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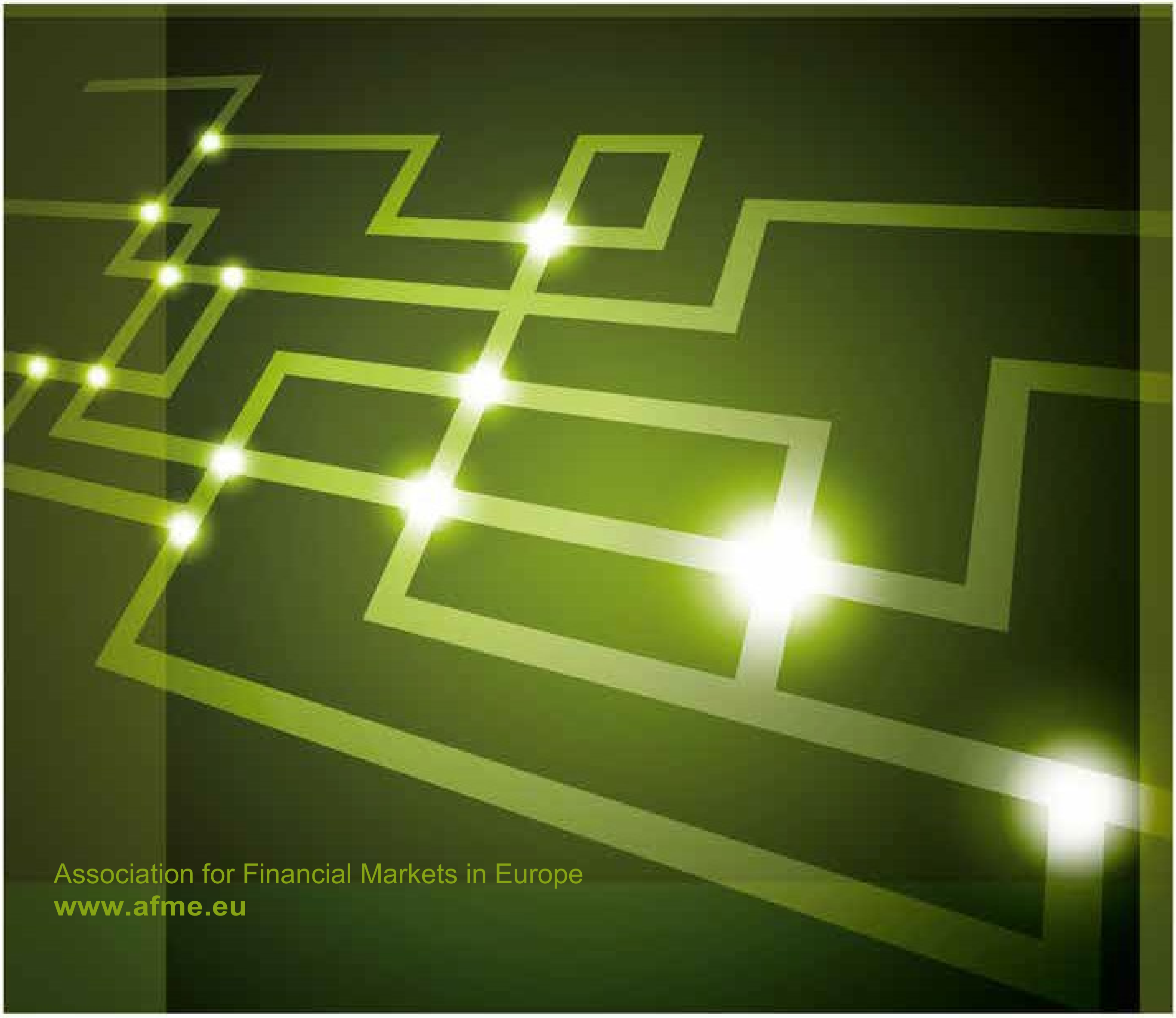
What is Post Trade?



1. Introduction

Post-trade processes comprise the services that are performed subsequent to the execution of a trade, and include:

- clearing
- settlement, including processes preparing for settlement such as affirmation, confirmation, allocation and matching
- custody and asset servicing
- related activities such as collateralisation

Post-trade services are provided by financial market infrastructures such as Central Counterparties (CCPs) Clearing Houses and Central Securities Depositories (CSDs), as well as by intermediating banks (including custodians) and brokers.

Figure 1 shows how:

- post-trade services form an integral part in discharging obligations entered into at trading level
- post-trade service providers process the corporate actions initiated by issuers, for the benefit of investors

Figure 1. **Securities industry value chain**

Role of Post Trade in the financial sector

The creation of an integrated and efficient European capital market is one of the most important and ambitious projects currently underway in the European Union. Europe needs developed, reliable and effective capital markets to provide: (i) diverse mechanisms for the financing of economic activities; and (ii) alternatives for investors' savings allocations.

A crucial element of this framework is the safety and efficiency of the arrangements required to finalise securities transactions ('clearing and settlement'). These arrangements, largely invisible to the retail investor, lie at the core of modern capital markets and are indispensable for their proper functioning.

The trading of securities – buying and selling financial securities such as shares and bonds for cash – is a well-known area, regularly covered in the press. Less known is the area of Post Trade, where, after the trade has been carried out, the buyer ultimately receives securities and the seller receives cash. The exchange of cash and securities is normally carried out using a simultaneous electronic process known as Delivery versus Payment (DvP), which ensures that neither party can end up with both the securities and the cash (with the other party holding nothing).

The term 'Post Trade' also includes the custody of securities in Central Securities Depositories – either as paper certificates or as computer records. Banks may intermediate by holding the securities as custodian in the depositories on behalf of investors; in such cases, banks are often known as intermediaries. The route to settlement is complex, and involves confirmation, matching and clearing of trades before they can be passed for settlement.

2. Post-trade activities

2.1 Relations and interdependencies with trading

As indicated above, there is a clear flow in operations from trading to post-trade activities. After a trade has been carried out, much administrative work follows (largely electronically) to confirm and match the details of both sides of the transaction so that the trade can be passed for clearing and settlement (see Appendix 2 – Trade confirmation).

Creating a single European marketplace for financial services (including the buying and selling of securities) has long been an ambition.

Regulation

Implemented in 2007, the Markets in Financial Instruments Directive (MiFID), sought to establish cross-border securities trading throughout the EEA. Until then, most access to stock exchanges had been restricted by national rules to local stockbrokers (the concentration rule).

MiFID enabled any suitably authorised person or organisation to access trading venues throughout Europe. For example, a Swedish investor could now use a Swedish (or German, French, Estonian or any other nationality) broker to buy shares in Athens or Lisbon without employing a local Greek or Portuguese broker.

The corollary to this opening up was to standardise investor protection. MiFID sets out detailed requirements in terms of investor categorisation to ensure that retail investors receive greater information and protection than professional investors; that investors receive 'best execution' selling at the highest and buying at the lowest available prices; that commissions are disclosed; that records are retained; and that conflicts of interest are avoided. MiFID includes many further provisions to ensure consistent fair play when trading across thousands of kilometres.

Another result of MiFID was the development of many pan-European electronic trading platforms to handle large international securities trades.

Since 2007-2008, there have also been significant changes to trading regulations for derivatives, brought about by the G20 summit in 2009. The G20 summit communiqué stated: "All standardised OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements."

In the EU, MiFID has been revised into a new Directive (MIFID 2) and Regulation (MIFIR) to implement the G20 derivatives trading requirements. Clearing requirements have been dealt with mainly through EMIR and CRD IV.

In the area of unit trusts and mutual funds, the EU has been developing a standardised model of Undertakings for Collective Investments in Transferable Securities (UCITS) since 1985, although the process began in the early 1970s. European post-trade activities in securities and funds have performed well for many decades through a process of continual evolution and regeneration, assisted by practical measures from regulators.

2.2 Clearing

Clearing occurs after a trade is executed (Figure 1). It is the process of ensuring that the terms of a contract, established by a trade and its confirmation, are fulfilled by the settlement process (Appendix 2). Normally, this post-trade process will include netting of amounts receivable and payable amongst the market participants.

A CCP may interpose itself between the two trading parties, becoming the buyer to every seller and the seller to every buyer – the CCP taking on the liability for settlement. A CCP is a crucial market infrastructure to clear most equities and some fixed income securities. From June 2014, there has been a significant increase in the number and value of derivatives transactions cleared due to a new regulation, EMIR, being enforced.

To join a CCP, eligible members must pay membership fees as well as contribute to default fund, a base layer of capital used by the CCP in extreme circumstances. For every trade a CCP executes and clears, it requires additional funds known as margin. This is usually requested at the end of every day, although in volatile stock markets when prices are moving quickly, the CCP will not wait and will request the funds immediately.

Margin is sometimes referred to as collateral, but the principle is the same: the CCP has the funds to use in the event of a member being unable meet its various obligations to the CCPs. When this happens, the clearing member will be deemed in default, at which point the CCP will try to close out all of the member's open positions by buying securities in the market with the margin it has collected.

Risk mitigation is the primary role of a CCP. However, in some markets like cash equities (equity shares being sold or bought in exchange for money), they also serve additional functions. When trading occurs on a stock exchange, it is often anonymous – the buyer cannot see the seller and vice versa. However, both trades are sent to the CCP, and the exchange adds the details of the trading parties. At this point, the CCP becomes the legal counterparty to both transactions. Neither needs to know who they bought or sold with as their counterparty is now the CCP, thus avoiding the need to worry about one's trading parties' financial affairs.

The legal obligation of the CCP is to deliver securities to the buyer. If they are not received from the seller after a number of days, the CCP will cancel the seller's trade and buy in the shares for onward delivery to the buyer. Any costs incurred will be passed back to the original seller.

Another useful function that a CCP can provide is 'netting'. If a counterparty buys a large amount of equities on an exchange, it is highly likely that there will be multiple underlying transactions. The CCP will take all of the trades and net them into a single transaction (a buy or sell). If counterparty buys and sells the same securities in a day, these can also be netted, reducing the total number of securities to be received or delivered, thus reducing its exposure.

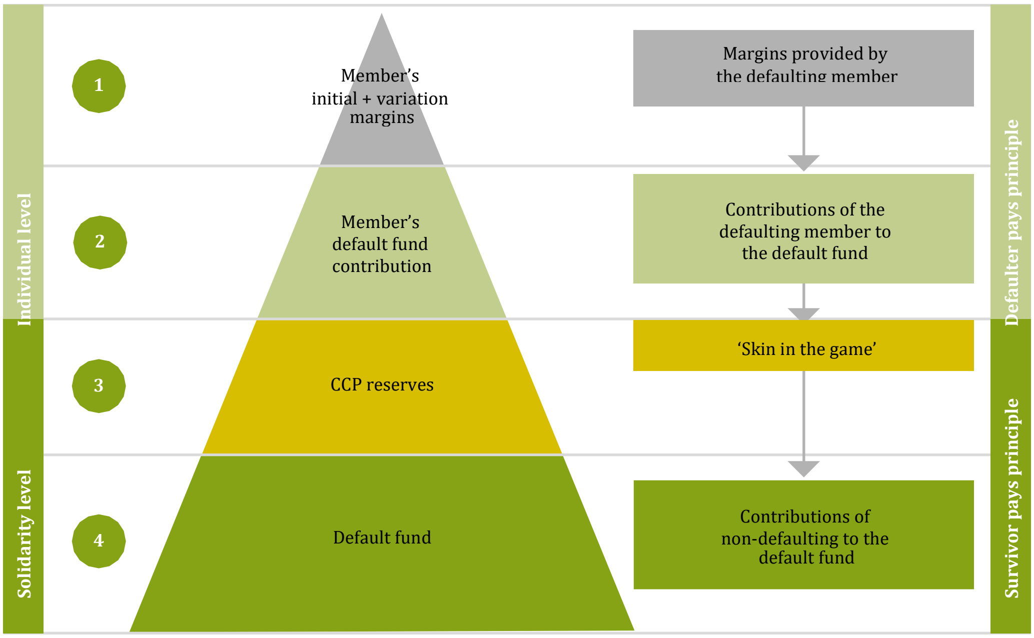
Netting example: A trading party buys 100 shares in stock A and sells 90 of them during the day. The CCP takes these trades and calculates a net transaction, in this case a buy of 10 shares in stock A. This significantly reduces the exposure of settling 100 shares in one direction and 90 shares in the opposite direction and is another example of risk mitigation.

Risks and mitigants in clearing: The collapse of Lehman Brothers provides an excellent example of the risk mitigation provided by a CCP. As soon as it filed for Chapter 11, the CCPs declared Lehman to be in default. They used the margin that they had collected for all of the outstanding trades to ensure deliveries could be made. There were inevitably delayed settlements, but the CCPs only used funds provided by Lehman to resolve all of the outstanding trades.

Severe risks in clearing: The default of a CCP is a rare event and only three have failed in recent times. The first was the Caisse de Liquidation Paris in 1974, which failed due to a default on margin calls when sugar-futures prices fell sharply. Although a default of a CCP seems unlikely, the thought of asking the taxpayer to bail out an organisation that they have never heard of (unlike the banks) is unpalatable for all concerned. In the same way that banks are now subject to a recovery and resolution directive, a similar regime is being actively progressed globally for CCPs.

Some measures have already been taken to bolster the balance sheet of CCPs. Some of their own capital (as a financial deterrent) must be deployed in the CCP's 'default waterfall', after the defaulting member's margin and default fund has been used (Figure 2).

Figure 2. **CCP 'default waterfall'**



If the CCP has used its own capital, it can then start to use other members' capital to settle remaining trades. If it uses that capital, there is no money left. The European Commission is expected to propose legislation in 2015 for the recovery and resolution of CCPs. It is likely to build on similar work by the Financial Stability Board, the global standard setting body, the Committee on Payment and Settlement Systems, and the International Organization of Securities Commissions (CPSS-IOSCO), and an own-initiative report produced by MEP Kay Swinburne.

EMIR

The European Market Infrastructure Regulation (EMIR) is a regulation which covers the central clearing of derivatives, authorisation of CCPs and trade reporting to a Trade Repository. Trade reporting started in February 2014 as a means to track systemic risk amongst firms trading in derivatives. Regulators have access to the data, but the lack of a unique trade identifier has meant it is difficult to match trades sent to different Trade Repositories.

The authorisation of CCPs by the European Securities and Markets Authority (ESMA) is currently underway. ESMA, together with a college of regulators, is examining each application from EU and non-EU CCPs. The importance of qualifying status should not be underestimated as each derivative transaction will attract a significantly higher capital charge if cleared via a non-qualifying CCP. This is unattractive as it ties up capital that could be used for other purposes.

As each CCP is authorised, they can offer the ability to segregate accounts on behalf of their clearing members' clients, known as Non-Clearing Members or NCMs. The potential benefit for an NCM of this segregated structure is the ability to transfer its assets to a new Clearing Member if its current provider defaults.

Finally, as requested by the G20 in Pittsburgh in 2009, many derivatives products have been cleared since summer 2014. It is expected that the majority of OTC derivatives will be cleared via a CCP. This has benefits for the investor, who has the confidence that a CCP will be less likely to default than a bilateral counterparty. However, it places a significant burden on the CCPs as they clear products that have been opaque in the past.

Should a CCP significantly underestimate its exposure to one of these products, it will be important for it to have the strong controls that EMIR requires – together with a sound recovery and resolution regime in case the CCP gets into difficulties.

2.3 Settlement

One of the crucial steps in the post-trade process flow is settlement – whereby, after a trade has been carried out, the buyer receives the purchased securities and the seller receives the corresponding cash in exchange for those securities.

This is the same process that happens in all ordinary commercial activities – eg across the counters of shopkeepers or through the web servers of online shopping malls. However, in the case of securities transactions, settlement normally occurs two or three business days after trade date to allow for a certain number of processing steps to occur, which ensures a much higher degree of control and efficiency, as required for the processing of high volumes and values of securities transactions.

The exchange of cash and securities is normally carried out in electronic form (although physical delivery is also still used in case of securities held in physical form), using a procedure known as Delivery versus Payment (DvP). DvP ensures that neither party can end up with both the securities and the cash, with the other party holding nothing.

Settlement and safekeeping

Investors normally use banks to hold their securities and cash through safekeeping accounts and cash accounts. In this sense, banks are called 'Custodians' of the investors' assets and, in turn, banks hold their clients' assets in centralised custody via the CSDs established in their country.

Settlement of a securities trade requires an arrangement between the seller's and the buyer's Custodians to transfer the required quantity of securities from the seller's safekeeping account to that of the buyer. At the same time, in true DvP mode, the negotiated amount of cash moves in the opposite direction, from the buyer's to the seller's cash account.

If both seller and buyer hold their assets in deposit at the same bank, settlement can be effected directly on the books of that bank (an 'internalised settlement'). However, in the more generic and frequent cases where different Custodians are involved in the settlement, the banks of the two trading counterparties need to coordinate between themselves the two simultaneous and reciprocal transfers of securities and cash, as per the terms that have been agreed in the trade.

Settlement and matching

To facilitate their technical interaction and ensure maximum processing efficiency, Custodian banks are interconnected using Securities Settlement Systems (SSSs), which are typically operated by CSDs. SSSs are a technical system that connects all the safekeeping accounts held by Custodian banks at the CSD, as well as the main cash accounts of those banks in the high-value cash clearing systems (typically operated by the national central banks, such as Target2), and allows for the processing of securities settlements.

Each Custodian sends settlement instructions to the SSS, reflecting the exact terms of the instructions received from their respective clients who are the counterparties in the trade. The seller's Custodian will instruct the delivery of a certain type and quantity of securities to the account of the buyer, while the buyer's Custodian will instruct the payment of a given amount of cash to the account of the seller. For these two opposite instructions to be linked together and executed simultaneously in the SSS, a specific process called matching needs to take place before settlement can be effected.

Matching is also an important tool to ensure the correct pair of settlement instructions is selected out of the numerous instructions that have been sent to the SSS by all its participants – exactly those corresponding to the two trading counterparties in the original trade that needs to be settled.

To avoid any mismatching of settlement instructions, in addition to the information about the securities and cash to be exchanged, various other elements need to be specified in each settlement instruction, such as trade date, intended settlement date and counterparty bank's account details. The matching and settlement process described above is essentially the same process, irrespective of how each trade has been executed between the two underlying investors or intermediaries in the trade.

In the post-trade environment, there is no distinction between transactions related to trades executed in a regulated market or other trading venue and trades executed on a bilateral basis ('over-the-counter' trading). Neither is there a distinction between transactions related to trades settled individually on a gross basis versus those trades that are sent to a CCP for clearing and netting.

There is always a transfer of securities from the safekeeping account of a delivering party to a receiving party and the payment of cash from the receiving party's cash account to that of the delivering party. To ensure the settlement of all these different types of transactions is performed smoothly and correctly, it is crucial that settlement instructions are exact in identifying the terms of the two reciprocal transfers (securities versus cash) to be effected for each trade.

Role of settlement agents

The distinction between the trading counterparties and the settlement counterparties is important. In some cases, the same entity may take both roles – eg trading counterparties that settle transactions for their own account.

At the moment of trading, the two counterparties (for their own account or as brokers or intermediaries for the account of their own clients) are negotiating a sale/purchase contract between themselves, and agreeing on the exact quantity and price of a security at which the seller and the buyer agree to execute the trade. On the other hand, in the context of settlement, the two counterparties are simply acting as executors of the terms that have been agreed at the moment of trading and therefore do not have any discretion or decision-making power.

If for any reason the two settlement instructions cannot be matched, this may be due to differences in important elements, such as the wrong cash amount, the incorrect account details or a slightly different type of security (eg the preferred stock rather than the ordinary stock of the same issuing company). In these cases, the settlement agent cannot merely apply its own discretion and amend the terms of the client's original instruction, but needs to revert back to the client and ask for further details on the exact terms of the trade that needs to be settled.

Availability of resources for settlements

A Custodian can only act on the basis of the instructions received by its client, and will therefore execute a securities settlement only if that client has made available the resources needed to effect the settlement as instructed. The seller needs to provide its Custodian with a sufficient quantity of stock to be delivered, while the buyer needs to provide a sufficient amount of cash to be paid in exchange for those securities.

Typically, a Custodian bank receives cash 'as banker' and commingles the client's cash with its own assets against an obligation to return the same amount. On the other hand, securities are received in custody and are kept in safekeeping accounts distinct from the bank's own securities. Therefore, it is much easier for a Custodian bank to provide credit to a client in case of transitory shortages of cash, using adequate credit risk management tools, which is the traditional cash lending service of a bank, than to provide temporary coverage for shortages of securities.

In some cases, shortages of securities can be addressed using securities lending, repurchase agreements or other similar tools (where the Custodian bank itself may be the provider of the lending services, on a principal or an agency basis), but in general terms these are to be considered additional and separate services from the basic settlement service.

It is also important to note that cash is much easier to borrow, compared to securities, which may at times become 'illiquid' – meaning not available for purchase or for borrowing, due to additional considerations attached to the holding/ownership of that security, eg in relation to a specific event such as a shareholding right to be exercised or a particular corporate event to be subscribed to by the holder of that security.

Securities Settlement Systems as public infrastructures

In general terms, each national CSD operates its own securities settlement system, which needs to be approved and certified by the relevant public authorities in order to ensure that proper operating rules and supervision are in place.

In this sense, CSDs and SSSs provide a public utility service, much like other public infrastructures such as motorway and transport networks, electricity and water supply grids, and telecommunication systems. An important development of this concept is represented in Europe by the ECB initiative for the establishment of a common settlement platform, Target2-Securities, which will be shared across multiple CSDs and allow further integration and efficiency amongst the participating CSDs (for more details, see the T2S section below and Appendix 1).

2.4 Custody and asset servicing

Description

As described earlier, the term 'custody' in a financial markets sense refers to the function of looking after, or safekeeping, assets on behalf of investors. This function is carried out by Custodian Banks (Custodians). Investors use Custodians to hold their securities and cash through safekeeping accounts and cash accounts. Custodians in turn hold their clients' assets in centralised custody via the Central Securities Depositories (CSDs) established in in each local market or through local agents that are themselves clients of the local CSD.

Custodians also service the assets that they hold in safekeeping accounts. This function is referred to as asset servicing and includes the processing of corporate action events such as the distribution of income to investors that has been paid on investments in the form of dividends.

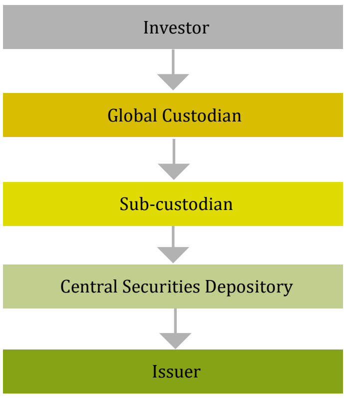
Custody holding chain

Global custodians and prime brokers are responsible for the safekeeping of assets and cash in multiple jurisdictions on behalf of investors – typically institutional investors, investment funds, pension funds, hedge funds and broker/dealers.

Custody eligible securities (equities, bonds, gilts, warrants, etc.) will be held in the investor's local markets of investment, either with the global Custodian's own branch, or with a local custody provider (a sub-custodian), on behalf of the global Custodian that has been appointed to safekeep it in the local market.

As mentioned elsewhere, global and sub-custodians must never commingle their proprietary assets with investors' assets. The global Custodian will also maintain multiple currency cash accounts in order to effect settlement of investors' securities transactions (Figure 3).

Figure 3. **Investors and Global Custodians**



Method of holding investor assets and custody account structures

There are various ways in which investor holdings can be held in custody. The following outlines the main differences in account structures, together with an explanation of the nominee concept. Investor holdings are generally held in dematerialised form (so called book entry). This means that a share is held electronically with no physical certificate issued. However, some physical holdings still exist today. The remaining physical certificates are generally held in safekeeping within the vaults of Custodian banks, although some retail investors may hold their own certificates. As a result of the EU Central Securities Depository Regulation, these remaining physical certificates are to be converted to dematerialised holdings in the next few years.

Omnibus and segregated accounts

Across different European countries, there are many different sets of legal, regulatory and operational requirements and needs that determine how CSD participants (Custodians) can hold securities at a CSD (i.e. that determine the securities accounts structure used by CSD participants).

There are two account types of account structures used: omnibus and segregated. An omnibus (or multiple beneficiary) account is a securities account in which securities that belong to multiple end investors are held. Generally, a segregated account is a securities account in which securities that belong to a single end investor is held. In some cases, a segregated securities account may be a single beneficiary securities account. In other cases, a segregated securities account may hold securities on behalf of a specific category or sub-category of intermediaries or end investors.

There are two fundamental principles driving the use of omnibus accounts rather than the use of more segregated account structures. The first is the principle of simplicity, rather than complexity; the second is the principle of data uniqueness –

that data should be stored and maintained in one place only, and not stored in multiple locations.

Compared to the operation of multiple segregated accounts, the operation of one omnibus account is less complex and therefore more cost-effective. The operation of a single omnibus account involves the maintenance of one account, with one account name, one set of static data, one set of securities balances, and one set of securities movements. The operation of multiple segregated accounts involves at a minimum the maintenance of multiple accounts with multiple names, multiple sets of static data, multiple sets of securities balances, and multiple sets of securities movements.

It is essential to emphasise that the last intermediary, i.e. the bank with whom the investor hold the securities account, always holds segregated accounts for all its clients and is responsible for the client identification (KYC) and all due diligence duties over clients and transactions.

Nominee concept

A nominee can be described as person or entity named by another to act on its behalf. Under some circumstances, a legal system may view an intermediary (i.e. a nominee), and not the end investor, as being the legal owner of a specified security. A market's recognition of this concept means that the holding of securities by an account provider acting in its own name for the account of another person or other persons is accepted in the market. Custody account structures are further explained in the 2012 AFME paper, CSD Account Structure: Issues and Proposals.[6]

Asset servicing

Along with ensuring investors' assets are safeguarded and held in a secure environment, Custodians provide an asset servicing function that includes: income collection, corporate action processing, tax reclamation, foreign exchange execution and proxy voting services. These services are outlined below.

Collection of income: The custodian is responsible for receiving and reconciling dividends and interest payable on all assets held in custody.

Taxation services: Income arising from a securities portfolio is generally subject to deduction of withholding taxes in the security issuers' home market. Depending on the investor's tax status, the type of security and other factors, relief from some of the withholding taxes may be due. The Custodian will apply the appropriate tax rate and where required submit tax reclaims to the security issuers' local market tax authority for payment.

Corporate action processing: Custodians are responsible for the administration of voluntary and mandatory corporate events on assets they hold in custody (bonus issues, rights issues, takeovers, mergers etc.).

General meetings/proxy voting: As an owner of shares in a company, an investor has the right to vote at annual general meetings and influence decisions that affect the board and strategic direction of the company. The Custodian will facilitate this voting process for the investor.

Value-added services

Custodians may offer services in addition to the core services listed above. These value-added services include: investment reporting, fund accounting, performance measurement, transfer agency, collateral management, commission recapture, fiduciary and trustee services, and transition management. The Custodian will also execute foreign exchange transactions, if required, to facilitate settlement of securities transactions in a required local market currency.

For a more comprehensive analysis, you can also read the AFME publication "Post Trade explained" (February 2015), of which this document is a summary.

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