASX Group, the exchange group in Australia. CHESS has two major functions — facilitating the clearing and settlement of trades in shares, and providing an electronic subregister for shares in listed companies. Upon settlement of a trade, CHESS transfers the title or legal ownership of the shares electronically while simultaneously facilitating the transfer of money for those shares between participants via their respective banks (delivery versus payment, or DVP, settlement). CHESS participants include brokers, custodians, institutional investors, settlement agents who settle trades in principal for themselves or in agency on behalf of their clients.

To hold shares in the CHESS subregister, an investor enters into a sponsorship agreement with an authorised CHESS participant, which will act as the "CHESS sponsor" (usually a stockbroker or a settlement agent, e.g. custodian) to operate the investor's holdings in the CHESS subregister on behalf of the investor. Shares are held in the investor's name, and holdings of all securities are consolidated in a single account under a unique Holder Identification Number (HIN). Investors may hold shares through multiple CHESS sponsors, and a different HIN is given to the investor for each of the CHESS sponsors used. ASX Settlement will issue independent holding statements to investors for them to keep track of their holdings in CHESS. An investor will need to notify the CHESS sponsor for any change in the investor information such as registration name and address.

Shares held by investors who do not have CHESS sponsors or purchased the shares without a HIN will be registered electronically on the issuer-sponsored subregister by default. The issuer-sponsored subregister is maintained by the company who issued the shares. Most companies engage a share registry to administer the subregister on their behalf. For each issuer-sponsored holdings, the investor will be allocated by the issuer a unique Securityholder Reference Number (SRN). In other words, the investor will have a separate SRN for each issuer of the securities he/she holds. Investors who want to trade these securities would have to move the securities from the issuer-sponsored account into CHESS, by giving instructions to the stockbroker to do so. For each security held by an investor, a separate holding statement will be sent to the investor by the share registry of the relevant issuer. An investor will need to notify the respective share registries of securities held for any change in investor information.

The Australian market, therefore, adopts **both a direct holding system (through the issuer-sponsored subregister) and a modified holding system (through the CHESS subregister)**. However, the CHESS system is undergoing change — CHESS, after operating for over 25 years, will be replaced by distributed ledge technology (DLT, commonly referred to as "blockchain") developed by Digital Asset, for the post-trade functions. The new system is expected to provide timely, secure and simplified access to the register of holders (for issuers), financial assets (for end investors) and associated information.

11 Source: Information from the ASX website.

3.2 Mainland China[12]

Investors must open securities accounts in their real names with CSDC in order to trade and hold securities. Securities are in dematerialised electronic form with no physical certificates. Account opening is done through authorised agencies, usually securities companies. Investors may be natural persons, legal persons, partnership enterprises or other types such as different kinds of securities investment product.

An investor’s securities account consists of the master account (the “Yimatong” account (一碼通賬戶))[13] and sub-accounts. The master account has a unique ID number that links to sub-accounts, together providing a holistic view on securities holdings by the investor. Each sub-account is used to record the holdings and changes in holdings of securities on a specific exchange venue, or of a specific type of securities. These include A shares, B shares, the National Equities Exchange and Quotations System (NEEQ, which is the over-the-counter (OTC) trading system of unlisted securities), closed-end funds and open-ended funds. Investor identity information includes the investor’s name and identity document type and number.

CSDC is responsible for maintaining the securities account information for investors and the share register for securities issuers. The share register contains the name of the shareholder, the securities account number, the holder’s ID number and address, and the holding details. Securities companies must verify an investor’s identity and account information at CSDC before signing an agency agreement with the investor for securities trading and settlement. Shares held by investors are kept in custody by securities companies. Shares held in principal by securities companies and in agency for their clients are deposited at CSDC. The types of shareholder identified for regulatory purposes include the State, state-owned legal persons, domestic non-state-owned legal persons, domestic natural persons, foreign natural persons and foreign legal persons.

The registration rules of CSDC allow registration of securities holdings in the names of nominees. This provides for the operating mode of Stock Connect where foreign investors hold domestic Stock Connect eligible stocks through the Hong Kong nominee. The nominee enjoys the legal rights of being a shareholder while delivering the corresponding responsibilities to act on behalf of the beneficial owners. CSDC has the right to ask the nominee to provide detailed information on the beneficial owners.

3.3 European Union (EU)[14]

The EU comprises many developed western markets which adopt the common practice of using nominees and custodian banks. These custodian banks serve both retail and institutional investors. They play the roles of securities holders and processers of transactions in financial instruments, in particular the clearing and settlement of transactions, on behalf of their clients. Some of which are considered “significant custodians” in that they play a significant role in the above responsibilities for large global investors and would largely internalise the clearing and settlement of transactions of their client investors rather than forward them to the relevant CSD. To accommodate such common market practice, the EU

12 Source: Relevant rules of the CSDC and the CSRC.

13 The “Yimatong” account system was launched in October 2014. On commencement, the CSDC opened a Yimatong account for each existing investor, taking all existing securities accounts of the investor as sub-accounts. All new investors will open a Yimatong account and the corresponding securities accounts for trading.

14 Source: *Standards for Securities Clearing and Settlement in the European Union*, the Committee of European Securities Regulators (CESR) and the European Central Bank (ECB), September 2004; *Shareholder Identification and Registration*, Report by a Working Group mandated by the European Post Trade Group, December 2015 (referred to as the *EPTG Report 2015* in this paper).

authorities impose stringent regulations over significant custodians and apply additional safeguards to address specific risks to clearing and settlement under such circumstances.

In the EU, the Committee of European Securities Regulators (CESR) and the European Central Bank (ECB) laid down a set of standards for securities clearing and settlement[15], which are compatible with the CPSS-IOSCO Recommendations for securities settlement systems. According to the EU standards, securities should be immobilised or dematerialised and transferred by book entry in CSDs to the greatest possible extent. To safeguard the integrity of securities issues and the interests of investors, the CSD should ensure that the issuance, holding and transfer of securities are conducted in an adequate and proper manner. Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. Customers' securities have to be protected against the claims of the creditors of all entities involved in the custody chain.

The vast majority of European shares have been dematerialised where physical certificates are replaced by electronic book-entry into security accounts. In fact, a mandate has been issued by the Central Securities Depositories Regulation (CSDR)[16] to require dematerialisation for transferable securities issued after 1 January 2023, and for all transferable securities by 1 January 2025. CSDR places an obligation on CSDs and their direct participants to offer their clients the choice between "omnibus" account segregation and individual client account segregation.

As the European markets developed over the last century, investments have become more and more international and along with this the use of nominees and sub-custody has grown in importance and practice. As cross-border investments have become popular in Europe[17], cross-border custody chains involving multiple intermediaries are common, starting at the CSD through local custodians, global custodians and the last intermediary serving the end-investor. As quoted, in a majority of cases of large institutional investors, there are up to 4 intermediaries including the CSD[18].

Intermediaries tend to use "omnibus" or "pooled nominee" accounts at the CSD or other intermediary level in which they maintain securities of more than one investor in the account. The intermediary administering the omnibus account acts as "agent" or "trustee" for the investors who own the securities vis-à-vis the next intermediary in the upper tier in the custody chain.

In the context of issuer-investor relationship as represented by a "direct" or "indirect" holding system, different models are used in different European markets[19]:

- **Direct holding system with investor and nominee accounts (e.g. Sweden)** — Investors (whether Swedish or non-Swedish) may choose to hold securities in their own accounts in the CSD (owner-registered) or hold them in a custody account with a member of the CSD which in turn holds the securities in a nominee account with the CSD (nominee-registered). The legal owners of the securities are evidenced in the books of the nominees. Swedish nominees have the obligation to report their clients (the underlying holders) to the CSD, allowing the issuer to be informed of all their shareholders. Shareholders who are not clients of a Swedish nominee may choose not to be known to the issuer.

15 Ditto.

16 CSDR is one of the key EU regulations adopted in the aftermath of the 2008 Financial Crisis and is part of the EU regulatory reforms covering the entire securities and capital markets structure. CSDR introduces new measures for the authorisation and supervision of EU CSDs and sets out to create a common set of prudential, organisational, and conduct of business standards at a European level, applied to all European CSDs and to all market operators in the context of securities settlement.

17 As quoted in EPTG Report 2015, it is common for big European companies to have more than 50% or even more than 75% of their shareholders domiciled outside the country of domicile of the company itself.

18 Source: EPTG Report 2015.

19 Source: EPTG Report 2015.

- **Direct holding system with two-level registers (e.g. Spain)** — The CSD maintains the Central Register, keeping accounts held by professional participants (Participants) which are banks or other intermediaries. Each Participant manages the Detailed Register holding securities in the name of its clients. Both registers are updated on the basis of daily trade and settlement data. By Spanish law, persons entered into any of such Registers are the shareholders.
- **Indirect holding system with one-level of register (e.g. Germany and France)** — The CSD provides accounts only to professional participants or first-level clients, e.g. custody banks and other financial institutions like other CSDs of other countries. Usually domestic investors are clients of CSD participants while non-domestic end investors may use other banks in custody chains. These custody chains comprise normally three to four and possibly up to 10 intermediaries (though rarely) between the CSD and the end investor. In these cases, securities are often held in omnibus accounts at the custody banks. In some countries, the custody banks are required to disclose the end investors to the issuer as of record date in case of the exercise of shareholders' rights.
- **Indirect holding model with no standing register (e.g. Italy)** — The CSD participants, usually banks, would maintain securities accounts for their clients (end investors or other banks). The share register is not a "standing" register as it is not constantly updated pursuant to trade and settlement data but is updated with the data of end investors (and nominees) on special occasions like general shareholder meetings where the CSD participants will be asked to forward the end-investor data.
- **Mixed holding model with standing register (e.g. the UK and Ireland)** — Investors may hold shares directly on the register either in dematerialised or materialised form, or may use an intermediary to hold shares on their behalf. Only persons entered into the share register are the shareholders. Investors trading securities using an intermediary may arrange to put their names directly into the register. In the UK, part of the share register is maintained by the CSD and this part is mirrored on the company's register which makes it not necessary to forward end investor data in order to exercise shareholders' rights.

3.4 Hong Kong[20]

In Hong Kong, securities are often held by investors through intermediaries including brokers and custodians for trading and safekeeping purposes. In operation, CCASS Depository accepts deposits of physical certificates of securities (eligible to be admitted to CCASS) from Participants for settlement and safe custody. CCASS stands for "Central Clearing and Settlement System" operated by HKSCC. Investors (individuals, joint individuals or corporations) may apply to become Investor Participants (IPs) of HKSCC. Each IP is allocated with one "all-purpose" stock account, whereas each other Participant is allocated with one stock clearing account for settlement purpose and one entitlement account for receiving benefit entitlements. As of the end of September 2019, there were 25,852 IPs[21], only about 1% of the over 2 million stockowners in Hong Kong[22].

Broker or custodian participants may open Stock Segregated Accounts (SSA) with Statement Services with HKSCC for their client investors. The client investors' stockholdings will be recorded by HKSCC in these accounts separate from those of the Participants who open and administer the accounts. The client investors will be provided by HKSCC with statements on the stock movements in the accounts, and will receive corporate communications, including annual reports and notices of corporate activities, directly from the share registrars. However,

20 Source: HKEX website.

21 Source: HKEX.

22 Source: HKEX Retail Investor Survey 2014.

the client investors are not recognised by HKSCC as holders of SSA with Statement Services. As of the end of September 2019, there were 1,742 SSAs with Statement Services[23].

The transfer of securities upon settlement of transaction on the HKEX securities market is made to and from the stock accounts of Clearing Participants (the intermediaries) by electronic book entry in CCASS. At the second level, the transfer of securities to and from IPs' stock accounts can be initiated by either the IPs themselves or through their intermediary Participants (Clearing Participants, Custodian Participants, Stock Lender or Stock Pledgee Participants) in the form of Investor Settlement Instructions (ISIs).

Shares held in the CCASS Depository are registered in the name of HKSCC Nominees Limited, the common nominee, which exercises shareholder rights in respect of those securities and acts on instructions received from Participants. Participants may withdraw physical share certificates from the CCASS Depository. Issuers may request HKSCC for providing them with CCASS shareholding details, including the names, addresses, and shareholding information of IPs.

To better serve investors participating in Stock Connect trading, HKSCC provides the Special Segregated Account (SPSA) services. Under the SPSA arrangement, an investor can request a Custodian Participant or a General Clearing Participant (GCP)[24] to open a SPSA in CCASS to maintain its holdings in Northbound Stock Connect securities. Investors using SPSA do not need to pre-deliver securities from their custodians to their executing brokers for Northbound trading. This is made possible by CCASS taking a beginning day snapshot of the holdings under each SPSA, and replicating such data to Orion Trading Platform—China Stock Connect (OTP-CSC), HKEX's routing engine to Mainland exchanges, to perform pre-trade checking for all Northbound sell orders. An SPSA investor may designate at most 20 China Connect Exchange Participants (CCEPs) as executing brokers for their Northbound orders. The SPSA investor, through its designated CCEP, should enter sell orders with its SPSA number for pre-trade checking. The SPSA investor will only need to transfer the relevant securities from its SPSA to its designated broker's account after sell trade execution for settlement purposes. As of October 2019, there were 9,123 SPSAs[25].

3.5 India[26]

Securities exist in physical certificate form in India but have to be dematerialised, i.e. converted into electronic form, for trading on a stock exchange. Dematerialised securities are held in beneficiary accounts (or "demat" accounts) in two depositories — National Securities Depository Limited (NSDL) and Central Depository Services (India) Limited (CDSL). Securities can be "rematerialised" by which the electronic balances held in the demat account are converted back into physical certificates. Upon dematerialisation, the securities issuer registers (through its agent) the depository as the holder of the securities while the investor will be the beneficial owner.

An investor (the beneficial owner) opens a beneficiary account with a registered depository participant (DP) of NSDL or CDSL, and can close the account at its discretion like a bank account. Accounts may be opened jointly with other person(s). DPs could be banks, brokers, custodians or financial institutions approved by the Securities and Exchange Board of India (SEBI), the market regulator. Multiple beneficiary accounts can be opened with the same or multiple DPs, without any limit. Documents required for account opening include the proof of identity, which very often is the PAN card, and the proof of address. "PAN" stands for Permanent Account Number, which is a unique 10-character alphanumeric identifier issued by

23 Source: HKEX.

24 A GCP is a Clearing Participant which can clear their own principal trades and trades of their clients.

25 Source: HKEX.

26 Source: Websites of NSDL and CDSL; Wikipedia.

the Indian Income Tax Department to each judicial entity identifiable under the Indian Income Act 1961. A PAN card is issued in the form of a laminated card. It is also issued to foreign nationals, such as investors, subject to a valid visa.

Communication between the depositories and the investors is done indirectly through the DPs. An investor with a demat account opened will be given a client account number and the client ID, which has to be used along with the DP ID in conducting securities transactions. Settlement of securities transactions is done by way of electronic account transfers between clearing members' accounts opened with DPs of the depositories. Securities are transferred from the selling client's account to the clearing member's account for settlement at the clearing house, e.g. NSE Clearing of the National Stock Exchange of India (NSE). The buying client receives securities in their account from the clearing member's account upon delivery by the clearing house on settlement. These are effected by delivery instructions (which may be standing instructions) given by the clients to their DPs. Clients may also settle through their custodians. At the choice of the clearing member, settlement may also be done by direct delivery of securities to the investor's account (such facility is available for clearing trades on both the NSE and the Bombay Stock Exchange (BSE)).

3.6 Korea[27]

Korean Securities Depository (KSD) is the CSD in Korea, which is responsible for the book-entry transfer of securities between accounts and the delivery of securities and payment upon settlement of securities transactions. Securities exist in physical (printed) form and eligible securities that may be deposited in KSD are designated by KSD.

An investor may directly open an account with KSD and deposit and hold securities in its name, or does these through a depositor. The depositor depositing and holding securities in KSD for the investor has to keep an "investor's account book" recording the names and addresses of investors, along with the type and number of deposited securities and the names of issuers. KSD has to prepare and keep a "depositor's account book" and establish distinction between the portion owned by the depositor and the portion deposited by the investors. Any person who is stated in an investor's account book and the depositor's account book is deemed to hold the respective securities (the "beneficial shareholder").

The deposited securities are registered in the name of KSD in the register of the securities issuer; and where a depositor or its investors acquires or subscribes for securities, the securities issuer shall register such securities in the name of KSD on behalf of the depositor or its investor. KSD may exercise rights to the deposited securities at the request of a depositor or the investors thereof. On request by the issuer pursuant to requirements of Korea's Commercial Law, KSD has to notify the issuer details of the beneficial shareholders. The issuer or transfer agent shall prepare and keep a roster of beneficial shareholders, and aggregate the shareholdings by a shareholder along with the information in the roster of shareholders of physical certificates in exercising rights as a shareholder.

In order to trade at the Korea Exchange (KRX), an investor needs to firstly open a trading account in the name of the investor through a securities company licensed by the Financial Services Commission (FSC) that is a member of KRX. Non-resident foreigners[28], before doing so, must firstly register their personal information with the Financial Supervisory Service (FSS) and obtain an Investor Registration Certificate (IRC). The IRC system is used to monitor foreign capital and manage foreign investment limit in certain public-purpose companies. For obtaining IRC and opening trading accounts, foreigners have to appoint a Standing Proxy, which is usually a global bank offering custodian and foreign exchange services for clients.

27 Source: Websites of the KRX and Korea Financial Investment Association; the *Financial Investment Services and Capital Markets Act* of Korea, Act No. 12383, 28 Jan 2014.

28 Foreigners who have been residing in Korea for six months or longer are exempt from the requirement.

Foreigners also need to designate a local custodian bank which provides custody, money transfer, and securities settlement services. That is, foreign individual and institutional investors will have to set up trading accounts and custodial accounts with global custodians and brokerage companies as well as with domestic securities companies and custodian banks in Korea.

The KRX member, which opens a trading account for the investor, has to classify the investor into either "professional investor" or "ordinary investor" based on the investor's level of investment experience in financial products and the investor's assets. It has to understand the investment characteristics of the ordinary investor for investor suitability management. Furthermore, the KRX member shall confirm and keep required information of the investor, including the name, resident registration number and address.

Settlement of securities transaction is done at two levels — between KRX and members of KRX, and between KRX members and their investors. Delivery of securities and money payment are performed by KSD by book entry between accounts.

3.7 Singapore[29]

The Central Depository (Pte) Limited (CDP) is the CSD in Singapore and acts as the central counterparty (CCP) to all trades executed on the securities market of the Singapore Exchange (SGX). Physical certificates have to be deposited at CDP before selling out and may be withdrawn for physical holding.

The Singapore market adopts both a direct and an indirect shareholding system. Investors (individuals or corporations) may hold shares directly in a direct Securities Account or indirectly in a Sub-Account of the Securities Account of a Depository Agent opened at CDP. CDP will treat the holder of a direct Securities Account as the absolute beneficial owner of the securities held in that account. Each depositor (other than a Depository Agent) shall not have more than one direct Securities Account, held in his own name, with CDP. A Depository Agent shall open and maintain a separate Sub-Account for each of its clients and segregate the holdings of its clients in these Sub-Accounts from each other and from the holdings in its own account. Each Sub-Account shall bear the Depository Agent's account code number and a Sub-Account number.

Depository Agents may be a Trading Member of SGX or a Clearing Member of CDP, a registered trust company, a licensed bank in Singapore, or a merchant bank approved by the Monetary Authority of Singapore. The Depository Agent can be a nominee company which holds shares on behalf of their client investors. Most of the brokers in Singapore offer nominee or custodian services to investors at lower brokerage fees for securities trading than the brokerage service for investors with direct shareholdings at CDP.

CDP may appoint agents and service providers, including custodians, to safe-keep the deposited securities. All securities deposited at CDP are registered in the name of CDP or its nominee. CDP will have direct communication with depositors (including end-investors who open direct Securities Accounts) on securities holding details and transaction details. It will not communicate with, nor act on instructions from, Sub-Account Holders.

[29] Source: SGX website, CDP website.

3.8 Taiwan[30]

Taiwan Depository and Clearing Corporation (TDCC) is the CSD in Taiwan. Listed securities are immobilised or dematerialised at TDCC[31] and transferred via a book-entry system. Eligible securities to be immobilised/dematerialised at TDCC include common shares, preferred shares, depositary receipts, warrants, beneficiary certificates and various kinds of bond. TDCC is the registrar and transfer agent for publicly issuing companies.

Entities that may become participants by opening an account at TDCC to handle securities deposits, withdrawals and book-entry transfers include the Taiwan Stock Exchange (TWSE) securities firms, custodian institutions, securities issuers, foreign depository or clearing institutions, and other institutions as specified in TDCC's operating rules.

A TDCC participant has to provide respective identification of the portions under the ownership of the participant, or the customers of the participant upon securities deposit or book-entry transfer. The participant has to submit details of each of its customers including the customer's (person or entity) name, address, national ID number or the entity uniform ID number. The use of custodians is common in Taiwan. Each custodian opens one account with TDCC with all its custody clients' accounts opened as sub-accounts under this umbrella account in the clients' officially approved names. Securities are lodged in the sub-accounts and are re-registered by TDCC prior to record date of a corporate action. Nominee registration in the custodian's name is not allowed for holdings of physical certificates outside TDCC. Physical holdings are registered in the name of the beneficial owner.

For settlement of customers' net purchases/sales through a securities firm, book-entry transfers of securities will be performed between the customer account in the securities firm's depository account and the firm's settlement account, and between the firm's settlement account and TWSE's settlement account. When a custodian institution is used which is a TDCC participant, book-entry transfer of securities upon trade settlement will be performed between the depository account of the custodian institution and the account of the custodian institution opened at the securities firm.

Special requirements are imposed on foreign investors for trading in the Taiwan stock market. After the abolition of the Qualified Foreign Institutional Investor (QFII) system in 2003, overseas Chinese and foreign investors are required to register with TWSE to obtain an "Investor ID" before opening a trading account with a local securities firm. Registration can be done through an agent bank. Foreign investors are classified into four categories: (1) offshore foreign institutional investors; (2) offshore overseas Chinese and foreign individual investors; (3) onshore foreign institutional investors; and (4) onshore overseas Chinese and foreign individual investors.

3.9 United States[32]

The principal CSD in the US is The Depository Trust Company (DTC), which was created in 1973 in response to the manual, paper-intensive crisis of the US market in late 1960s and early 1970s, that caused the stock exchanges to shut down one day a week to catch up with the soaring equity trade volumes. Since 1999, DTC and National Securities Clearing

[30] Source: The Taiwan Stock Exchange website, the RBC Investor & Treasury Services website; TDCC website; *Operating Rules of the TDCC, 14 December 2017* (Amended); Financial Supervisory Commission (Taiwan) website.

[31] On 30 June 2000, the Taiwan Securities and Exchange Act was revised to allow the issuance and book entry of dematerialised securities; and on 12 November 2001, new articles were added to the Taiwan Company Act that require dematerialised securities to be registered with a CSD. TDCC's registration and book-entry operations for dematerialised securities commenced on 20 December 2001.

[32] Source: DTCC website (www.dtcc.com); Morris V. B. and S. Z. Goldstein. (2010) *Life Cycle of a Security*, Lightbulb Press; "Payment, clearing and settlement systems in the United States", *Bank for International Settlements Red Book* country chapter, 2012.

Corporation (NSCC), which provides central counterparty clearing and settlement services for securities transactions in the US, have been subsidiaries of the Depository Trust & Clearing Corporation (DTCC). DTC has now become the largest CSD in the world. Almost all US municipal securities, as well as the vast majority of equities and corporate bonds issued in the US, use DTC as their CSD.

To provide economies of scale, DTC launched the Fast Automated Securities Transfer (FAST) program soon upon its creation. FAST minimises certificate movements and streamlines transfer processing by recording the securities in book-entry form on the books of the issuer's transfer agent. Transfer agents maintain a jumbo balance certificate, one for each security issue, registered in DTC's nominee name, Cede & Co. In 1983, the New York Stock Exchange (NYSE) required member organisations to settle eligible securities in book-entry form through DTCC, and gave counterparties recourse to refuse the acceptance of physical certificates.

DTC put in further efforts in dematerialisation of securities by launching the Direct Registration System (DRS), which enables investors to elect to hold securities in book-entry form directly with the issuer. In 2006, the Securities and Exchange Commission (SEC) rendered DRS eligibility a listing requirement for all new issues starting in 2007, and in 2008, it made DRS a listing requirement for all existing exchange-listed issues. In July 2012, DTCC published a white paper[33] to fully dematerialise physical securities in the US market. However, although there has been significant drop in the number of physical certificates deposited at DTC[34], direct holding of physical certificates still prevail in the US. For the US to go fully paperless, there needs to be a rule filing from the exchanges that would eliminate the option of issuing physical share certificates for new companies that intend to be listed[35].

Currently, investors may hold securities in the US in three ways:

(1) **In street name** — Securities are immobilised by DTC and registered with their issuers or the issuers' transfer agents in DTC's nominee name, Cede & Co. The investor's name is recorded on his/her brokerage firm's book as the beneficial owner of the securities and the brokerage firm's name is recorded in DTC's ownership records. DTC holds the securities as record owner at the issuer's securities register. The brokerage firms provide proxy materials and regular account statements to the investors who are the beneficial owners.

(2) **Through DTC's DRS** — Securities are held by the investor electronically in the investor's own name directly on the issuer's books, or the books of the issuer's transfer agent. The investor receives a statement from the transfer agent providing proof of ownership instead of a stock certificate, i.e. securities are dematerialised. There is direct corporate communication between the issuer or its transfer agent and the investor. For selling securities held through DRS, the investor has to transfer the securities electronically from the investor's account with the issuer (or its transfer agent) to the broker-dealer account through DTC. Transfer agents using DRS are also registered users of DTC's FAST program. They maintain the outstanding balances in electronic form for all DTC positions and perform daily updates on communication with DTC.

(3) **With paper certificates** — Investors may choose to hold paper certificates but they will have to deliver the certificates to the broker three days prior to selling the shares. The broker will then deposit the certificates in its account with DTC. Ownership will be registered in DTC nominee's name electronically. On purchase of shares, the investor

[33] *A Proposal to Fully Dematerialise Physical Securities, Eliminating the Costs and Risk They Incur*, DTCC, July 2012.

[34] The drop was 86% since the year 2000 by November 2013. Source: "DTCC's Dan Thieke delivers keynote speech at Annual BDUG Conference", *DTCC Connection* on DTCC website, 1 November 2013.

[35] Source: "DTCC's Thieke discusses T+2 and other settlement issues", *DTCC Connection* on DTCC website, 27 March 2017.

may choose to withdraw a physical certificate from DTC, which will be registered in the investor's name and address.

In the US, the use of custodian banks, especially by institutional investors, is common. For street name shares, issuers and their transfer agents can request from DTC a list of the custodian banks or brokers holding shares on a specific date. The banks or brokers can then contact the shareholders about company events.

4. MERITS OF SECURITIES HOLDING THROUGH NOMINEE ACCOUNTS

The nominee securities holding system has a long history of development and is adopted widely across world markets due to the merits it can offer to the operation and development of the capital market. The course of development has given rise to the custodian bank industry in a multi-tiered securities holding system, which offers a large variety of nominee and associated services to customers who are participants in the securities market.

Custody and related services offered by banking entities (and not others) are often preferred, due to their traditional banking services such as cash deposit and payment services and that they are subject to robust prudential regulation and oversight by the financial authorities. Custodian services have evolved over time to beyond safekeeping, clearing and settling securities. Custodians administer all services that occur as a result of corporate actions such as dividend distributions, bonus and rights issues, share offers or buybacks, warrant conversion, stock consolidation or stock split, shareholders' meetings, etc. They support customers' management of their entire portfolio of financial instruments, including equities, bonds, commodities, foreign exchange, and their derivatives, as well as mutual funds and exchange traded funds (ETFs).

Custodians act as intermediaries between investors and financial market utilities such as CSDs and international CSDs (ICSDs), and act solely on instructions from their clients and do not exercise any discretion over the use of client assets under custody. Custodian banks also provide services like fund accounting as well as ensuring the fulfillment of legal and compliance requirements. Clients of custodian banks are primarily institutional investors, which include mutual funds, corporations, pension funds, sovereign wealth funds, central banks, insurance companies, charitable foundations, and personal and family trusts. In fact, the use of custody services is often required by law or regulation in order to protect investors from potential misappropriation of their assets by funds and other vehicles in which they have invested[36].

Custodian services facilitate client access to, and participate in, the global financial system, interconnecting asset managers, brokers and other intermediaries, as well as financial market utilities. In particular, custodian banks' services have contributed significantly to global securities trading and capital market development, especially in emerging markets[37]. They help bridge the structural differences between local and global markets, which differ in regulatory framework, tax regime, market practices, risk profile, technology, etc. With the service support of international custodian banks, more flexible account structures for foreign investors and financial intermediaries may be adopted for cross-border trading, cross-border investment flows could be streamlined and facilitated through conformation to global standards.

[36] The IOSCO has formulated the "Standards for the Custody of Collective Investment Schemes' Assets" (FR20/2015, November 2015) for global market regulators to follow.

[37] Reference can be made to the article, "The Role of Custodian Banks in the Development of Capital Markets", *Asian Investor*, September 2007.

All in all, custodians provide an extensive range of financial services relating to safekeeping clients' investment assets in an indirect securities holding system. Because of the high variety of services, custodians offering nominee and other services compete in multiple dimensions, including service variety, service quality and fees. Such diverse service offerings in the industry have helped nurtured the wide spectrum of highly efficient financial activities in the modern global financial market.

5. THE GLOBAL TREND OF "SEE-THROUGH" MARKET SUPERVISION

As discussed in Sections 2 and 3 above, the indirect securities holding system is the most common model adopted by world markets. The use of nominees and custodian services in a system of securities accounts at the CSD can largely increase the efficiency of securities transfer for securities transactions and corporate actions. Moreover, global custodian services are very much in need given the increasing cross-border securities trading activities, as discussed in Section 4 above.

On the other hand, the identification of ultimate owners of securities is critical to regulatory enforcement such as anti-money laundering and large equity ownership reporting, in order to maintain market integrity. However, the use of nominee accounts, especially omnibus accounts, makes it difficult for regulators to identify or trace down the actual beneficial owners. The situation is further complicated as cross-border investment activities grow for which many investors have centralised the safekeeping of their securities at a single global custodian. To perform its role, the global custodian may be a direct member of depositories at multiple markets in the world, or may establish a sub-custodial relationship with direct members of depositories. As a result, a complex nexus of cross-border investor holdings in nominee accounts is formed.

For improving market surveillance, IOSCO, in its report released in 2011[38], recommended the introduction of consolidated "audit trails" that can track orders, quotes and trades in the market, and the use of entity identifiers to identify trading on a participant-by-participant basis. In another report released in 2013[39], IOSCO highlights the importance of collecting adequate data and information of securities trading and the development of a process to use effectively such information for surveillance purposes, particularly the purpose of identifying customers. It recommended that market authorities should have the capability to associate the customer and market participant with each order and transaction.

To combat against potential market abuse, in both domestic and cross-border trading, market regulators are moving more towards the "see-through" approach in supervising market activities. Without disrupting or refuting the common market practice of using nominee or custodian services that brings about market efficiency and reduces settlement risk, the intermediaries are required by market regulators to provide identity of the end investor in a trade for market supervision purposes. The different approaches adopted by selected major markets are described below. (See Appendix for a summary of the use of investor identity in each market.)

(1) Australia[40]

Market participants must provide specified regulatory data on orders and trade reports to market operators, which must record and provide to the market regulator, the Australian

[38] *Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency — Final Report*, Technical Committee of the IOSCO, October 2011.

[39] *Technological Challenges to Effective Market Surveillance Issues and Regulatory Tools — Final Report*, The Board of the IOSCO, April 2013.

[40] Source: *Regulatory Guide 265 — Guidance on ASIC Market Integrity Rules for Participants of Securities Markets*, ASIC, May 2018.

Securities & Investments Commission (ASIC), all regulatory data they receive. An "order" refers to an order transmitted to the order book of the market operator. A "trade report" refers to a report on an off-order book transaction for each side of the transaction (buy/sell) for which the market participant acted as agent or as principal.

Among the regulatory data required is the origin of order information for agency orders and transactions, which assists identification of the person who provided instructions to place an order or enter into a transaction. The end-investor identity information include the client's ACN (Australian Company Number) or ARBN (Australian Registered Business Number) or ARSN (Australian Registered Scheme Number) (or an equivalent form of identification in an overseas jurisdiction), or global LEI (Legal Entity Identifier, see (3) below), together with CHESS HIN.

(2) Mainland China[41]

Data associated with an order input into the exchange's trading system includes the investor's securities account number. Under this "see-through" model, the exchange is able to do front-line monitoring of trading activities, with special focus on frequent or high-volume trades between accounts with the same investor ID, and frequent or high-volume trades between different accounts handled by the same agency trader. Authorities including the People's Court, the People's Procuratorate, the public security departments and the CSRC have the power to obtain data and information relating to securities registration, clearing and settlement from CSDC for investigation purposes.

(3) EU[42]

Upon implementation of the revised Markets in Financial Instruments Directive (MiFID II) which was adopted by the European Commission in October 2011, all market participants are required to adopt new reporting requirements. Among these is the adoption of LEI, for transparency and regulatory purposes. LEI is a 20-digit, alpha-numeric code that enables clear and unique identification of legal entities participating in financial transactions. The code is linked to a set of key reference information relating to the legal entity in question, e.g. name and address. Once assigned, the code will be used for the entire life of the legal entity. The LEI data is registered and regularly verified according to protocols and procedures established by the LEI Regulatory Oversight Committee, a group of public authorities from around the globe to coordinate and oversee the framework of legal entity identification.

Under MiFID II, entities that need to be identified through LEI include investment firms that execute transactions in financial instruments (including shares, bonds, collective investment schemes, derivatives and emission allowances), legal entity clients on whose behalf the investment firm executes transactions, the legal entity making the transaction decision, the firm transmitting the order and the issuer of the financial instrument. In operation, the operators of trading venues will need to record the identity of clients on whose behalf their members or participants submitted the order. They have to provide the order details, to competent authorities (i.e. the responsible market regulators) on request. Order details include the client identity in addition to the identity of the member or participant who submitted the order, the person or computer algorithm within the member or participant that is responsible for the investment decision and that is responsible for the order execution, the member or participant who routed the order on behalf of another. The client identification code may be LEI or a national ID if the client is not a legal entity. At the same time, the investment firms which execute financial transactions are required

[41] Source: *SSE Trading Rules (2018 amended version)*; *Administrative Measures for Securities Registration, Clearing and Settlement*, CSRC, 15 August 2018 amended version.

[42] Source: Website of the European Securities and Markets Authority (ESMA).

to report complete and accurate details of such transactions, similar to the order details as maintained by the operator of the trading venue, to the competent authority as quickly as possible, and no later than the close of the following working day.

(4) Hong Kong

No investor ID is currently associated with order inputs for domestic trades. As introduced in Section 1, the SFC would require brokers to identify clients and trades for regulatory and market surveillance purposes. However, the regulator has to inquire via brokers for investor surveillance. The practice has been improved for Northbound trading under Stock Connect with the introduction of the investor ID model (see Section 6 below).

(5) India[43]

In compliance with the IOSCO principle that "regulation should be designed to detect and deter manipulation and other unfair trading practices", SEBI has established a robust system of market surveillance, which is supported by the fact that all customers are required to have a unique ID number for purposes of securities transactions.

(6) Korea[44]

Investor identity and information are maintained by KRX members which open trading accounts for their client investors. When inputting an order, the information required includes the investor category and the category of foreign investors. Investor ID information are not required to be included in order inputs but are registered automatically by the member's system which is in charge of managing investor accounts. Nevertheless, the KRX member should check the real name of the investor when opening an account, and enter an appropriate investor category code. Where the investor is a foreigner, it should enter his/her nationality, whether the investor has an IRC and/or resides in Korea, etc. Investor categories include financial investment business entity, insurance company, different kinds of investment fund, corporation and private investor. After settlement, the domestic securities company and custodian bank acting for the foreign investor have to report the trade records conducted for the foreign investor to the FSS, which regulates foreigners' shareholding limitations using the Foreign Investor Management System. Through the registration, order input and post-settlement reporting processes, foreign investors' participation and trading activities are recorded, including information such as nationality, investor type, buy and sell activities as well as shareholdings.

(7) Singapore[45]

Investors open customer accounts with a SGX Trading Member for trading securities on SGX. Types of account include Individual Customer Account (for customers who are individuals), Corporate Customer Account, Agency Customer Account (for customers who are authorised to trade for the principal) and Joint Customer Account (for holders of a joint securities account opened with CDP). The Trading Member has to maintain details of identity of the customers, such as the full name and copy of identity card/passport or certificate of incorporation, for also the principal of agency customers and each joint customer account holder.

Each Trading Account must be identified and designated by the full name of the customer(s) and by a unique Trading Account code, both of which must be reported to

[43] Source: *India: Financial Sector Assessment Program — Detailed Assessment Report on IOSCO Objectives and Principles of Securities Regulation*, International Monetary Fund (IMF) Country Report No.13/266, August 2013.

[44] Source: "2016 Introduction to trading at KRX stock market — Trading rules and regulations", KRX website, viewed on 16 April 2019.

[45] Source: SGX-ST Rules on SGX website, CDP Depository Rules on CDP website, viewed on 15 March 2019.

SGX before the Trading Account is used to send in any orders. In addition, a Clearing Member of CDP must maintain separate Position Accounts for each of its customers or each group of joint customers. Each Position Account must be identified and designated by the full name of the customer(s), and by a unique account code. Each order entered into the SGX's trading system must specify the Position Account code (for clearing purpose) and the Trading Account code together with the price and quantity of the security to be traded. Each order entered is given a unique order number by the trading system and a Trading Member has to maintain a daily record of orders received from its customers, with account identification of each customer. In respect of securities account at CDP, a Depository Agent must disclose to CDP the information relating to its Sub-Account holders where required under circumstances including (1) for monitoring foreign ownership or other shareholding limits imposed by law or by an issuer; (2) any applicable law, regulation or order of any government, court, tribunal or other competent authority or by contractual obligation; (3) for purposes of investor protection.

(8) Taiwan[46]

The broker has to input its customer's account number when placing order on behalf of the client, or its own proprietary account number for proprietary trading. As the customer account contains details of the identity of the customer, each order can be traced to the end investor. TWSE assumes the responsibility of market surveillance and in case of abnormal market activities, detailed information will be provided to the market regulator, i.e. the Financial Supervisory Commission (FSC), for investigation.

(9) US[47]

A nation-wide plan of a comprehensive Consolidated Audit Trail (CAT) is being implemented, which will track orders throughout their life cycle and identify the broker-dealers handling them and the customers who originate them, thus allowing regulators to more efficiently track activity in securities[48] traded throughout the US markets[49], thereby overseeing the securities markets on a consolidated basis. CAT was proposed by the US market regulator, the Securities and Exchange Commission (SEC), who recognised the shortcomings in the completeness, accuracy, accessibility and timeliness of the existing audit trail systems separately operated by the self-regulatory organisations (SROs), including the Financial Industry Regulatory Authority (FINRA) and the national securities exchanges, after the "flash crash" incident in May 2010[50]. Under the existing systems, key information useful for regulatory oversight are not available; these include the identity of the customers who originate orders, and whether two sets of orders have been originated by the same customer. The trading records from broker-dealers used in regulatory investigations to identify buyers and sellers of specific securities[51] and the clearing report[52] also lack the identity of the customers. Such regulatory data infrastructure is considered "outdated and inadequate to effectively oversee a complex, disperse and highly automated national market system"[53].

46 Source: TWSE website (http://www.twse.com.tw); FSC website (https://www.fsc.gov.tw).

47 Source: The SEC website (www.sec.gov); the Consolidated Audit Trail website (www.catnmsplan.com); the *CAT NMS Plan* on the CAT website, 29 November 2016; "Consolidated audit trail: The CAT's out of the bag", *Regulatory brief – PwC*, PricewaterhouseCoopers, June 2016; "Ten key points from the final Consolidated Audit Trail plan", *First take - PwC*, PricewaterhouseCoopers, 8 December 2016.

48 These refer to securities under the National Market System.

49 The CAT Plan applies to equities and options, as well as over-the-counter equity securities, but does not currently include futures.

50 The flash crash incident was a trillion-dollar intra-day stock market crash, which lasted for approximately 36 minutes during that time the US stock indices collapsed and rebounded very rapidly.

51 This is the "electronic blue sheet" (EBS) system.

52 This is the equity cleared report provided by the NSCC and used by the SEC for initial regulatory inquiries.

53 Quoted in the SEC Release No. 34-67457 on CAT, effective 1 October 2012.

In 2012, the SEC adopted Rule 613 of Regulation National Market System (NMS) to create CAT that would allow regulators to efficiently and accurately track all activities throughout the US markets in NMS securities. As required by the Rule, the SROs submitted the CAT Plan to the SEC and the final plan was approved by the SEC in November 2016. Under the Plan, each national securities exchange and FINRA, as well as their respective members, are required to provide certain detailed information to a newly created central repository regarding each quote and order in an NMS security, and each reportable event with respect to each quote and order, such as origination, modification, cancellation, routing and execution. Each broker-dealer and national securities exchange will be assigned a unique identity code for reporting to CAT. So will be each account holder, as well as any person who has trading discretion over an account holder's account, for every order originated. Each broker-dealer is required to assign a unique firm-designated identifier (ID) to each customer and must also submit customer information to CAT so that the order and trade data can be matched to the specific customer. Customer information includes the firm-designated ID, the name, address, date of birth, social security number (SSN) or Individual Taxpayer Identification Number (ITIN) for individuals; and LEI (if applicable), the tax identifier, full legal name and address for legal entities. The CAT system will assign a unique Customer-ID for each Customer based on the customer information submitted by the broker-dealers, which must be consistent across all broker-dealers that have an account associated with that customer. The Central Repository will support account structures with multiple account owners and associated customer information.

Order and transaction information have to be submitted to CAT by 8:00am Eastern Time on the trading day following the day such information is recorded. Once all order events are transmitted to the central repository, the repository must be able to efficiently and accurately link together all lifecycle events for the same order, and make available to regulators this linked order data. Broker-dealers are required to submit daily updates of customer information to CAT.

The first phase of reporting to CAT — covering reporting by SROs — was originally scheduled to begin on 15 November 2017. Due to delay in system development, the commencement in the first phase was rescheduled to 15 November 2018, according to the SROs' Master Plan submitted to the SEC on 25 May 2018. The second phase — covering large broker-dealers — to commence on 16 December 2019; all phases of small broker-dealers — to commence in December 2021; and all industry members shall go live with customer and account information by July 2022[54].

In summary, the investor identify system adopted by world markets varies. Some markets, such as Australia and Mainland China, require the tagging of some kind of investor identities to orders input into the exchange trading system. Some markets, such as the EU and the US, require or are set to require market participants to report the client identities of their orders/trades on a post-event basis or on request by the regulator. Understandably, the more intricate the tagging and reporting system for investor identity is, the more inconvenient and restrictive it would be for daily investment operations of market participants, e.g. in wealth management business where the manager trades for multiple clients. In adopting a suitable investor identity model, the regulator in a market would need to consider the appropriate balance of market surveillance and operational efficiency and flexibility for benefiting the healthy growth of the industry.

[54] Timeline status as of 1 November 2019 on the CAT website.

6. A BALANCED APPROACH FOR STOCK CONNECT

With a history of over a century, the Hong Kong securities market is one of the most developed securities markets in the world, adopting international standards and practices. On the other hand, in the course of the opening-up of the Mainland market, Hong Kong has become the bridge connecting China with the world. In order to facilitate foreign participation in the Mainland market, the Hong Kong market has to help resolve difficulties arising from the differences between Mainland and international practices, by introducing innovative measures. Among the differences is the model for securities holding and investor surveillance. The use of nominee account for securities holding has been a long-standing practice in Hong Kong and in other international markets, while end-investor accounts are maintained in the securities holding and trading systems in Mainland China under a "see-through" market surveillance model. Therefore, a resolution has to be made in respect of trading under Stock Connect.

To pursue a "see-through" supervisory approach for cross-border trading of securities under Stock Connect, the SFC reached an agreement with the CSRC in November 2017 on proposals to introduce an investor identification (investor ID) regime for NB trading under Stock Connect. At that time, they also agreed to introduce a similar investor ID regime for SB trading as soon as possible after the regime for NB trading is implemented, and aim to have investor identification regime(s) covering all trading on SEHK in the longer term. In October 2019, the two regulators jointly announced that an investor ID regime for SB trading will be implemented soon. Subsequently in December 2019, SSE and SZSE released their respective revised rules on Stock Connect[55], to be effective on 13 January 2020, to include a rule on the provision of investor information in SB trading to the SFC and the SEHK. On 7 January 2020, the SEHK issued a circular on amendments to the Rules of the Exchange approved by the SFC for the purpose of introducing an investor ID regime for Southbound trading under Stock Connect, also effective on 13 January 2020.

Details of the Investor ID Model for NB trading under Stock Connect are provided in the Information Paper[56] published by HKEX in November 2017. The Investor ID Model for NB trading was launched on 26 September 2018. A brief description of this model and its implications on market surveillance are presented below.

6.1 Investor ID Model for Northbound trading[57]

Under the model, NB brokers including China Connect Exchange Participants (CCEPs)[58] and Trade-through Exchange Participants (TTEPs)[59] are required to assign a unique number — "Broker-to-Client Assigned Number" (BCAN) — that follows a standard format prescribed by SEHK to each of their NB trading clients. Each BCAN is unique within each CCEP/TTEP to identify a specific client of a CCEP/TTEP (except in the cases of joint accounts), which should be different from the CCEP/TTEP's existing internal client account numbers assigned to that client. BCAN of a client shall not bear any obvious link to that client's identity and must be kept strictly confidential[60]. Once assigned, it shall not be changed or reused for other clients.

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55 The *SSE Implementation Rules on Shanghai-Hong Kong Stock Connect (13 Jan 2020, 6th Revised Version)* (《上海證券交易所滬港通業務實施辦法（2020 年 1 月 13 日第六次修訂）》) and the SZSE *Implementation Rules on Shenzhen-Hong Kong Stock Connect (December 2019 Revised Version)* (《深圳證券交易所深港通業務實施辦法（2019 年 12 月修訂）》).

56 *Investor ID Model for Northbound Trading under Stock Connect*, HKEX Information Paper on HKEX website, November 2017.

57 For details, please refer to the HKEX Information Paper, November 2017.

58 CCEPs are eligible Exchange Participants (EPs) of the SEHK who may input orders into the SEHK trading system for trading Northbound eligible securities under Stock Connect.

59 TTEPs are EPs who trade Northbound eligible securities under Stock Connect through CCEPs, in their own accounts or on behalf of their clients.

60 The BCAN should not be shown on any general enquiry screens, reports or statements (including statements issued to the relevant client). Its use and accessibility (even within the CCEP/TTEP) should be strictly restricted to a need-to-know basis.

The same investor trading with multiple NB brokers will have different BCANs with their brokers.

CCEPs/TTEPs have to provide the corresponding client information (i.e. Client Identification Data or CID) to SEHK before they send their client orders for NB trading. CID is the identification information of clients collected by CCEPs/TTEPs through pre-existing Know-Your-Client (KYC) procedures during client account opening. For individual clients, CID includes the name in English and Chinese (if applicable and available), ID issuing country, ID type and ID number. For institutional or corporate clients, CID includes entity name, place of incorporation, ID type and ID number. LEI and certificate of incorporation are acceptable ID types. Each CCEP/TTEP is required to submit the mapping of BCANs of all their NB trading clients with CID (the BCAN-CID Mapping File) to SEHK before the launch of the Investor ID Model, and the full version of the updated file upon any changes by the prescribed cut-off time on T-1 day to provide for trading on T day. The CCEP/TTEP has to obtain client consent to submit the BCAN-CID mapping of the client to SEHK. The BCAN-CID Mapping File will be sent to the Mainland exchanges every NB trading day for their market surveillance of NB trading activities. The mapping information has to be validated by the Mainland exchanges via CSDC in advance before a client can commence NB trading.

CCEPs/TTEPs have to tag BCAN to every NB order on a real-time basis. If the direct client for an order is an affiliate of the CCEP/TTEP, BCAN at the next level or further levels down is required until the client is not an affiliate. For orders from fund managers, BCAN shall be that for the legal entity for which it opens NB trading account with the CCEP/TTEP; this may be the fund manager or the individual funds that the fund manager manages. For proprietary or principal trading by a CCEP/TTEP or its affiliate (which will be regarded as the CCEP/TTEP's client), BCAN shall be that of the CCEP/TTEP or its affiliate, whichever applies.

Both SEHK and the Mainland exchanges will conduct pre-trading checking on NB orders. SEHK will check whether an order has BCAN in the correct format while the Mainland exchanges will check the validity of BCANs. Only NB orders with valid BCANs will be accepted. If the CCEP/TTEP fails to obtain the necessary client consent to submit the BCAN-CIP mapping to SEHK, the CCEP/TTEP may nevertheless input NB sell orders for such client. If any abnormal trading activity is identified in the orders of a specific BCAN, the Mainland exchanges may, according to relevant Mainland laws, regulations and the rules of the Mainland exchanges, take the relevant measures including rejecting all orders associated with that BCAN.

6.2 Implications on cross-market surveillance

In the Mainland, each investor, whether domestic or foreign[61], has a unique investor ID account ("Yimatong") at CSDC. The account holds the investor's identity information and is mapped to the associated securities accounts used by the investor to record the holding of securities and its changes in specific market venues or securities products (see Section 3.2 above). The Yimatong account records the consolidated securities position of the investor's sub-accounts. All orders submitted to the Mainland exchanges must bear the end-investors' respective securities account number which will be carried to the end of transaction processing.

In Hong Kong, the nominee account system is used and client identity information is maintained at the broker level without a market-wide unique investor ID system (see Section 3.4 above). For market surveillance and investigation purposes, the regulator will need to inquire the brokers about investor information. In respect of NB trading, such manual process of inquisition of investor information via the brokers is regarded as insufficient to meet the need of the Mainland market for real-time and all-encompassing surveillance. Implementation

61 Foreign investors who are qualified to invest directly in the Mainland A-share market are the QFIIs and Renminbi QFIIs.

of the investor ID regime is considered conducive to enhancing the efficiency of Hong Kong-Mainland cross-border market surveillance under Stock Connect.

Importantly, BCANs and CID are for the regulators' market monitoring and surveillance only. They will neither be used in clearing and settlement nor available for public viewing. BCANs and CID constitute personal data of CCEP/TTEP clients who are individuals. The information is subject to protection under the Personal Data (Privacy) Ordinance in Hong Kong and data protection laws of other applicable jurisdictions (depending on the nationality or place of business or residence of the CCEP/TTEP and/or its clients) when collecting, storing, using, disclosing and transferring personal data under the NB Investor ID Model. The design of the Investor ID Model takes into account the market practices in Hong Kong and has struck a balance in meeting the regulatory requirements, and addressing market participants' concerns over client data privacy. This model is also in line with the global trend for securities market supervision (see section 5 above).

Reciprocally, a similar regime for SB trading under Stock Connect will be implemented soon. The details of which is yet to be announced. Under this regime, identification codes of investors who conduct SB trading will be transferred to SEHK and eventually the SFC from SSE, SZSE and their respective subsidiaries, as well as CSDC pursuant to their rules[62].

7. CONCLUSION

Given the benefits offered by the indirect holding system (i.e. nominee account system) in respect of settlement efficiency and securities safekeeping, the nominee account system is widely adopted in developed stock markets across the world, including Hong Kong. These markets have their market structure and practices, as well as rules and regulations long established and framed to work with the nominee account system. They are using their best endeavours to achieve a balance between market efficiency and investor protection as well as maintaining market integrity.

The advancements in technology associated with securities trading and the growing nexus of the global investing community and their trading activities across markets and product types have posed challenges to regulators on market supervision to identify market abuses and to ensure market integrity. There is a trend among global markets to adopt the "see-through" market supervision model that requires the identification of customers of intermediaries, i.e. the end-investors, for each order and transaction. The "see-through" approach introduced by each market is designed in a way to suit their own market structure and practices and will not demand fundamental changes of these.

As IOSCO concluded[63], if managed properly, the nominee account system remains an extremely efficient and modern system for holding securities; and the beneficial regulatory approach for a specific jurisdiction would depend on its market structure and practices, as well as legal requirements.

The investor ID regime in the Hong Kong market for NB trading under Stock Connect (and that for SB trading alike) is considered a "see-through" approach designed to achieve a balance between the need for cross-border market supervision and the long-established Hong Kong market structure that is different from that in the Mainland.

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62 Source: "Launch of investor identification for southbound trading under Stock Connect", *Joint announcement of the CSRC and the Hong Kong SFC*, 11 October 2019.

63 See IOSCO EMC 2011 Report.

APPENDIX. SUMMARY OF SECURITIES HOLDING SYSTEMS AND INVESTOR IDENTITY OF SELECTED MAJOR EXCHANGE MARKETS (EQUITY SECURITIES)

Feature	Australia (ASX)	Mainland China (SSE/SZSE)	EU (LSE/others)	HK (SEHK)	India (NSE/BSE)
1. Nature of holding system	Direct holding and modified holding	• Principally direct holding • Provided for nominee holdings by foreign investors	Direct holding, indirect holding and mixed holding	Direct and indirect holding	Indirect holding
2. Share register	• CHESS subregister • Issuer-sponsored subregister	CSDC securities account	Issuer's share register	Issuer's share register	Issuer's share register
3. CSD	CHESS	CSDC	CSD in each country	HKSCC	NSDL and CDSL
4. Securities form	Dematerialised	Dematerialised	Mostly dematerialised, to complete by 1 Jan 2025	Physical certificates exist but immobilised for trading	Physical certificates exist but dematerialised for trading
5. Nominee account	Yes	Currently only for foreign investors holding stocks under Stock Connect through the Hong Kong nominee	Yes	Yes	Yes
6. Investor identity in holding system	Multiple unique IDs, one at each CHESS sponsor and issuer	Real name account with unique ID number	No	No	Yes, used in securities trading
7. Investor identity in orders and trades	ACN or ARSN or LEI, and CHESS HIN	Securities account ID number	LEI for legal entities, national ID for non-legal entities	• No investor ID for domestic trades • BCAN for NB trades under Stock Connect	Unique ID number

Feature	Korea (KRX)	Singapore (SGX)	Taiwan (TWSE)	US (NYSE/Nasdaq/others)
1. Nature of holding system	Direct and indirect holding	Direct and indirect holding	Indirect holding	Indirect holding
2. Share register	Issuer's share register	Issuer's share register	TDCC	Issuer's share register
3. CSD	KSD	CDP	TDCC	DTC
4. Securities form	Physical certificates exist but immobilised for trading	Physical certificates exist but immobilised for trading	Immobilised or dematerialised	Immobilised or dematerialised
5. Nominee account	Yes	Yes	Yes	Yes
6. Investor identity in holding system	IRC for foreign investors	No	Foreign investors (including overseas Chinese)	No
7. Investor identity in orders and trades	• Investor category • Investor ID information is recorded in KRX member's system	Unique Trading Account code and Position Account code of each customer at the SGX member	Customer account number	<u>Under CAT:</u> • Unique firm-designated ID at broker-dealer • Unique Customer-ID in CAT

ABBREVIATIONS

BCAN	Broker-to-Client Assigned Number, Hong Kong
BSE	Bombay Stock Exchange, India
CAT	Consolidated Audit Trail, US
CCASS	Central Clearing and Settlement System, Hong Kong
CCEP	China Connect Exchange Participant, Hong Kong
CDP	Central Depository (Pte) Limited, Singapore
CDSL	Central Depository Services (India) Limited
CHESS	Clearing House Electronic Subregister System, Australia
CID	Client Identification Data, Hong Kong
CSD	Central securities depository
CSDC	China Securities Depository and Clearing Corporation Limited
CSRC	China Securities Regulatory Commission
DTC	Depository Trust Company, US
DTCC	Depository Trust & Clearing Corporation, US
FINRA	Financial Industry Regulatory Authority, US
FSC	Financial Services Commission, Korea Financial Supervisory Commission, Taiwan
FSS	Financial Supervisory Service, Korea
HIN	Holder Identification Number, Australia
HKEX	Hong Kong Exchanges and Clearing Limited
HKSCC	Hong Kong Securities Clearing Company Limited
ICSD	International central securities depository
IOSCO	International Organisation of Securities Commissions
IRC	Investor Registration Certificate, Korea
KRX	Korea Exchange
KSD	Korea Securities Depository
LEI	Legal Entity Identifier
MiFID II	Directive on Markets in Financial Instruments II, EU
NB	Northbound (trading under Stock Connect)
NMS	National Market System, US
NSCC	National Securities Clearing Corporation, US
NSDL	Securities Depository Limited, India
NSE	National Stock Exchange of India
SEBI	Securities and Exchange Board of India
SEC	Securities and Exchange Commission, US

ABBREVIATIONS (cont'd)

SEHK	The Stock Exchange of Hong Kong
SFC	Securities and Futures Commission, Hong Kong
SGX	Singapore Exchange
SRN	Securityholder Reference Number, Australia
SRO	Self-regulatory organisation
SSE	Shanghai Stock Exchange
SZSE	Shenzhen Stock Exchange
TDCC	Taiwan Depository and Clearing Corporation
TTEP	Trade-through Exchange Participant, Hong Kong
TWSE	Taiwan Stock Exchange