

I. Basic information

This section addresses a number of fundamental features of the Securities Settlement System (SSS) and provides the market context for its operation. The questions establish the basic functions of the SSS, including the securities for which it provides settlement services, as well as whether the SSS offers other services. Questions on the organisational and ownership structure of the SSS elicit information on its legal basis and corporate governance.

A wide variety of organisational structures and business functions are possible for SSSs. For example, systems may be owned by central banks, by their participants or by an independent private sector entity that may or may not be operated for profit. As a first step in clarifying the respective responsibilities of all relevant parties, it is helpful to distinguish the type of ownership, the organisational and decision-making structure and the financial resources of the SSS, as well as the supervisory oversight to which the system is subject.

A. What is the name of the SSS?

Clearstream Banking Aktiengesellschaft.

Clearstream Banking AG is a public limited company (Aktiengesellschaft) incorporated in Germany.

B. Where and in which time zone is the SSS located?

The headquarters of Clearstream Banking AG are in Mergenthalerallee 61, 65760 Eschborn..

Germany is located in the Central European time zone (CET = GMT+1).

C. What functions does the SSS perform?

Clearstream Banking AG provides the services of a Central Securities Depository (CSD), that is safekeeping, custody and settlement, for German and foreign securities that it holds in collective safe custody (Girosammelverwahrung) in its own vaults or via links to other CSDs in accordance with the provisions of the German Securities Deposit Act (Depotgesetz, DepotG). Upon the merger of Deutscher Auslandskassenverein AG (AKV) with Deutscher Kassenverein AG (DKV) in 1996, it also started providing custodial services for foreign securities held in non-collective safe custody (NCSC, German: Gutschrift in Wertpapierrechnung) via depositories outside Germany.

A variety of functions are performed for financial institutions across selected markets and financial instruments. Clearstream Banking AG clears and settles securities transactions free of payment (FoP) or against payment (delivery versus payment (DvP)), ensuring that cash and securities are promptly, effectively and concurrently delivered between the parties involved. As a custodian bank, Clearstream Banking AG offers and performs administration services regarding rights (for example in relation to distribution of dividends and interest payments, share splits, spin-offs) deriving from the securities that it holds in custody for its customers. In addition, Clearstream Banking AG also performs cash management (for the non-collective safe custody activity, see detailed explanations later on), as well as securities lending and borrowing services.

Functions include:

- Securities settlement of over-the-counter (OTC) transactions and stock exchange trades as well as for Eurex Exchanges exercises/assignments, including settlement of Central Counterparty (CCP) transactions;
- Securities settlement of registered shares, including coordination with registrars;
- Comprehensive custody services, including proxy voting as well as tax services (withholding tax exemption, relief at source, tax reclaim processing);
- Operation of (own) vaults to enable the safekeeping of securities in collective safe custody;
- Withdrawal and deposit of physical securities;
- Collateral management for Deutsche Bundesbank (Bundesbank), Eurex Clearing AG, European Energy Exchange (EEX) and Clearstream Banking AG customers;
- Cash investment, same-day value withdrawals and deposits, automatic currency conversion of income and residual balances, automatic withdrawal of custody proceeds and foreign exchange services;
- Cash financing, securities lending and borrowing and repurchase (repo) services.
- Related information distribution including customer reporting.
- Comprehensive New Issues services.

Pursuant to Section 9a of the German Securities Deposit Act, securities held in the form of a physical global note are held with the German CSD - currently Clearstream Banking AG - in its own vaults to ensure a high level of protection of these securities against theft, loss and misuse by immobilisation.

At the end of December 2012, Clearstream Banking AG had settled over 74.8 million transactions. It has 336 customers located in 21 countries, of which 192 are domestic and 144 are global, as well as 13 CSD/ICSD customers.

C.1. Does the SSS serve as a securities depository and/or provide securities settlement services?

Yes, Clearstream Banking AG acts as a Central Securities Depository (CSD; German: Wertpapiersammelbank) offering related issuance and asset management services and also provides securities settlement services by way of transferring book-entry credits.

C.1.(a) What types of instrument are eligible for deposit at the SSS (for example, debt, equities, warrants etc.)?

Within the legal scope of Section 1 of the German Securities Deposit Act defining securities for custody purposes, Clearstream Banking AG is continuously checking and broadening the range of securities eligible for collective safe custody. At the end of December 2012, Clearstream Banking AG held approximately 976,941 securities in collective safe custody.

Instruments eligible for deposit include:

- Debt instruments, such as Government bonds (Bunds), mortgage bonds, money market instruments (CP), municipality bonds, corporate bonds, international bonds and convertible bonds;
- Equities, such as bearer shares and registered shares;
- Warrants and certificates;
- Other securities, such as investment fund units and international securities held in collective safe custody, for example German Global Bearer Certificates representing international securities.

C.1.(b) What types of instrument are eligible for transfer within the SSS?

All instruments referred to in [C.1.\(a\)](#) above are also eligible for transfer in book-entry form within the SSS.

C.1.(c) Please describe whether eligible securities are dematerialised, immobilised or transferred physically.

Securities can be held in custody with Clearstream Banking AG (CBF) under the following main structures:

- Collective Safe Custody (CSC; German: Girosammelverwahrung, GS): CSC is governed by the German Securities Deposit Act (Depotgesetz, DepotG). Clearstream Banking AG is currently the only national CSD for the German market providing CSC holding structures..

Securities to which numerous rights are attached, whereby the rights may be collectively vested in global certificates (Section 9a DepotG), shall be deposited with a CSD for safekeeping purposes unless the depositor requests the separate safe-custody of the global certificate in accordance with Section 2 paragraph 1. Also certificates with a specific serial number (fungible physical certificates) which comprise the same investor rights may be deposited with a CSD. According to Section 5 paragraph 1 DepotG the custodian may entrust fungible securities which are admitted to a CSD for the purpose of collective safe custody to such a CSD unless the depositor has requested safekeeping in the form of individual safe custody (also referred to as jacket custody) in accordance with Section 2 paragraph 1 DepotG.

Collective safe custody refers to the custodial arrangement whereby securities are issued under German law and are safekept in the vaults of any German central securities depository (currently only Clearstream Banking AG). Holders of securities held in CSC would have a proprietary right to those securities (a 'right in rem') being a pro rata co-ownership right in a fungible pool of securities represented by a global note or a similar number of physical securities held by Clearstream Banking AG in its vaults or through a cross border CSD-Link with a foreign CSD based on an account relationship qualified under Section 5 paragraph 4

DepotG.

Clearstream Banking AG books a CSC credit (GS-Gutschrift) to the security accounts of its customers. Clearstream Banking AG operates the securities holding and settlement system CASCADE (Central Application for Settlement, Clearing and Depository Expansion) for transactions in CSC securities through electronic book-entry transfers made in accounts of the customers of Clearstream Banking AG, thereby eliminating the need for physical movement of certificates. Clearstream Banking AG has outsourced its CASCADE clearance and settlement system (information technology processing and data centre services, including back up and contingency in respect of domestic and international CSC business) to Deutsche Börse AG.

- Vaults Services for third parties (Lagerstellenverwahrung): e.g. insourcing of depository function from custodian banks, special depositories by Clearstream Banking AG.
- Individual Safe Custody (Streifbandverwahrung): Jacket custody of non-fungible securities certificates, where each customer is entitled to receive back the individual securities certificates with a particular serial number.
- Special Depot Custody (Vorratslagerverwahrung): e.g. segregated custody of non-issued stock of mutual fund shares.
- Bond issues of the German Federal State (Bundesanleihen) and of the German States (Länderanleihen), jointly referred to as "German Treasury Bonds" are eligible for CSC although fully dematerialised and held by entry in the respective debt registers of the Federal Republic or State. Upon the registration of Clearstream Banking AG as holder of a collective registered claim (Sammelschuldbuchforderung), German Treasury bonds are deemed by law to be a collective holding of single bonds eligible for settlement under the rules of the German Securities Deposit Act (DepotG).
- Non-Collective Safe Custody (NCSC; German: Wertpapierrechnung, WR): The depository bank where the account is kept becomes the legal owner (acting as trustee) of the rights given to it under the legal system or by the market practice of the country of custody. The investor, as the account holder and beneficial owner, merely has a bilateral claim to the surrender of this legal title vis-à-vis his depository, under the law of obligations, and the rights of a beneficial owner to issue instructions to the trustee. Clearstream Banking AG acts as the depository (intermediary) and keeps the positions in the form of book-entry credits on a fiduciary basis through its sister company, Clearstream Banking S.A., Luxembourg, which uses sub-custodians in various countries for purposes of custody.

C.1.(d) Does the SSS provide safekeeping for physical certificates?

Yes, Clearstream Banking AG provides safekeeping for physical (global and also individual) securities certificates in its vaults and provides the related safekeeping services. See [C.1.\(c\)](#) above.

C.2. Does the SSS provide cash accounts and/or provide funds transfers in conjunction with securities transfers? If so, in what currencies?

The following distinction must be maintained:

- With regard to the settlement of transactions in securities held in CSC, Clearstream Banking AG only calculates the respective cash countervalues for the transactions and provides these details on a net basis to the Deutsche Bundesbank for initiating the funds transfers on the central bank accounts of the customers or settlement banks on behalf of its customers. For this reason, Clearstream Banking AG maintains, for each customer, only an internal "cash mirror account" (Verrechnungskonto) for accounting purposes with regards to settlement. Custody payments are booked on customer accounts intraday which are settled via Deutsche Bundesbank twice a day. For various purposes cash accounts are also used to deposit any EUR cash collateral in conjunction with Clearstream Banking AG services offered. Besides euro-denominated transactions Clearstream Banking AG also settles, under certain conditions and by using a cash agent, delivery versus payment transactions in CSC securities against USD and the following currencies: AUD, CAD, CNY, CHF, CZK, DKK, GBP, HKD, HUF, JPY, MXN, NOK, NZD, PLN, RUB, SEK, SGD, TRY and ZAR.

- With regard to the settlement of delivery versus payment transactions in securities in NCSC, Clearstream Banking AG maintains a cash account (called a “6-series” account) per eligible currency for each customer to enable settlement in commercial bank money (in cooperation with cash agents) in 44 major currencies worldwide.

C.3. Does the SSS provide a trade matching service? Do others provide such services for securities settled at the SSS?

Yes, Clearstream Banking AG provides trade matching for OTC transactions free and against payment. For stock exchange trades, matching takes place within the respective stock exchange system (for example, Xetra).

C.4. Does the SSS provide a trade netting service (as distinct from undertaking the settlement of securities transfers on a net basis)? Do others provide such services for securities settled at the SSS? In either case, what types of netting (bilateral or multilateral), if any, are performed?

No, Clearstream Banking AG does not provide any trade or contractual netting. With regard to certain products executed at the Frankfurt Stock Exchange (Frankfurter Wertpapierbörse, FWB), Eurex Clearing AG acting as a Central Counterparty (CCP) performs a contractual netting of stock exchange transactions on a bilateral basis for CSC securities and settles the netted position in Clearstream Banking AG. Remaining trades that cannot be contractually netted by Eurex Clearing AG will be settled directly within Clearstream Banking AG. The CCP offers the netting opportunity on a member-choice level and not on a mandatory basis.

The validity of netting arrangements is generally recognised in Section 94 of the German Insolvency Code, according to which the opening of insolvency proceedings has no negative effects on the solvent party’s right to set off, which may exist both under statute and under an (anticipated) set-off agreement. Netting arrangements within systems are, in addition, especially protected under Section 96, paragraph 2, of the German Insolvency Code, which stipulates that the occurrence of the set-off situation during the suspect period or even post-insolvency is not harmful to a netting arrangement within a system, provided that the settlement of the system took place on the day of the opening of insolvency proceedings against the insolvent customer. In addition, orders included into netting are protected under Section 116, paragraph 3, of the Insolvency Code and other mechanisms.

C.5. Does the SSS offer a securities lending or borrowing programme?

Yes, Clearstream Banking AG provides a securities lending and borrowing programmes:

- An automated fails lending service (Automated Securities Lending Programme, ASL);
The service is available for OTC and stock exchange transactions that are to be settled against payment.
- A strategic lending service (Strategic Securities Lending Programme, SSL);
Strategic loans are initiated on a case by case basis upon request to Clearstream Banking AG from the borrower. The service is available to all customers.
- An exceptional service for German investment funds based on the special legal status of Clearstream Banking AG, as CSD and “organised system” pursuant to the German Investment Act, officially certified by the German regulatory authorities (KAGplus).

In all the above mentioned cases, Clearstream Banking AG always acts as an agent to the lender as well as to the borrower. In no case does Clearstream Banking AG become a counterparty to a loan or to a collateral transaction.

C.6. Does the SSS provide custodial and/or related services such as the collection of interest, dividends, principal or withholding tax reclaims? Which types of service are provided?

In addition to the safekeeping of securities, Clearstream Banking AG offers a wide range of custodial services, such as:

- Collection and processing of interest and dividend payments and of payments of principal, with pre-advise of such payments;
- Partial redemption;
- Withholding tax services, including tax relief at source, withholding tax reclaims and reporting;
- Processing of corporate actions and administration of securities events: subscription offers, choice dividends, exchanges, bonus issues, put options, anticipated redemption options, conversion options, detachment and re-attachment of warrants, exercise of warrants;
- Proxy voting service.

C.7. Does the SSS act as a central counterparty or principal to transactions with its participants?

Clearstream Banking AG does not act as a central counterparty to any transactions with its customers.

Clearstream Banking AG does not act as a principal with regard to securities transactions with its customers. Under the securities lending scheme offered by Clearstream Banking AG, it may act as an agent for the lender by receiving collateral from the borrower to secure the outstanding obligation.

Within the agency securities lending facilities, every borrower is committed to cover his loan obligations by providing collateral in the form of cash or securities corresponding to the cash equivalent of the lent securities, calculated on the basis of the current market price, including, as applicable, the accrued interest due (market value). Clearstream Banking AG acquires such collateral in a fiduciary capacity for the lender. Where required for legal reasons (for example, where the collateral right and the secured claim need to be held by the same entity) Clearstream Banking AG and the lender agree to transmit to Clearstream Banking AG the corresponding securities lending claim.

Collateral in securities must be provided within the Clearstream Banking AG system by way of pledge or title transfer for collateral purposes. Collateral in the form of securities will be credited to the borrower's account for pledged securities and/or securities transferred as title transfer collateral (fiduciary ownership) managed by Clearstream Banking AG for the respective borrower and earmarked in respect of the respective lender/collateral taker.

(In addition, and without being relevant in the context of the agency lending services, Clearstream Banking AG may (in relation to own claims it may have) also itself acquire a banking lien over securities earmarked by the respective credit institution vis-à-vis Clearstream Banking AG as own portfolio securities and accordingly allocated as such to Clearstream Banking AG in the collateral management system. Otherwise (that is, without such earmarking by the account holder), no lien or security right may be acquired by Clearstream Banking AG.)

Clearstream Banking AG determines the range of securities eligible as collateral and their respective value.

Cash collateral must be credited to the RTGS / T2 account of Clearstream Banking AG. Clearstream Banking AG is entitled to request the borrower to submit a direct debit authorisation for the borrower's RTGS / T2 account. Clearstream Banking AG is under no obligation to pay interest on security supplied in the form of cash.

C.8. Other? Please specify.

In addition to the services referred to in C.5. and C.6. above, Clearstream Banking AG acts as the following:

- Trustee and issuer of German depository receipts for foreign shares listed on a German stock exchange and held by Clearstream Banking AG with foreign depositories abroad;
- Nominee for registered foreign shares held by Clearstream Banking AG and listed on the German stock exchanges.

D. What type of organisation is the SSS?

Clearstream Banking AG is incorporated under the laws of Germany as a public limited company (Aktiengesellschaft) and has a banking licence to perform the following activities:

- a) Deposit taking business (paragraph 1 (1) No. 1 of the German Banking Act (Kreditwesengesetz - KWG));
- b) Money lending business (paragraph 1 (1) No. 2 KWG);
- c) Custody business (paragraph 1 (1) No. 5 KWG)
- d) Dealing on own account (paragraph 32 (1a) KWG)

Furthermore, Clearstream Banking AG has received, from the Eurosystem, the status of Monetary Financial Institution, being an eligible counterparty for monetary policy operations.

In addition Clearstream Banking AG is licensed as a Central Security Depository according to Section 1 (3) DepotG and as operator of an SSS.

D.1. Please indicate whether the SSS is a public sector or private sector entity.

Clearstream Banking AG is a private sector company.

D.2. Please indicate whether the SSS is organised on a for-profit or a non-profit basis.

Clearstream Banking AG is organised on a for-profit basis.

D.3. What is the legal basis for the establishment of the SSS and for securities transfers made through it?

The main legal basis for the establishment of Clearstream Banking AG is as follows:

- The German Banking Act (Kreditwesengesetz), Section 1, paragraph 1;
- The Securities Deposit Act (Depotgesetz, on the safe custody and acquisition of securities):
 - Section 1, paragraph 3, recognition as a central securities depository (CSD);
 - Section 3, paragraph 1, custody of securities by third parties;
 - Section 5, paragraphs 1 and 4, CSC activity;
 - Sections 6-9, rights of depositor, co-ownership in CSC;
 - Section 9a, global securities certificates;
- Federal Securities Administration Act, Section 8 (entry of CSD into debt ledger equaling the existence of a pool of certificates in the CSD's vaults);
- Stock Corporation Act/Civil/Commercial Code general rules (including on company law aspects as well as on vindication, transfer of (co-)ownership, regular custody contract, good faith acquisition, mandate and agency etc.).

All laws and regulations governing settlement of securities are publicly available. They can be found mostly in the German Securities Deposit Act, the German Civil Code and the German Insolvency Code.

Beside the legal obligations, the rights and obligations of Clearstream Banking AG's relationship with its customers are determined by the General Terms and Conditions (GTCs). These can be downloaded in German (binding version) or English (convenience translation) from the following web site: www.clearstream.com.

Clearstream Banking AG acts as CSD for the clearing and settlement of trades in German Treasury Bonds (Bundesswertpapiere), which are entirely dematerialised instruments under the provisions of Section 8 of the Federal Securities Administration Act (Bundesswertpapierverwaltungsgesetz).

Clearstream Banking AG is entered into the debt register as fiduciary for such securities (Wertrechte) conveying title to its customers or foreign central depositories trading in these securities. Investors will benefit from identical legal protection under the Securities Deposit Act. In this capacity, Clearstream Banking AG plays a pivotal role in the settlement of German Treasury Bonds.

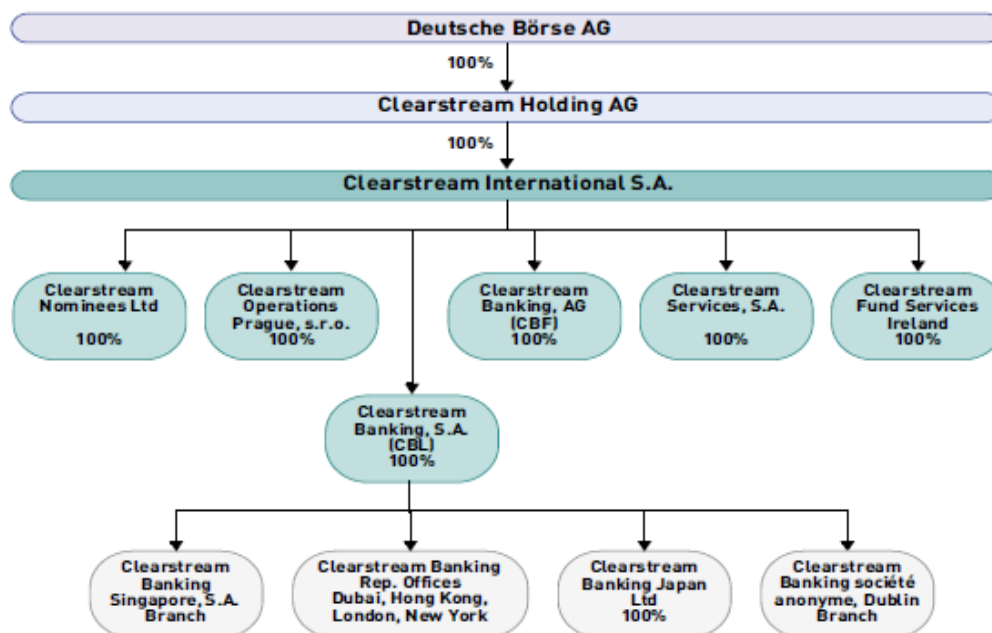
Moreover and within the above-described securities lending agency facilities provided by Clearstream Banking AG, it also operates a securities lending scheme for German Treasury Bonds whereby the lending of such securities between the Deutsche Bundesbank and customers of Clearstream Banking AG is settled through its CASCADE system. Under this securities lending scheme, Clearstream Banking AG acts as, among other things, an agent for the Deutsche Bundesbank with regard to the execution of the securities lending agreement and collects the fees accruing or paid on such securities. It must be remembered that Clearstream Banking AG is licensed as a credit institution according to the provisions of the German Banking Act (Kreditwesengesetz). Therefore, Clearstream Banking AG is subject to banking supervision, which is carried out by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)) in close cooperation with Deutsche Bundesbank.

E. Please describe and provide a diagram outlining the organisational and ownership structure of the SSS.

Clearstream Banking AG (CBF) is a limited company (Aktiengesellschaft) under German law (registered in the commercial register under number HRB 7500) and a licensed deposit-taking credit institution under the German Banking Act (Kreditwesengesetz). Furthermore Clearstream Banking AG is recognised as the German Central Securities Depository (CSD) in the meaning of the German Securities Deposit Act (Depotgesetz).

Clearstream Holding AG acts as the superordinated financial holding company as defined in the German Banking Act (Kreditwesengesetz - KWG) and forms, together with all other Clearstream companies, a financial holding group under German law.

Clearstream Holding AG and its subsidiaries are fully owned by Deutsche Börse AG (DBAG) and are highly integrated into Deutsche Börse Group. The ownership and structure of the group is shown in the figure below.



Note: This structure is a simplified statement

E.1. Who are the owners of the SSS?

Clearstream Banking AG's voting capital is effectively wholly owned by Clearstream International S.A., sole shareholder of Clearstream Banking AG. Clearstream International S.A. is, in turn, and via Clearstream Holding AG a wholly owned subsidiary of Deutsche Börse AG.

E.2. What entity or entities operate the SSS? Which functions of the SSS, if any, are outsourced to third parties?

The operator of the SSS is Clearstream Banking AG. However, some functions related to SSS operations are outsourced to other companies of Clearstream Group or Group Deutsche Börse. For example, the provision, programming and operation of systems are partly outsourced to Deutsche Börse AG. Furthermore, administrative services and technical support with regard to securities held in NCSC are outsourced to Clearstream Services S.A., Luxembourg, Clearstream Banking S.A., Luxembourg, and Clearstream Operations Prague s.r.o, Prague.

E.3. Does the SSS have a Board of Directors?

Yes. The German Stock Corporation Act (Aktiengesetz) provides for a clear separation of management and supervisory functions. As a public limited company (Aktiengesellschaft) incorporated under the laws of Germany, Clearstream Banking AG is required to have an Executive Board (Vorstand) in charge of the company's day-to-day management, and a Supervisory Board (Aufsichtsrat) that has comprehensive monitoring functions that include participation in decisions of fundamental importance to the company.

E.3.(a) What is its composition?

Clearstream Banking AG Executive Board is composed of the following four members:

Stefan Lepp, CEO
Mathias Papenfuss,
Martina Gruber
Berthold Kracke

Clearstream Banking AG Supervisory Board is composed of the following six members:

Jeffrey Tessler, Clearstream International S.A. (Chairman)
Yves Baguet
Frank Gerstenschläger
Marcus Thompson
Norfried Stumpf
Peter Eck

E.3.(b) What are its responsibilities?

The Executive Board (Vorstand) is responsible for the management of the company and represents the company both in and outside court proceedings, Sections 76, 78 German Stock Corporation Act (Aktiengesetz).

Under statutory law, the articles of association (Satzung) and the rules of procedure for the Executive Board (Geschäftsordnung für den Vorstand), certain transactions need the approval of the Shareholders' Meeting (Hauptversammlung) and/or of the Supervisory Board (Aufsichtsrat).

The Supervisory Board has the power to perform all acts that are necessary or useful for the achievement of the corporate purpose of Clearstream Banking AG except those expressly reserved by law or Clearstream Banking AG's articles of association to the General Meeting of Shareholders. The Supervisory Board is by law not allowed to handle the day-to-day business.

F. Please describe the financial resources of the SSS.

Clearstream Banking AG's financial resources are equity capital, retained earnings and insurance coverage.

F.1. Amount of paid-in capital and retained earnings?

Clearstream Banking AG's capital and retained earnings as at 31 December 2011 were as follows:

	(amounts in EUR)
Subscribed capital:	25,000,000.00
Capital reserve:	137,000,000.00
Retained earnings:	26,940,839.57
Unallocated surplus:	97,500,000.00
Total shareholder's equity:	286,440,839.57

F.2. Guarantees, insurance coverage or other similar arrangements?

Clearstream Banking AG disposes of several insurance covers:

- General Liability Insurance;
- All Risks of Physical Loss or Damage Insurance (Wertpapiertransportversicherung), which also covers securities in deposit. Coverage is up to EUR 75 million each and every loss per transport or at premises; and
- Comprehensive Crime and Professional Liability Insurance (Vermögensschadenhaftpflicht), which covers fidelity, errors and omissions as well as fraud/computer fraud etc., for an amount of EUR 20 million.
- Additionally, Clearstream Banking AG has a line of cover for Directors and Officers.

Moreover, Clearstream Banking AG is a participant in the voluntary deposit protection fund of the Bundesverband deutscher Banken e.V. and it is a member of a compulsory deposit protection fund according to the German Deposit Fund Protection Act (Einlagensicherungs- und Entschädigungsgesetz). The Deposit Fund Protection Act protects all liabilities that are contained in the "Liabilities to Customers" balance sheet item. The protected amount (Sicherungsgrenze) of the liable equity funds of Clearstream Banking AG which are relevant for the protection of deposits amounts to 30 percent per creditor until 31 December 2014, will then be reduced to 20 percent until 31 December 2019, 15 percent until 31 December 2024 and finally reduced to 8.75 percent as from 1 January 2025.

The Securities Custody Act (Section 7 (2)) provides in the event of losses in securities held in CSC – that is, the collective holdings have been reduced or Clearstream Banking AG accounts show a surplus of securities in such kind and the lack of cover is not traceable and there has been no fault on the side of Clearstream Banking (that is, "force majeure") and no insurance coverage was available – as a last resort for the solidarity of investors by way of loss sharing. Clearstream Banking AG will assume responsibility for irresolvable losses to its customers (unless caused by "force majeure") by restituting full cover, this to be financed out of its own funds or from insurance coverage.

In the case of CSC, Clearstream Banking AG shall be liable for any negligence on the part of its employees and any persons used by it to fulfil its obligations.

Pursuant to the Securities Custody Act, if a foreign central depository is involved in the context of international securities clearing and settlement arrangements, Clearstream Banking AG shall also be liable for any negligence on the part of the foreign central depository to the same extent as for its own negligence (if said negligence is related to a Clearstream Banking AG liability linked to a direct or sub-custodian agreements in place).

In the case of holdings in NCSC, Clearstream Banking AG is liable only for the careful selection and orderly instruction of the depository bank abroad.

F.3. Credit lines or letters of credit?

Clearstream Banking AG has neither committed credit lines nor letters of credit to be considered among its financial resources.

For additional information in relation to the credit activities of Clearstream Banking AG, please consult section [VIII. Risk control measures, F.](#)

F.4. Powers to assess participants or equity holders?

Based on the contractual obligation of its customers and as part of the application process for customers to ensure whether a requested credit line can be granted. Clearstream Banking AG reserves the right to assess the creditworthiness of its customers. This is done in a continuous monitoring process.

Clearstream Banking AG does not have powers to assess its shareholders.

G. Please describe whether the SSS or its operator is subject to authorisation, supervision or oversight by an external authority.

Clearstream Banking AG is regulated as a bank according to the German Banking Act (Kreditwesengesetz) and is therefore subject to the prudential supervision of the BaFin in close cooperation with the Deutsche Bundesbank.

In addition, Clearstream Banking AG is a Central Securities Depository (Wertpapiersammelbank), according to Section 1, paragraph 3, of the Securities Custody Act, and in that function is approved by the Ministry of Economic Affairs of the State of Hesse.

Moreover, Clearstream Banking AG is subject to the oversight of the Deutsche Bundesbank with regard to its SSS function.

II. Rules and procedures of the SSS

It is important that SSSs have clear rules and procedures governing all major aspects of their operations. If participants have access to these rules and procedures, they will be able to form clear expectations about the actions of the SSS and will be able to use their understanding to make decisions on that basis. This is particularly important with regard to the resolution of failures to settle or other potential disruptions to the operation of the SSS.

The rules and procedures also typically describe the structures and processes for taking decisions that are at the core of any organisation's corporate governance. For SSS operators, the integrity of the decision-making processes and of the means for communicating decisions is important to the level of confidence that participants have in the system's ability to manage risk fairly and effectively.

The questions below focus broadly on how participants can obtain copies of the SSS's rules and procedures, how participants can provide input to the rules and procedures, how they are notified of changes, the applicability of the rules and procedures to the SSS as well as to its participants, and the circumstances under which the rules and procedures can be overridden. Taken together, the questions are intended to provide participants with an understanding of the role that the system's rules and procedures play within the operation of the SSS.

A. Does the SSS maintain a complete list of the rules and procedures governing the rights and obligations of participants and the duties of the SSS?

The rights and obligations of Clearstream Banking AG's customers and Clearstream Banking AG's duties are determined in general by Clearstream Banking AG's GTCs and Special Terms and Conditions (STCs). The customer is requested to acknowledge his acceptance of the GTCs when an account is opened.

Other rules and procedures include without limitation the following:

- Conditions for Securities Lending and Borrowing Transactions;
- Supplementary Conditions to the Special Conditions of Securities Lending of Clearstream Banking AG, Frankfurt;
- Special Conditions for Collateral Management (Xemac) of Clearstream Banking AG;
- Special Conditions for the Self-Collateralisation Service of Clearstream Banking AG;
- Special Conditions for services that Clearstream Banking AG performs for its customers in relation to reporting and payment obligations arising from the French Financial Transaction Tax.

In addition, Clearstream Banking AG uses standardised contracts for various purposes, such as the granting of loans.

The above-mentioned documents are binding documentation.

Other relevant documents (not limited to those listed above) are forwarded to the customer when an account is opened or at the time when a customer wants to participate in a special service. They are made available to the customer for information purposes.

A.1. How can participants obtain a copy of the rules and procedures?

All documents governing the relationship between Clearstream Banking AG and its customers are provided to customers when an account is opened or, if only relevant to a particular service to which the customer is not obliged to subscribe, at the time when the customer applies to subscribe to such a service.

Customers can also receive the rules and regulations on request.

Subsequent updates and other customer information are made available to customers on the web site www.clearstream.com and with respect to the GTCs and STCs by letter.

A.2. Does other documentation provided to participants (for example, user guides) have the same status as the rules and procedures?

Clearstream Banking AG provides user manuals to its customers concerning the services rendered. This documentation is provided for information purposes.

Briefing and the securities information services complement the provisions concerning modifications in Clearstream Banking AG's workflow and new products.

A.3. Describe the process for changing rules and procedures, including any need for regulatory approval.

GTCs as well as STCs are not subject to regulatory approval.

Changes to rules and procedures may be necessary as a result of the law, regulations, market practice or customer's demand. The process will to a large extent depend on the relevant change. Changes to the GTCs and/or the STCs will be announced to the customers at least six weeks before they become effective.

A.3.(a) What authority is required, and how does this differ depending on the type of change involved?

Modifications to rules, regulations or procedures are usually discussed with customers, through the User Advisory Board of Clearstream Banking AG, before their implementation. Alteration of any provisions can be objected to by the customers. Depending on the nature of the change, the approval of the Executive Board (Vorstand) may be required. As mentioned above, changes to the GTCs and/or STCs will be announced to the customers at least six weeks before they become effective.

Whether a regulatory approval of changes to rules and procedures is required depends on the proposed change.

A.3.(b) How are participants notified of changes in rules and procedures?

Customers are generally notified of changes of rules and procedures by Clearstream Banking AG on writing, via one of the methods of communication agreed with Clearstream Banking AG, such as SWIFT, or by letter. In addition, relevant documentation will be updated. In the event of updates, customers receive a new version of the respective rules, regulations or procedures, if required.

If a change is due to a separate agreement between Clearstream Banking AG and the customer, such change is agreed and/or notified in the manner required by such agreement.

A.3.(c) Is there a procedure for participants or others to comment on proposed rule changes?

Rule changes proposed by Clearstream Banking AG that imply a significant customer impact may be presented and discussed, before (or along with) their legal implementation, with the User Advisory Group. This is a group of representatives of the user community that advises Clearstream Banking AG on its services. Additionally, major amendments of the GTCs are discussed with the German bank associations.

Changes are usually explained to customers in advance by the Relationship Officers and the Legal Department. Clearstream Banking AG's customers can raise their objections within one month after the publication of the new rules and regulations. If no objection is raised, the revision is deemed to be accepted. [\(See A.3.\(a\)\).](#)

B. Are the rules and procedures binding on the SSS as well as on its participants? Under what conditions and on whose authority can written rules and procedures be waived or suspended by the SSS?

Yes, the rules and procedures are binding on Clearstream Banking AG and its customers for domestic and international business. As equal treatment is of the essence, written rules and procedures can only be waived or suspended by Clearstream Banking AG due to reasons of substantial importance or "force majeure", such as the following:

- Requirement for certain customers, for example, central banks, ICSDs, CSDs and CCPs, for amendments to standard rules or procedures due to their market role as specific infrastructure providers;
- Regulatory measures in the form of a moratorium or similar payment restrictions against a customer of Clearstream Banking AG;
- Technical default of a customer.

III. Relationships with participants

In evaluating SSSs, it is essential that participants understand the nature of the relationships that the systems have with their participants. The different types of membership that are available as well as the requirements for admission as a participant should be understood.

A knowledge of the account structure of the SSS is also important for an informed evaluation of the system. Participants should understand whether this structure allows or requires the segregation of their customers' cash or securities in separate accounts or sub-accounts at the SSS.

This section addresses these issues, as well as the procedures for and consequences of terminating participation in the SSS. Because of loss-sharing or other arrangements, termination of membership may not extinguish all obligations of participants with respect to the SSS. General limitations on SSS liability to participants are the subject of the final question in this section. These questions are obviously important in enabling participants to establish the magnitude of their exposure to different risks associated with the SSS.

Although these questions provide the basic framework of the relationship between participants and the SSS, many of the most important aspects of these relationships concern the resolution of failures to settle or events of default. Specific questions on these topics are discussed in Section VII. Securities overdrafts, securities lending and back-to-back transactions below.

A. Please describe the types of membership offered by the SSS.

Users of Clearstream Banking AG's settlement system and other linked clearing or settlement providers, such as central banks, ICSDs, clearing houses, are called "customers". Customers are neither required nor entitled to hold an equity stake in the sense of a "membership" in Clearstream Banking AG or Clearstream International S.A., Luxembourg, or any other parent company of Clearstream Banking AG. Share acquisition in Deutsche Börse AG as a public listed company is of course possible.

In principle all customers are regulated financial institutions. They consist for example of banks, broker/dealers, issuers, investment funds and asset managers. All customers are in principle bound by the GTCs and other binding documents. Some customers with specific requirements (for example, linked clearing houses, CSDs and ICSDs) may need special contractual solutions. Clearstream Banking AG separates such particular services through individual arrangements that partially modify the GTCs.

A.1. How do the types differ?

See [A.](#) above for the various customer types. Differences come from the services they offer. All customers are bound by the same GTCs and Governing Documents.

A.2. Within each membership category, are all participants subject to the same rules and procedures? Please describe important exceptions, including both differences in rules across participants and the rationale for these differences.

In principle, all customers are subject to the same rules and procedures. Nevertheless, certain customers subscribe to additional services, for example, securities lending and borrowing program, collateral management services etc., with the result that only these customers can benefit from these additional services, but they must also comply with the additional conditions applicable to these services.

B. Can participants establish accounts for their customers' assets that are segregated from their own asset accounts at the SSS?

Customers of Clearstream Banking AG are required to establish separate accounts to segregate their customers' assets from their own assets.

B.1. If so, is this accomplished through a single omnibus customer account or through a multiplicity of accounts and/or sub-accounts?

Segregation can be accomplished through a multiplicity of sub-accounts or a single omnibus customer account.

As long as no such segregation has explicitly been made, the Securities Custody Act (Section 4) presumes accounts in Clearstream Banking AG to be omnibus customer accounts. In other words, unless agreed otherwise, the safe custody accounts in Clearstream Banking AG are omnibus customer accounts.

B.2. Is the segregation optional or compulsory?

As said above, pursuant to Section 4, paragraph 1, of the Securities Custody Act, all securities held by a custodian bank under its custody or with another custodian or CSD are deemed to be customer assets as long as they are not explicitly designated as proprietary assets of the custodian bank. Hence, a basic segregation at the level of the CSD is already achieved by the law. Any further segregation at the level of the CSD (for example, by designating own portfolio accounts or by opening individual client subaccounts etc.) is optional.

The Securities Custody Act and regulations set by the BaFin require the custodian banks to separate customer assets and proprietary assets in their books.

B.3. Does the fact that a sub-account at the SSS bears the name of a third party give any rights to that third party as a participant under the rules of the system?

No, only a direct customer can dispose of its account(s). Third parties (the customer's clients) have no contractual rights under the rules of the system as they are not the holders of the sub-account.

This is without prejudice to exceptional situations (for example, the insolvency of a customer), where the customer's clients may have to exercise vindication rights against the CSD.

C. Please describe participant requirements for each type of membership.

Clearstream Banking AG has only one type of participant: customers (see [A.](#) above).

However, the requirements for customers are different. (See also [C.2.](#) below).

C.1. Are participants required to be domiciled or resident in a particular jurisdiction?

There is no provision requiring customers to be domiciled or resident in a particular jurisdiction, although sovereign risk is a consideration during the admission process.

C.2. Are participants required to be subject to a supervisory regime? If so, please describe.

According to the GTCs of Clearstream Banking AG, its customers may be any legal entity and no supervisory regime is mandatory.

For information purposes, please find following some requirements new customers have to fulfil. Customers must submit the following:

- an up-to-date, certified excerpt from the Commercial Register, the register of Cooperative Societies, memorandum and articles of association (companies governed by public law) or equivalent proof of establishment;
- an up-to-date, certified shareholders' agreement, or memorandum and articles of association or other evidence of incorporation;
- a general, complete and up-to-date list of the applicant company's authorised signatories with specimen signatures;
- Sending of the annual report of the previous financial year (the opening balance sheet is sufficient for new companies or – in the case of a newly established subsidiary – the opening balance sheet and the annual report of the parent company for the previous financial year), provided that these cannot be accessed on the website of the customer.

For subsidiaries, an annual report of the parent company for the previous financial year has to be provided.

Depending on the status of the new customer, further documents will be required, as listed below:

Applicant domiciled outside of Germany

- credit institutions and branch offices that do not belong to the EEA: certified copy of a licence to conduct banking operations granted by the Federal Financial Supervisory Authority (BaFin), as required under the German Banking Act (Kreditwesengesetz - KWG), including any notice of duties to be complied with, or equivalent evidence (for companies incorporated prior to the enactment of the KWG);2
- financial services institutions and branch offices that do not belong to the EEA: certified copy of a licence to provide financial services granted by the Federal Financial Supervisory Authority (BaFin), as required under the German Banking Act, including any notices of duties to be complied with;

- branch offices in Germany of non-German credit institutions and providers of financial services that belong to the EEA: certified copy of the license from the responsible supervisory authority/ regulator in the state belonging to the EEA where the company is domiciled, indicating the scope of the licensed activities; certified copy of the notice from the applicant to the responsible supervisory authority/regulator in the state belonging to the EEA where the company is domiciled announcing the applicant's intention to establish a branch office, or certified copy of the notice from the Federal Financial Supervisory Authority (BaFin) regarding the data which has to be provided to the BaFin and to Deutsche Bundesbank for commercial activities of this type and of the conditions that have to be complied with in the public interest;

Applicants domiciled in another state of the European Economic Area (EEA) wishing to become customers of CBF for the provision of cross-border services

- certified copy of the license from the responsible supervisory authority/regulator in the country of origin belonging to the EEA, indicating the scope of the licensed activities;
- certified copy of the notice from the applicant to the responsible supervisory authority/regulator in the country of origin belonging to the EEA announcing the applicant's intention to start providing cross-border services, or certified copy of the notice from the Federal Financial Supervisory Authority (BaFin) regarding the data that has to be provided to the BaFin and to Deutsche Bundesbank for commercial activities of this type and of the conditions that have to be complied with in the public interest;
- the name of an agent in Germany who is authorised to accept the service of documents;

Applicants domiciled in another state of the EEA or outside the EEA wishing to become customers of CBF (for their own banking requirements or in order to serve customers in their country of origin)

- certified copy of the licence from the responsible supervisory authority/regulator in the applicant's country of origin, indicating the scope of the licensed activities;
- the name of an agent in Germany who is authorised to accept the service of documents.

C.3. Are participants required to hold an equity stake in the SSS?

There is no requirement nor a possibility for its customers to hold an equity stake in Clearstream Banking AG. The entire share capital of Clearstream Banking AG is held by Clearstream International S.A.

C.4. Are there financial, economic, personal or other requirements (for example, minimum capital requirements, "fit and proper" tests)? If so, please describe.

Each potential customer undergoes a review prior to admission in terms of creditworthiness, capital, sovereign risk and legal structure, as well as a money laundering review.

D. Does the SSS engage in oversight of its participants to ensure that their actions are in accordance with its rules and procedures? If so, please describe.

Yes. Clearstream Banking AG engages in oversight of its customers through several channels. Clearstream Banking AG has an Audit, Compliance and Risk Management Committee, as well as a Group Risk Management and Compliance Department to monitor internal and customer transactions to prevent insider dealing and money laundering practices within the entire group.

E. Under what conditions can participants terminate their membership in the SSS? Does this mark the end of all liabilities of the participant? If not, please describe what liabilities could remain.

Customers of Clearstream Banking AG may terminate the entire business relationship or individual business relations by closing securities or cash accounts pursuant to point VI (2) of the General Terms and Conditions. Termination notice should be in writing, without a specific period of notice. Termination of a customer relationship does not entail the customer's release from any kind of consequential loss resulting in connection with transactions and holdings in CSC.

F. Under what conditions can the SSS terminate a participant's membership in the SSS?

In the event of termination without notice, Clearstream Banking AG shall grant the customer a reasonable period for settlement, as stated in the GTCs. For the termination of current accounts and securities accounts, the notice period shall be at least two months.

Clearstream Banking AG may also terminate, at any time with a reasonable period of notice, the entire business relationship or individual business relations for which neither a specific term nor a different termination arrangement has been agreed.

The entire business relationship or individual business relations may be terminated by Clearstream Banking AG without notice if a critical reason exists that makes a continuation unacceptable for Clearstream Banking AG, even if taking into account the legitimate interests of the customer. A critical reason could be understood as: incorrect statements from the customer's financial standing, which is one of the principal elements considered by Clearstream Banking AG in deciding to enter into a business relationship with a customer; or if the customer's financial status deteriorates or threatens to deteriorate substantially, thus jeopardising the fulfilment of its liabilities towards Clearstream Banking AG. For further details, please refer to point VI (1) of the GTCs of Clearstream Banking AG.

For customers using settlement of NCSC securities, Clearstream Banking AG may also terminate the account relationship without notice if the customer does not fulfil its obligations

Clearstream Banking AG has in place forms of management for assessing and monitoring the following aspects of the customer, among others:

- Eligibility requirements;
- Trading volumes;
- Financial strength;
- Other loss or default protections that the customer may maintain;
- Collateral requirements;
- Settlement controls that minimise or eliminate the risk of default; and
- The blocking of securities movements before receipt of payment.

G. Please describe the scope of the SSS's liability to participants, including the standard of liability (negligence, gross negligence, wilful misconduct, strict liability or other), the "force majeure" standard and any limitation to the scope of liability of the SSS (for example, indirect or consequential damages). Where are these liabilities and their limitations set out (for example, in statute or contract)?

In the case of a CSC credit (Girosammelgutschrift) or a custody credit on a segregated basis (Streifbandgutschrift), Clearstream Banking AG shall be liable for any negligence on the part of its employees and any persons used by it to fulfil its obligations. If a foreign central depository is involved (that is, collective custody abroad) within the context of foreign securities clearing and settlement arrangements pursuant to Section 5, paragraph 4, sentence 2 in conjunction with Section 3, paragraph 2, sentence 1 of the Securities Custody Act, Clearstream Banking AG shall be liable for any negligence on the part of the foreign central depository to the same extent as for its own negligence and such liability is mandatory (that is, may not be contractually derogated from).

In the case of a NCSC credit (Gutschrift in Wertpapierrechnung), Clearstream Banking AG shall be liable for its own negligence and wilful misconduct (including from its employees) in accordance with the German Civil law principles. As to depository banks and sub-custodians located abroad that Clearstream Banking AG uses to fulfil its obligations deriving from the safekeeping and custody services it offers, Clearstream Banking AG is liable only for the careful selection and orderly instruction of the depository banks or sub-custodians that it uses.

Clearstream Banking AG shall not be liable for damage caused by problems with its own operations or the operations of the person used by it to fulfil its obligations, if such problems are not due to any negligence on its part - in particular the stoppage or restriction of business operations on any given day due to "force majeure", riot, war or natural disaster, or as a result of other events not due to any negligence of Clearstream Banking AG (strike, lock-out, traffic disruption, problems with the data lines of third parties) - or to acts of public authorities in Germany or abroad.

For further reference, please consult Clearstream Banking AG's GTCs, section V.

IV. Relationships with other SSSs and commercial intermediaries

Many SSSs have relationships with intermediaries that perform critical tasks for the SSS and indirectly, therefore, for the system's participants and their customers. In particular, relationships or linkages between SSSs can be important for an understanding of the implications of settlement arrangements. For example, in those instances where the linkage includes using another SSS or a commercial intermediary as a securities sub-custodian, the disclosure of information concerning the linkage would be essential for customers to fully evaluate the associated risks. The appraisal of risks may differ depending on whether the linkage allows only free deliveries or whether cash accounts at the two SSSs are also involved. The latter types of linkage deserve particular attention to ascertain whether they increase the potential for settlement disruptions to spread quickly between different systems.

Agreements are negotiated and concluded with third parties by the SSS and not by its participants. It is, therefore, important for customers to be fully advised on the relevant aspects of the system's various intermediary relationships, including the standards used by the SSS in the selection and monitoring of intermediaries, the functions that the intermediaries perform and any specific risk management mechanisms in place specifically to protect against the risks posed by these relationships. It is also important to identify instances in which the SSS advances funds or securities on behalf of third parties or intermediaries, as these actions can pose risks to the SSS and its participants.

A. Does the SSS maintain linkages (including sub-custodian or cash correspondent relationships) or other relationships with other SSSs?

Clearstream Banking AG is linked with other SSSs - but only central securities depositories - with regard to holdings in German and non-German securities that are held in CSC. This means that, for securities held in CSC, Clearstream Banking AG has no linkages with other sub-custodians.

For securities held in NCSC and for securities traded in the regulated unofficial market of a German exchange or in the open market segment (Open Market, German: Freiverkehr), Clearstream Banking AG maintains a linkage to Clearstream Banking S.A., Luxembourg. The Open Market, where collective and non-collective securities can be traded, is a private market segment in Germany. Other cash correspondents may be involved via Clearstream Banking S.A., Luxembourg when securities held in CSC are settled against foreign currencies.

A.1. Please identify each of the other SSSs used and the type of securities transferred via the linkages.

Please refer to the tables reproduced under A.1.(a), A.1.(b) and A.1.(c) below.

Internal securities transactions between Clearstream Banking AG accounts are possible in all settlement cycles. Clearstream Banking AG has also an indirect link via Clearstream Banking S.A., Luxembourg as its sub-custodian for its NCSC business (safekeeping of securities on a fiduciary basis) and additionally has an outsourcing agreement with Clearstream Services S.A., Luxembourg for technical and operational aspects. The situation is as described in Clearstream Banking S.A., Luxembourg's published answer to the CPSS/IOSCO Disclosure Framework applies mutatis mutandis.

A.1.(a) What is the name of the other SSS? Where is it located?

No.	Name of SSS	Location	No.	Name of SSS	Location
1.	Euroclear Finland	Helsinki	8.	Monte Titoli	Milan
2.	DTCC	New York	9.	OeKB	Vienna
3.	Euroclear Belgium	Brussels	10.	SIX-SIS	Zurich
4.	Euroclear France	Paris	11.	VP Securities	Copenhagen
5.	Euroclear Netherlands	Amsterdam	12.	HELEX	Athens
6.	Iberclear	Madrid	13.	CSE	Nicosia
7.	Malta Stock Exchange	La Valletta	14.	Clearstream Banking S.A.	Luxembourg

A.1.(b) What securities are eligible for transfer via the linkage to the other SSS?

No.	Name of SSS	Securities eligible	FoP/DvP link
1.	Euroclear Finland	German and Finnish securities	FoP
2.	DTCC	German and US securities	FoP
3.	Euroclear Belgium	Belgian securities (equities)	DvP
4.	Euroclear France	German (Bunds) and French securities	FoP for German securities DvP for French securities
5.	Euroclear Netherlands	Dutch securities	DvP
6.	Iberclear	German and Spanish (bonds) securities	DvP
7.	Malta Stock Exchange	Maltese securities	FoP
8.	Monte Titoli	German and Italian securities (equities)	FoP
9.	OeKB	German and Austrian securities	DvP
10.	SIX-SIS	German and Swiss securities and those eligible for Eurex	DvP
11.	VP Securities	German and Danish securities	DvP
12.	HELEX	German securities	FoP
13.	CSE	German securities	FoP
14.	Clearstream Banking S.A.	New Global Notes	FoP

A.1.(c) Are transfers of securities made via the linkage to the other SSS limited to only those that are free of payment or are transfers against payment also made via the linkage to the other SSS? If against payment, please describe the timing of the transfers and the corresponding payments.

Settlement for the various cross-border links in principle happens in SDS1, SDS2, the Cont-SDS for FoP transactions. DvP settlement, where applicable, is in principle performed in the RTS cycle. For further details, please refer to the Clearstream Banking AG Customer Handbook, available on our website www.clearstream.com.

Settlement for Clearstream Banking S.A., Luxembourg and Euroclear S.A., Brussels takes place via real-time linkages (DvP link, STD, RT-STD, SDS1, SDS2, Cont-SDS1, Cont-SDS2, RTS (and Cont-SDS3 for FoP transactions)).

For foreign currencies in DvP transactions, Clearstream Banking AG is dependent on the timing and finality of the cash and securities transfers of the respective foreign CSD or foreign central bank.

A.1.(d) Does the other SSS provide custody services to the SSS and, if so, who bears any credit or custody risks?

Yes, CSDs to which Clearstream Banking AG is linked for foreign securities provide custody services to Clearstream Banking AG. However, only foreign CSDs that have a legal status comparable to that of a CSD in Germany and fulfil the requirements of the Securities Deposit Act (Section 5, paragraph 4, 1-4)) are eligible for a CSD link with Clearstream Banking AG. This is confirmed by an external Legal Opinion. In particular, foreign CSDs are required to be subject to the control of a public supervisory body. These prerequisites shall ensure a high level of investor protection and, since Clearstream Banking AG is fully liable for any negligence on the part of the foreign CSD with respect to the joint collective holding, provides an additional safeguard in comparison with links to custodian banks.

Such a CSD is vested with the same rights for the securities that it holds in safekeeping according to the Securities Custody Act. Any claims brought in relation to securities held as collective holding with a foreign CSD are to be communicated to Clearstream Banking AG, irrespective of any restrictions prevailing in the country of this foreign CSD. To fulfil the requirements of the German Securities Custody Act, services provided by foreign CSDs require a legal and risk analysis carried out by external lawyers. Clearstream Banking AG also evaluates whether sufficient demand is given in the market.

CSD and ICSD links are covered by special contracts taking into consideration the legal and risk analysis and all rules and regulations to be observed under German law. The direct CSD links are operated by Clearstream Banking AG in the CASCADE system. Securities received in direct links from the issuer CSD are held in CSC.

The Eurosystem regularly assesses the risk aspects that the direct CSD links may bring to the Eurosystem, based on the standards for the use of EU securities settlement systems in European System of Central Banks (ESCB) credit operations.

B. Does the SSS use securities custodians (other than the other SSSs addressed in the previous question) and/or commercial cash correspondents? Please identify the custodians or cash correspondents used and the duties that each performs.

Clearstream Banking AG for the CSC activity does in principle not avail itself of the services of sub-custodians or commercial cash correspondents.

For settlement in CSC against foreign currencies, Clearstream Banking AG maintains customer cash accounts equivalent to accounts at a commercial bank and provides funds transfers in conjunction with securities transactions.

For securities held in NCSC, Clearstream Banking AG maintains a linkage to Clearstream Banking S.A., Luxembourg as described in [A.](#) above.

C. Please describe the standards used in approving or reviewing relationships with other SSSs, custodians or cash correspondents, including any financial or operational requirements or the presence of insurance or public supervision.

Having identified a market in which it envisages establishing a CSD link, Clearstream Banking AG's Network Management team studies the market procedures, practices, regulations and infrastructure of the market concerned. This includes identification of unique practices or local laws or regulations to which Clearstream Banking AG will have to conform and risks that Clearstream Banking AG will need to mitigate.

With regard to CSD links for the CSC activity and sub-custodians for securities held in NCSC, the process begins by performing a credit analysis of the potential suppliers. Clearstream Banking AG will then begin a Request for Proposal (RFP) process to identify a potential agent for depository (sub-custodial) and/or cash services. Potential agents are also reviewed to ensure that they meet the guideline of rule 17f-5 of United States SEC regulation.

A detailed RFP is developed to fit the requirements of the specific market and answers are completed by the banks (or the CSD) that are interested to be selected as Clearstream Banking AG's depository agent and have met the credit and regulatory criteria above. This RFP is used to gauge the levels of service available from the local suppliers. Together with the RFP, the potential custodian banks are provided with Clearstream Banking AG's standard Depository Agreement. With regard to other CSDs in Europe, the European Central Securities Depositories Association (ECSDA) standard agreement serves as a basis for bilateral negotiations on establishing a CSD link.

After review and discussion of the proposals received, and after a tour and inspection of the operations and/or vault areas of potential suppliers, an agent is provisionally appointed.

The essential discussions and negotiations then take place over the content of the documents that will govern the relationship between the institutions. These documents are the Depository Agreement, the Legal Opinion and the Service Level Agreement.

1. The Depository Agreement

The Depository Agreement sets forth the contractual expectations and responsibilities between the principal and the agent. It clarifies the Choice of Law and the potential risks assumed by the parties on each other as well as - if applicable - on agents outside the contract. The Agreement is the establishment of a legal framework that identifies and clarifies inter alia the following:

- Eligible instruments;
- Authorised parties;
- Defined terms and procedures for settlement, safekeeping and administration;
- Required insurance coverage;

- The depository's standard of care;
- Liability of depository to Clearstream Banking;
- Representation and warranties;
- Confidentiality requirements;
- Incorporation of Service Level Agreement.

2. The Legal Opinion

The Legal Opinion, from external counsel, represents independent and neutral confirmation of the depository's ability to perform as required under the Depository Agreement and the Service Level Agreement without risk of these being superseded by local regulations or practices. It represents a confirmation of key legal requirements, including the following:

- Enforceability of the depository's obligations;
- Enforceability of the local jurisdiction;
- Segregation from the depository's own assets and recoverability of assets in case of bankruptcy;
- Legal status and authority of the depository.

The Legal Opinion also confirms statements given in the three-point declaration of the depository to Clearstream Banking AG required under German law for investor protection purposes. Under the three point declaration, the depository acknowledges that the securities held within the account of Clearstream Banking AG are client assets and that no liens of the depository other than for fees as may arise from purchase, administration and safe custody of these securities may be asserted with respect to such securities.

3. The Service Level Agreement

This document sets forth the expected action, reaction, deadline and communication format for each individual operational process. It specifies procedures to help limit exposures and define responsibilities as an integral part of the Depository Agreement, including the following:

- Authorised instructions and deadlines;
- Expected actions and contingency action plans;
- Reporting structures to manage positions, projections, exceptions with their resolution and inquiries. In this part Clearstream clearly defines together with the agent the procedure how to deal with reconciliations;
- General announcements related to custody operations.

Please note that the process for the set up of CSD link for the CSC activity is a subset of the above description. CSD links are subject to provisions of DepG.

These relationships are reviewed on an ongoing basis as needed, based on Clearstream Banking AG continuous review of market developments in procedures, practices, regulations or other infrastructure-related developments. Clearstream Banking AG may choose to visit a supplier at any time to review the relationship and ensure that all binding documents remain relevant to the activities and regulations of the market. Service Level Agreements in particular are updated on an ongoing basis that requires amendment, on average, once a year.

Clearstream Banking AG also monitors the performance of its network of supplier banks by maintaining various statistics on the performance of the supplier in relation to the Manual of Procedures and in relation to other providers. Clearstream Banking AG also maintains a database of incident reports that are used to document deviations from expected procedure. These statistics and data are used in scheduled service reviews undertaken by Clearstream Banking AG's Network Management team.

See also [A.1.\(d\)](#) above.

D. Does the SSS advance funds or securities to or on behalf of other intermediaries, such as issuing or paying agents? If so, please identify the circumstances in which such exposure could arise.

Clearstream Banking AG does in principle not advance funds or securities to or on behalf of other intermediaries for its CSC operations.

Unconfirmed Funds Facilities (UCF) and Technical Overdraft Facilities (TOF) may be provided for the NCSC operations, as described in [Section VIII., F.](#)

E. Please describe measures in place to protect the SSS and its members against the failure of other SSSs or commercial intermediaries to meet obligations to the SSS, including risk controls and collateral or alternative sources of funds and securities.

In the case of default by a customer due to a moratorium or due to insolvency, the time frame for the transmission of information from the BaFin (in case of German counterparties) or the Bundesbank (in case of non-German European counterparties) in relation to settlement obligations is crucial. If such a notification reaches the CSD in time, the relevant instructions can be excluded from the batch and blocking of accounts can be carried out by Clearstream Banking AG.

Clearstream Banking AG has implemented clear procedures to define what steps are to be taken. In the case of default by a customer when the BaFin had not imposed a moratorium prior to the start of a night-time batch, transactions entered into the system before the issuance of such order will remain valid and may be settled notwithstanding the occurrence of the measure (Section 96, paragraph 2, 116 of the Insolvency Code implementing the EU Directive 98/26 on settlement finality; Section 46a, paragraphs 1 and 5, of the Banking Act).

The same holds true for transactions submitted for settlement post-insolvency, if the system operator was unaware of the measure (Section 82 of the Insolvency Code; Article 3 of the EU Directive 98/26). Negative settlement balances, both in cash and in securities, resulting from such transactions may still be debited from his accounts - despite the occurrence of an event of insolvency. Section 116 s.3 of the Insolvency Code avails the settlement creditors of a "super privilege" (Masseverbindlichkeit) over all other creditors of the failed customer.

In addition, Clearstream Banking AG participates in the Deposit Insurance Fund of the Bundesverband deutscher Banken e.V. [Federal Association of German Banks]. The Deposit Insurance Fund secures any liabilities which have to be declared in the balance position "liabilities towards clients". The protected amount (Sicherungsgrenze) of the liable equity funds of Clearstream Banking AG which are relevant for the protection of deposits amounts to 30 percent per creditor until 31 December 2014, will then be reduced to 20 percent until 31 December 2019, 15 percent until 31 December 2024 and finally reduced to 8.75 percent as from 1 January 2025. For deposits made after 31 December 2011, including extensions of current deposits, regardless of the time of the deposit, the amended limitations to the protected amount shall apply as from the relevant effective date as outlined above. The current limitations to the protected amount will apply for all deposits made prior to 31 December 2011 until maturity of the deposit or the next possible termination date.

V. Securities transfers, funds transfers and linkages between transfers

At the heart of the operations of SSSs are the transfers of securities and funds that actually comprise the settlement process. The questions in this section begin by focusing on the process, if any, for matching settlement instructions prior to beginning the settlement process itself. In some markets, matched settlement instructions are binding, which may impose additional obligations on participants that are important for them to understand.

This section next considers issues raised by the practice of securities registration. Because the laws of different countries vary widely in this regard, this Disclosure Framework has not been designed to substitute for the legal analysis of the implications of registration; for example, the issue of the nature of the title to securities that is transferred in the SSS if the system itself is not also the registrar. The questions are instead focused on the circumstances in which the SSS itself becomes involved in the registration process, as well as the risks that may arise if participants fail while securities are in the process of being re-registered in the buyer's name. In particular, it is important to understand whether the rules and procedures of the SSS would require transactions to be unwound in such an event.

The mechanics of securities and funds transfers are then addressed, including the issue of where cash transfers associated with securities transfers at the SSS take place. These questions also address the circumstances under which the SSS extends credit to participants as an aspect of providing funds transfer capability at the SSS. It is clearly important for participants to understand what types of cash account are offered at the SSS and on whom they take a risk with respect to cash deposits, as well as whether the SSS itself bears credit risk in conjunction with these accounts.

The questions then explore the timing of processing within the SSS, whether the SSS is a DvP system, and what type of DvP model, if any, has been adopted by the SSS. DvP is a mechanism that ensures that final delivery occurs if and only if final payment occurs, which eliminates principal risk and contributes to reductions in liquidity risk.

The issues that arise in the practical implementation of DvP were outlined in the DvP Report referred to in the Introduction, and mainly concern the finality of the securities and funds transfers that together constitute DvP settlement. Transfers are final if they are both irrevocable and unconditional. A transfer is irrevocable when the parties to it can no longer revoke their instructions; and it becomes unconditional when there are no longer any circumstances that could cause the SSS to unwind it. If transfers are provisional at the time of processing, even if DvP is achieved, the risk remains that transfers may have to be unwound later if finality cannot be achieved.

If not properly recognised and controlled, this "finality risk" could have systemic effects. Customers of SSSs are often provided with immediate availability of securities received, even if the transfer is not final. If these customers then sell the securities again, or make them available to custodial customers, and the original transfer is subsequently unwound, additional transfers by the customer or the customer's clients may also have to be unwound, spreading the impact of the unwind to unrelated parties. It could also ultimately lead to losses to be shared among participants. For these reasons, the questions below attempt to clarify precisely the circumstances under which transfers become final.

The questions also address the provision of settlement guarantees by the SSS. If guarantees exist, it is necessary for participants to understand the events that trigger a guarantee as well as the coverage that is provided by the guarantee, including the liability of the SSS with respect to the guarantee.

A. Please discuss whether and how settlement instructions are matched between participants prior to processing by the SSS.

The counterparties of a trade define the conditions, enter the respective sell and buy instructions and matching criteria of a settlement instruction directly among themselves.

Clearstream Banking AG does, as a general rule, perform the matching for OTC trade transactions between Clearstream Banking AG customers and customers of other SSSs for the matching of German securities. The recipient of the delivery must confirm all securities transfers with payment of the equivalent by way of matching instructions before they can be forwarded for disposition for settlement date. This ensures that the counterparties agree on the matching criteria, such as category, nominal value and equivalent amount. Stock exchange transactions are already matched within the trading systems of the respective German stock exchange.

OTC instructions FoP for CSC securities must be matched. The trade matching or pre-matching service of Clearstream Banking AG is automatic and electronic.

A.1. Is matching required for all transactions without exception?

Yes.

A.2. What procedure is used when instructions do not match?

Unmatched instructions remain pending (unmatched) until either the counterparty gives its counter instruction or the instructing participant cancels its instruction.

Instructions for which matching is a prerequisite for settlement remain unsettled if they are unmatched. The customer's unmatched instructions, whether already due for settlement or due for future settlement, can be obtained online from the system and are reported to the customer in a special report after each settlement processing. Instructions received from other parties indicating the said customer as counterparty for which no instructions have been received from the customer are also reported to the customer in this report.

A.3. Are matched settlement instructions binding on participants?

When trades are matched, they are automatically prepared for settlement. Matched instructions to transfer cash or securities entered into the settlement system of Clearstream Banking AG become binding, irrevocable and insolvency-proof in accordance with the EU Directive on Settlement Finality (98/26/EC, as amended by EU directive 2009/44/EC) as soon as the instructing parties or third parties (for example, insolvency trustees) can no longer unilaterally revoke or amend the entered instruction. In the case of batch runs, an instruction is irrevocable and thus final when the deadline for entering instructions has passed for settlement within the next batch. Payment instructions or securities transfer instructions in real-time settlement applications, become irrevocable upon entry.

A.3.(a) If so, please describe the consequences of failure by participants to meet obligations (for example, forced settlement, penalties, short positions).

Clearstream Banking AG shall settle customer orders relating to payment/delivery transactions in securities on a delivery versus payment (DvP) basis. Such orders shall be executed if the customer has sufficient cover in its securities account for the delivery of securities and in its RTGS / T2 account for the payment. Pursuant to the GTCs of Clearstream Banking AG, customers are obliged to ensure sufficient cover in cash and securities, without the need of a request by Clearstream Banking AG, on a timely basis before the respective money clearing or settlement process takes place.

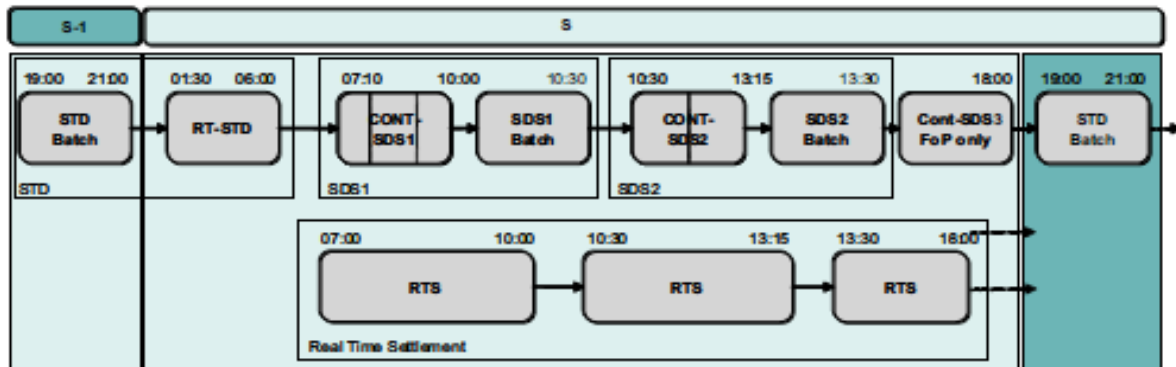
The cash leg of DvP transactions is based on a central bank guarantee concept. Cash liquidity is reserved on the RTGS / T2 account of the customer and guaranteed against Clearstream Banking AG by the Bundesbank before Clearstream Banking AG starts the settlement process. If the guaranteed amount is not sufficient for the settlement of all transactions designated by the respective customer, then the related transactions are kept pending and will be forwarded to the next settlement cycle.

A.3.(b) Please describe whether this is a feature of the SSS's rules and procedures or of national law or regulations.

These features are governed by Clearstream Banking AG rules and procedures, which reflect the local market practice and are set in close consultation with the Advisory Board of Clearstream Banking AG.

A.3.(c) Please provide a time line indicating the points at which matched instructions become binding, as well as any pre-matching process that takes place.

Current Clearstream Banking AG business day:



Matched instructions to transfer cash or securities become legally binding in terms of irrevocability (as described in A.3. above). At approximately 19:00 (CET) on S-1, matched transfer instructions for the night-time batch run (Standard processing, STD) that are released for settlement start being processed for settlement day. From 01:30 to 06:00, a further real-time settlement night-time process takes place (Real-Time Standard processing, RT-STD).

Daytime processing starts at 06:00 on settlement day with continuous processing on the securities side. The reserved central bank liquidity is blocked for the duration of the time window. The instructions that are settled are those that have been properly entered, matched and released for settlement. The time window ends with the conclusion of the simultaneous processing of securities and the reserved central bank liquidity. Instructions become final in the meaning of European Directive 98/26/EC (as amended by EU directive 2009/44/EC) when they are entered into the CASCADE system. They will be carried out if there are sufficient positions of cash and securities. The settlement of the delivery obligations in a legal sense takes place after the successful confirmation of all debits and credits in the customers' TARGET2 accounts (RTGS accounts) at the end of the relevant time window and the subsequent booking of securities in the related client accounts of the SSS.

The Cont-SDS1 finishes at 10:00 with the start of batch run of SDS1. In the SDS1 batch individual payment and delivery instructions that have been properly entered (in accordance with our GTCs) are settled in net processing.

Securities processed after the end of the first SDS batch (SDS1), at approximately 10:45, are continuously processed until the beginning of the second SDS (SDS2) batch. Instructions become final in the meaning of European Directive 98/26/EC (as amended by EU directive 2009/44/EC) when they are entered into the CASCADE system. They will be carried out if there are sufficient positions of cash and securities. The settlement of the delivery obligations in a legal sense takes place after the successful confirmation of all debits and credits in the customers' TARGET2 accounts (RTGS accounts) at the end of the relevant time window and the subsequent booking of securities in the related client accounts of the SSS.

The Cont-SDS2 finishes at 13:15 with the start of batch run of SDS2 processing. In SDS2 individual payment and delivery instructions that have been properly entered (in accordance with our GTCs) are settled in net processing.

Securities transfer instructions given after the end of the second SDS batch (SDS2), at approximately 13:30, are continuously processed until approximately 18:00. This is for FoP transactions only. The instructions that are considered for settlement are those that have been duly entered, matched and released for settlement (no settlement blocking) and that the customer has foreseen for the continuous settlement cycle. When they have been entered in the CASCADE system, the instructions are final in the meaning of European Directive 98/26/EC (as amended by EU directive 2009/44/EC) and are executed if there are sufficient securities holdings. The settlement of the transactions in a legal sense takes place after the successful confirmation of all debits and credits on the respective accounts of the customers. Clearstream Banking AG also records the exact time of the transfer of the CSC credits with the system stamp here.

Apart from the above-mentioned settlement cycles, securities can be processed and settled in EUR DvP, between 07:00 and 16:00 in the Real-Time Settlement processing (RTS). After 16:00, FoP and DvP settlement for specific transactions (GC Pooling in USD, transactions involving foreign currencies) is still possible until 18:00 and 17:30 respectively. Cash settlement for RTS transactions takes place via customers' RTGS accounts when payments are made in EUR and through Creation when payments are made in other currencies.

B. Are securities transferred within the SSS registered?

Securities transferred within Clearstream Banking AG system are usually held in bearer form. Also, registered shares (with or without restricted transferability) are eligible for CSC via Clearstream Banking AG's CASCADE-RS application system.

B.1. Who is the registrar?

The issuer itself holds the register. Alternatively, the register could be held by a service company that provides such service. This is true for both domestic and international securities.

B.2. Is it normal practice to register the securities in the name of the SSS (or its nominee) or in the name of the beneficial owner? Are there instances in which securities housed within the SSS are registered to neither the SSS (or its nominee) nor the beneficial owner?

The usual practice is to register the shares in the name of the beneficial owner or in the name of a nominee. Clearstream Banking AG does not provide nominee services for this type of registered shares. For registered shares held in CSC with Clearstream Banking AG, CBF does not identify whether they are registered in the name of the beneficial owner or of some other party because the register is maintained with the issuer or a service provider. Therefore, if not subject to legal or statutory restrictions, any third-party registration is possible.

B.3. If the SSS offers custodial services, will it hold securities registered in the name of the beneficial owner?

Clearstream Banking AG offers here the same custodial services as for bearer shares (see [B.2.](#) above).

B.4. Under what circumstances does the SSS initiate registration of securities in the buyer's name?

Clearstream Banking AG does not offer any registration services (see question [B.5.](#) below).

B.5. How long does the registration process typically take? Are participants notified when registration is complete?

Clearstream Banking AG services for registered shares via CASCADE-RS allow for processing of registration on or any time after the relevant settlement date. Customers are notified when registration is complete. Usually, for registered shares, registration is completed within one business day. For registered shares with restricted transferability, the registration progress may depend on the issuer's approval as laid down in the articles and statutes of the company.

B.6. Can securities be transferred within the SSS before registration in the buyer's name is complete? If so, do the rules and procedures of the SSS provide for an unwind or reversal of such transfers in case of bankruptcy or other events that result in the buyer's name not being entered on the register?

Registered shares can be transferred via Clearstream Banking AG any time and also before before their registration in the respective buyer's name is completed. In the event of a buyer's (customer's) bankruptcy or insolvency, withdrawal will be initiated for pending transactions at the processing stage, regardless of whether the buyer was entered in the register or not.

C. Please describe how securities transfers are processed within the SSS.

Clearstream Banking AG settles transactions between customers by automated, simultaneous processing of securities and reserved central bank money. This processing considers customers' instructions transaction by transaction, in an iterative process, to determine which of the transactions can settle in such a way as to optimise settlement.

C.1. Please indicate whether the transfers are processed as debits and credits to members' accounts or via some other method.

Securities transfers are processed as debits and credits to customers' securities accounts.

C.2. On a continuous (real-time) basis, or in one or more batches?

Overnight processing comprises one batch and one real-time settlement cycle. Daytime processing consists of three continuous processing cycles combined with two intra-day batch processing cycles and one final batch processing cycle on end of business day. In parallel, there is a real-time settlement cycle (see [A.3.\(c\)](#) above).

Basically, stock exchange trades, custody payments and the bulk of OTC trades will be settled within batch runs. Alternatively, OTC transactions versus payment can be settled on a real-time basis, that is, trade by trade.

Clearstream Banking AG distinguishes the following settlement cycles:

- Night-time processing:
 - Standard settlement (STD; batch run);
 - Real-Time Standard settlement (RT-STD);
- Day time processing:
 - First Same-Day Settlement (SDS1; batch run);
 - Second Same-Day Settlement (SDS2; batch run);
 - Continuous Same-Day Settlement (before SDS1 and SDS2 batch runs and one following SDS2 until close of settlement date at 18:00 (the latter for FoP-transactions only));
 - Real-Time Settlement (RTS; trade by trade).

C.3. If continuous, during what hours does the processing occur? If in batches, at what time or times is the processing initiated and completed?

Please refer to the schedule described under A.3. (c)

C.4. Do securities settlements occur daily? Please identify securities for which settlement occurs only on specific days of the week or month.

Securities settlement occurs daily for all eligible securities.

D. Please describe whether final funds transfers in conjunction with the SSS are made as debits and credits to balances held at the SSS, at one or more commercial banks, at the central bank or via some other method.

Final fund transfers are made as debits and credits to customers RTGS /T2 accounts.

Clearstream Banking AG provides two types of funds transfer for DvP transactions, whereby customers may use their own RTGS / T2 or the RTGS / T2 account of a third party, that is, a bank acting as cash settlement agent (see the footnote under [A.3.\(a\)](#) above):

1. Funds transfer for Real-Time Settlement (RTS) is offered continuously on a trade-by-trade basis via Clearstream Banking AG and directly from the customers' RTGS / T2 accounts.
2. Processing of funds resulting from STD, RT-STD after night-time processing and the daytime processing (SDS1 and 2, Cont-SDS 1 to 3) is carried out through debits and credits on the customers' RTGS / T2 account by using the cash balances provisioned on the accounts.

Cash settlement after night-time processing based on the guarantee concept (including STD and RT-STD processing as well as SDS and ContSDS processing):

Clearstream Banking AG generates the debit and credit instructions and sends them to the Deutsche Bundesbank (Bundesbank) as its cash agent for further processing. The Bundesbank unblocks the already reserved cash liquidity on the RTGS / T2 account of the customers and processes the debit balances first and then credits the RTGS / T2 account of the beneficiary.

RTS (Real-Time Settlement) cash settlement:

The settlement of the payment for the transaction to be executed in RTS is made directly through both the seller's and the buyer's RTGS / T2. Clearstream Banking AG instructs the Bundesbank to debit the amount to be paid by the buyer from its account and to credit such amount to the seller's account.

D.1. Does the SSS maintain cash accounts for its participants? Are these accounts equivalent to deposit accounts at a commercial or central bank or do they serve only as "cash memorandum" accounts?

Clearstream Banking AG, in its role as German CSD, maintains no cash accounts for its CSC customers. However, it maintains "cash memorandum accounts", which are used for the internal processing and which do not represent liabilities of Clearstream Banking AG.

For NCSC holdings and settlement in CSC against foreign currencies, Clearstream Banking AG maintains customer cash accounts equivalent to accounts at a commercial bank and provides funds transfers in conjunction with securities transactions.

D.2. On what entity (SSS or other) does the participant bear cash deposit risk?

As Clearstream Banking AG, in its role as German CSD (collective safe custody), does not maintain cash accounts for its collective safe custody customers and funds are deposited with the Deutsche Bundesbank, customers bear no cash deposit risk.

The situation is different for the NCSC holding since the cash accounts are held with Clearstream Banking AG itself.

D.3. Under what circumstances does the SSS provide credit extensions or advances of funds to its participants and thereby expose itself to credit risk?

Clearstream Banking AG, in its role as German CSD (collective safe custody), provides neither credit extensions nor advance funds to its customers. Some exceptions may apply as described notably under XIX of Clearstream Banking AG GTCs.

The situation is different for the NCSC holding since credit is provided by Clearstream Banking AG. We provide two complementary sets of credit facilities to allow the highest possible settlement efficiency. These include the Unconfirmed Funds Facility (UCF) and the Technical Overdraft Facility (TOF), which are described in detail below. The size of these lines is defined as a function of the trading activity and credit worthiness/rating of the customer, as well as the availability of appropriate collateral and/or bank guarantees.

The UCF can be used:

It can be used, for example:

- On an intra-day basis, to purchase securities at the start of the settlement processing in the night-time against covering funds to be confirmed by the end of real-time processing on value day;
- Over a period of one or more days from the expected settlement date, when confirmation of the receipt of funds is outstanding from the cash correspondent, clearing system or sub custodian.

The purpose of the TOF is to facilitate the settlement of securities transactions against payment. It is intended to be used exclusively for securities settlements, and not for cash withdrawals. It is an intraday credit line available to purchase securities at the start of the settlement processing in the night-time against covering funds to be confirmed by the end of real-time processing on value day. Debit positions must not continue beyond the end of real-time processing on value day.

D.4. How long can such credit extensions last? How long do they typically last?

See [D.3.](#) above.

E. Is the SSS a DvP system? If so, please describe the DvP model used according to the models outlined in the DvP Report (see the Introduction). Please also provide a diagram indicating the timing of events in the processing of securities and funds transfers in the SSS. Where the SSS provides more than one alternative for settlement processing, please provide a response for each alternative and indicate the relative importance of each alternative.

For Clearstream Banking AG, in its role as German CSD (collective safe custody):

Overnight processing comprises one batch and one real-time settlement cycle. Daytime processing consists of three continuous processing cycles combined with a final batch processing cycle. In parallel, there is a real-time settlement cycle (see [C.3.](#) above).

The real-time DvP process (DvP model 1) does not create risk to Clearstream Banking AG since the cash leg is settled in central bank money and Clearstream Banking AG does not grant credit.

Equally the night-time procedures (the most important in respect of the processed volume and value of transactions) introduced in November 2003 and March 2005 do not create settlement risks as the customers provide funds for settlement in advance of this night-time batch (DvP model 1). This settlement model, characterised by pre-funding, has in the meantime been introduced for all batch cycles.

For Clearstream Banking AG, in its role as custodian (NCSC):

See the Disclosure Framework of Clearstream Banking S.A., Luxembourg, which applies mutatis mutandis.

E.1. Are funds transfers and securities transfers processed within the same system or in different systems? If different, how are they linked?

From the customer's perspective, the processing of security transfers and the calculation of the corresponding funds to fulfil security transactions are both performed within Clearstream Banking AG's CASCADE settlement system. However, cash settlement itself will be carried out via Bundesbank and customers using their RTGS / T2 account will receive corresponding account statements of the debited or credited net amount resulting from the aforementioned calculation by Clearstream Banking AG.

E.1.(a) Please describe whether each securities transfer is linked to a specific funds transfer on a trade-by-trade basis or on a net basis or via some other method.

For all daytime and night-time processings, the availability of funds is checked in advance with the Bundesbank, on a net basis for the batch processes and on a gross basis for the real-time settlement processing.

E.1.(b) Does the SSS "split" large transactions into multiple transactions or require participants to do so?

Clearstream Banking AG processes customers' instructions as received. Nevertheless, transactions can be split by customers into multiple deliveries.

E.2. When do securities transfers and funds transfers become final?

Finality in the meaning of European Directive 98/26/EC (Settlement Finality Directive, as amended by EU directive 2009/44/EC) is the legal enforceability and irrevocability of instructions entered into a system for the execution of transfers of cash and securities, provided that sufficient positions exist. (The moment when such an instruction becomes irrevocable is defined by the rules of the settlement system in question.)

1. Instructions concerning payment and delivery transactions are irrevocable from the start of Clearstream Banking AG's settlement cycle, that is once they have been entered in Clearstream Banking AG's system for a settlement cycle and the system closing times for entering and amending instructions for the settlement cycle in question have been reached. Such closing times are published in the various information media.
2. Instructions settled as part of Real-Time Settlement (RTS) are irrevocable once they have been entered in the system and, in the case of a bilateral trade, a corresponding instruction from the counterparty has been identified by the system.

Securities transactions in the Clearstream Banking AG settlement system become final once the settlement has been executed in CASCADE and the associated re-registering has taken place in the custody ledger (Section 14 of the German Securities Deposit Act).

Cash settlement for payments made in EUR takes place through TARGET2. Cash settlement for payments made in currencies other than EUR take place through Creation, the custody and settlement platform of Clearstream Banking AG's sister company, Clearstream Banking S.A., Luxembourg.

E.2.(a) At what time do securities transfers become final? After what event or events?

Securities transactions in the Clearstream Banking AG settlement system become final once the settlement has been executed in CASCADE and the associated re-registering has taken place in the custody ledger (Section 14 of the German Securities Deposit Act). Settlement for DvP-Instructions in CASCADE will be performed as soon as SSS is informed by Bundesbank about the successful transfer of the related cash leg, only.

E.2.(b) At what time do funds transfers become final? After what event or events? Does this timing allow for same-day re-transfer of funds received in exchange for securities?

See [E.2.\(a\)](#) above.

E.2.(c) If final delivery of securities precedes the final transfer of funds, can participants dispose freely of such securities prior to funds finality? If so, what actions will be taken if funds are not received?

Not applicable.

E.2.(d) If final delivery of funds precedes the final transfer of securities, can participants dispose freely of such funds prior to securities finality? If so, what actions will be taken if securities are not received?

Not applicable.

E.2.(e) Does the timing of finality differ depending on the type of security transferred or the currency in which payment is to be made? Please describe.

No, the timing of finality does not differ depending on the type of security transferred or the currency in which payment is made. However, for payment in foreign currencies, Clearstream Banking AG must apply the deadline of the market of the payment currency.

E.3. Please discuss whether participants are notified of securities or funds transfers while they are still provisional, only when they are final, or both.

Customers can request and obtain information during all the settlement stages. Reporting will be available to customers once settlement has occurred.

F. Does the SSS itself "guarantee" funds or securities transfers?

No, Clearstream Banking AG does not "guarantee" transfers of funds or of securities because Clearstream Banking AG does not act directly as a counterparty.

F.1. Under what circumstances and at what point are transfers guaranteed by the SSS?

Not applicable.

F.2. What actions does the guarantee obligate the SSS to take?

Not applicable.

F.3. Please indicate whether the guarantee is a feature of the SSS's rules and procedures or of national law or regulations.

Not applicable.

VI. Default procedures

Events of default are among the most difficult and stressful occurrences that market participants and SSSs may experience. The IOSCO Report underscores the need for transparency in the area of default procedures on the grounds that it will provide more certainty in the operation of critical market mechanisms during these stressful events, and thereby reduce the risk that a single default will cause further disruptions.

Because the definition of a default event may differ across systems, the IOSCO Report recommends disclosure with regard to the circumstances in which action may be taken, as well as who may take it, and the scope of the actions that may be taken. In some cases, the term “default” may not be used by the SSS in its rules and procedures or in contracts with its participants. In these instances, SSSs should attempt to spell out for their participants both how they would address the insolvency of a participant and any other circumstances in which they would initiate exceptional measures to fulfil settlement or other obligations to their participants.

In this regard, this section attempts to lay out in one place the available resources of the SSS with respect to meeting obligations in the event of a default or other events that would trigger exceptional measures. It is important for participants to understand what these resources are as well as the order in which they will be accessed. The questions also address the possibility that securities or funds transfers will be unwound by the SSS. Because unwinds are a way to reallocate liquidity pressures and credit losses, it is vital that participants understand all the possible circumstances in which an unwind could occur.

A. Please discuss the events or circumstances that would constitute default of a participant under the rules and procedures of the SSS or that would lead the SSS to make use of exceptional settlement arrangements or unwind procedures.

According to Clearstream Banking AG’s GTCs, a default of a participant in the meaning of a suspension of payment by administrative order, a moratorium or the opening of an insolvency procedure has to be officially announced by the BaFin as the Federal Financial Supervisory Authority or a bankruptcy court. A timely limited delay in providing funds or a technical failure does not constitute a default, as stated in the glossary definition of “Default:” for the purpose of this document.

Other cases of default under Clearstream Banking AG’s GTCs are described in [A.1.](#) and [A.2.](#) below.

The cases of default that are not described in [A.1.](#), [A.2.](#), [B.4.](#), [B.5.](#) and [B.6.](#) below are as follows.

With regard to the default procedures of transactions, the agreements governing the securities lending programmes each define events of default for the purpose of these specific services. These events of default include depending on the relevant programme :

- Borrower’s failure to re-deliver securities when due;
- Failure to provide additional collateral to bring the collateral value of the securities pledged and/or cash up to the value of the securities borrowed or purchased under a repo transaction;
- Breach of any obligation arising under the respective agreements;
- Occurrence of any of the termination provisions in Clearstream Banking’s GTCs;
- Failure by the borrower to repay any indebtedness when due;
- Breach of any warranty given by either party under the agreements or the material incorrectness of any representation made;
- Acts of insolvency occurring with respect to either party;
- An admission by either principal party to the other of its inability to, or its intention not to, perform any obligation incumbent upon it;
- The suspension of either principal party from membership or participation in any securities exchange or association of other self-regulating organisation.

Under these securities lending agreements, Clearstream Banking AG acts as agent and thus never has a principal risk.

A.1. Failure by a participant to meet a test of its solvency under the applicable laws of its jurisdiction?

The conditions for the termination or suspension of the provision of services by Clearstream Banking AG or if a customer fails to comply with its obligation are clearly explained in VI (1) of the GTCs.

A.2. Failure to make payments or deliveries of securities within the time specified?

CSD business of Clearstream Banking AG:

With regard to the failure to make deliveries of securities: Not applicable because, owing to Clearstream Banking AG's function as German CSD, provisional bookings in securities accounts for securities in collective safe custody cannot occur.

Failure of a customer to make payments:

Since the customer has reserved the cash amount for night-time settlement and the daytime processing cycles in SDS and Cont-SDS on his RTGS / T2 account, this amount is blocked and thus guarantees the payment. The same applies for the real-time settlement.

Non-collective safe custody business:

For Clearstream Banking AG in its role as custodian, see the Disclosure Framework of Clearstream Banking S.A., Luxembourg, which applies mutatis mutandis with regard to the procedural steps taken by Clearstream Banking AG in accordance with German Law.

A.3. To the extent that the rules and procedures grant discretion in the determination of the use of default or other exceptional procedures, please discuss where the authority to exercise such discretion resides and the circumstances in which this authority would be used.

The source of such authority (generally, Clearstream Banking AG's GTCs) has been indicated in the answers to the relevant questions. Responsibility and authority to decide on the measures described lie with the Clearstream Banking AG Executive Board.

B. What procedures are followed by the SSS once it has determined that a default event has occurred or that exceptional settlement arrangements are to be employed?

B.1. How and at what point are participants notified that this has occurred?

If a moratorium or comparable measures are imposed on a customer, the respective customer will no longer be legally able to initiate instructions.

B.2. Would the SSS be expected to continue to meet all its obligations to participants under these circumstances? Please discuss the resources in place to ensure that this would occur (for example, collateral, participants' fund, insurance, loss-sharing arrangements etc.).

Yes, Clearstream Banking AG would be expected to continue to operate its settlement system and to meet all its obligations to customers, within the limits of the resources available to it.

Clearstream Banking AG has only a very limited right of lien or retention in accordance with Section 4, paragraphs 1 and 3, of the Securities Custody Act.

B.3. Please describe and provide a time line indicating the order in which these resources would be used as well as the timing of participant notifications and important deadlines (for example, when the SSS's obligations to participants would be met, when participants would need to cover their loss-sharing obligations).

Not applicable.

B.4. Please describe all conditions under which provisional transfers of securities or funds could be unwound by the SSS.

The Model 1 DvP system used by Clearstream Banking AG ensures true delivery versus payment, therefore, provisional transfers are not possible.

Nevertheless, Clearstream Banking AG has the right to reverse any erroneous debits or credits and any debits or credits that become subject to a reversal order. Erroneous bookings by Clearstream Banking AG may be reversed by under the provisions of No. XIII and XIX (5) of the GTCs.

Finally, the counterparties of a “final” transaction are free to reverse the transaction on bilateral agreement by newly instructing Clearstream Banking AG accordingly afterwards (reversal order) or settle issue in or out of court.

B.4.(a) How and on what authority would a decision to unwind securities or funds transfers be made by the SSS?

Not applicable, please refer to [B.4.](#) above.

B.4.(b) When and how would participants be notified of a decision to unwind provisional securities or funds transfers?

Not applicable, please refer to [B.4.](#) above.

B.4.(c) How long would participants have to cover any debit positions in their own securities or funds accounts resulting from an unwind?

Not applicable, please refer to [B.4.](#) above.

B.4.(d) In the event of an unwind, would all transfers be unwound or would only a subset of transfers (for example, only securities purchases or only those of a subset of participants) be unwound?

Not applicable, please refer to [B.4.](#) above.

B.4.(e) If only a subset of transfers, what procedure would be followed to determine which transfers and in what order?

Not applicable, please refer to [B.4.](#) above.

B.5. Can bankruptcy or insolvency be declared retrospectively in the SSS's jurisdiction (for example, under a “zero-hour” rule), and could this cause provisional securities or funds transfers to be unwound?

No, not under German Law.

B.6. Please describe any circumstances in which transfers of securities or funds that were defined as final in response to question V.E.2. above would ever be unwound.

The Model 1 DvP system used by Clearstream Banking AG ensures true delivery versus payment and therefore could not be unwound.

Clearstream Banking AG has the right to reverse any erroneous debits or credits and any debits or credits that become subject to a reversal order.

According to its GTCs, Clearstream Banking AG also has the right to debit any security found not to be of good delivery at any time after its deposit at Clearstream Banking AG from the account of the customer for whose account the security was deposited in Clearstream Banking AG.

C. Has a participant in the SSS ever been declared in default or become insolvent?

There have been cases where customers have been insolvent or declared bankrupt. Clearstream Banking AG did not experience any credit or financial loss as a result of these situations.

C.1. Have loss-sharing procedures been invoked?

No.

C.2. Please describe whether any of these defaults or insolvencies resulted in losses for the SSS or its participants and how they were absorbed.

These defaults or insolvencies have never resulted in losses for Clearstream Banking AG. As a matter of principle, Clearstream Banking AG cannot and does not monitor if a default or insolvency of one customer causes losses for other customers. To our knowledge, they have not resulted in losses for other customers.

VII. Securities overdrafts, securities lending and back-to-back transactions

In recent years, SSSs have implemented a variety of approaches aimed at satisfying increasing demands for more rapid securities settlement, particularly in the cross-border context. This section focuses on several related issues that can arise in conjunction with these procedures.

The first set of questions in this section relates to the possibility of debit positions in participants' securities accounts at the SSS. Because such positions indicate instances where participants have been allowed to transfer securities that they do not have on deposit at the SSS, they clearly involve substantial risk that the SSS may not be able to obtain the actual securities and complete all necessary settlements. For this reason, it is vital for participants to understand the conditions, if any, under which such debit positions can arise, and what actions the SSS will take to rectify them. The questions also address measures that SSSs can take to reduce or prevent such debit positions.

The existence of a securities lending programme at the SSS and the conditions under which securities loans are triggered represent another important topic covered by the questions in this section.

Participants need to understand both when the SSS will arrange for securities to be lent to them and when securities they hold on deposit at the SSS will be made available for lending to others. The existence and terms of a securities lending programme may also have implications for the SSS's ability to facilitate settlement in a variety of circumstances, particularly for back-to-back transactions.

Back-to-back transactions were a major focus of the Cross-Border Report and involve a pair of transactions that require a counterparty to receive and re-deliver the same securities on the same day. They have the major advantage of avoiding unnecessary funding costs to the party buying and then selling the securities.

This practice poses no particular risk when the delivery follows an actual final receipt of the securities, as there is then no risk that this receipt would have to be unwound. Especially in the cross-border context, differences in the timing of settlement cycles or of finality have led to the development of practices whereby SSSs in some circumstances allow onward-deliveries under back-to-back transactions before the initial securities receipts are final, in effect extending temporary (often intraday) securities loans. The questions in this section attempt to clarify the circumstances under which this occurs, so that participants can understand the risks entailed by these practices.

A. Is it possible for debit positions (overdrafts) in securities accounts at the SSS to arise?

Securities overdrafts are not possible; in principle, all Clearstream Banking AG customers' accounts of collective safe custody securities operated on the CASCADE platform and set up for securities settlement must show a credit. They all belong to the account type group 01 KUNDENDEPOT NUR HABEN.

Collateral and pledge accounts are also allocated to this group. Clearstream Banking AG offers securities lending services in order to increase settlement efficiency and to enable lenders to increase the return on their portfolio on the CASCADE platform. Clearstream Banking AG itself does not, however, lend or borrow securities and never plays a role of principal, as described in [Section B](#), below.

A.1. Under what conditions could such debit positions occur?

Not applicable. Please refer to [A](#), above.

A.1.(a) Do these conditions always result in debit positions in securities accounts rather than failed transactions? If not, please explain the basis for differential treatment by the SSS.

Not applicable. Please refer to [A](#), above.

A.1.(b) Are these situations covered explicitly by the rules and procedures of the SSS?

Not applicable. Please refer to [A](#), above.

A.2. How long can such debit positions last? How long do they typically last?

Not applicable. Please refer to [A.](#) above.

A.3. How are debit positions in securities accounts prevented, rectified or managed?

Debit positions are generally prevented in the normal settlement process, as the customers cannot onward-deliver securities unless these have been credited to the customer's account. A lack of securities can be covered through securities lending transactions.

A.4. What procedures would be followed by the SSS in case the debit cannot be rectified (for example, failure by a participant with a debit balance in a securities account or unavailability of the securities in the market)?

Not applicable. Please refer to [A.](#) above.

A.4.(a) Application of loss-sharing provisions allocating the loss to participants?

Not applicable. Please refer to [A.](#) above.

A.4.(b) Absorption of the loss by the SSS?

Not applicable. Please refer to [A.](#) above.

A.4.(c) Other? Please specify.

Not applicable.

B. Under what circumstances, does the SSS provide for the lending of securities to ensure settlement?

Clearstream Banking AG offers securities lending services via the satellite system Lending Management System (LMS) in order to increase settlement efficiency and to enable lenders to increase the return on their portfolio on the CASCADE platform. Clearstream Banking AG itself does not, however, lend or borrow securities and never plays the role of principal.

Lending of securities is provided only within the three existing securities lending programmes: Automated Securities Lending (ASL), Strategic Securities Lending (SSL) and KAGplus. The holder of an account with Clearstream Banking AG must accept Clearstream Banking AG's GTCs, the Special Conditions for Securities Lending as well as the Supplementary Conditions to the Special Conditions for Securities Lending and can borrow securities only under the following conditions:

- The account holder concerned has signed up as a (borrower) customer to one of the securities lending programmes;
- The borrower has sufficient collateral available on its account to secure the loan required;
- The securities required are eligible for lending within the securities lending programme concerned;
- The securities to be borrowed are available on the account with Clearstream Banking AG of an account holder that has signed up as a securities lender within the same securities lending programme;
- In the context of KAGplus, Investment Companies as indirect customers (no account ownership) must accept Clearstream Banking AG's GTCs, the Special Conditions for Securities Lending as well as the Supplementary Conditions to the Special Conditions for Securities Lending. Additionally, a Service Level Agreement must be signed to fix the details of the service.

Clearstream Banking AG does also offer securities lending services (SSL, KAGplus) in securities held in NCSC on the Creation platform. Lenders need to own a 6-series account whereby borrowers can own any other Creation account.

B.1. Is the process for lending securities automatic? If not, please describe the procedures used by the SSS to determine whether a securities loan will be made.

Customers participating in ASL and SSL as lenders can sign up as automatic lenders or as case-by-case lenders. For automatic lenders, the decision to open and close the securities loan is made within the settlement process, taking into account all the predefined criteria and parameters applicable to these securities lending services. For

case-by-case lenders, the opening of a loan requires not only compliance with the same predefined criteria and parameters but also the lender's explicit approval.

Customers participating in ASL as borrowers authorise Clearstream Banking AG to automatically determine their individual borrowing requirement and to mediate loans on their behalf to fulfill the daily delivery obligations against payment. Customers participating in SSL and KAGplus borrow upon request only.

B.2. At what point are participants notified that securities are being lent to them in order to complete their settlements?

After the SDS2 processing cycle has finished, extensive reporting is sent to all active customers, including turnover reports for loans and collateral as well as open position reports. Available formats for customers are TIF files, PDF files, faxes and CSV files (ASCII) for eventual upload.

B.3. Which securities on deposit at the SSS are eligible for lending? Do participants have the option to make securities available for lending or is it mandatory?

Customers of Clearstream Banking AG are not obliged to participate in any of the existing securities lending and borrowing programmes.

Subject for loans are all securities that are made available for lending by Clearstream Banking AG. This is done for securities held in collective (CASCADE) as well as in non-collective (Creation) safe custody. For good reasons and in due consideration of the fair and reasonable interests of the participants, Clearstream Banking AG is entitled to exclude individual or groups of securities from lending. Participants receive prompt advance notice of such exclusion. Participants are not entitled to demand the admission of specific securities.

A lender either determines in each individual case which lending securities he will deliver (occasional lender) or decides in advance which securities he assigns to the securities lending pool (automatic lender). The lending pool consists of lending securities that the automatic lenders have made available for this purpose. These can either be lending securities booked to a separate account of the lender or securities kept in his main account with Clearstream Banking AG that are eligible for lending and technically coded as such. The automatic lender is obligated to notify Clearstream Banking AG of every withdrawal of securities from the lending pool at the latest one settlement day in advance and to confirm such intention in writing prior to the withdrawal. The automatic lender indemnifies Clearstream Banking AG against all damages and claims resulting from delayed or omitted notifications.

B.4. Are lent securities identified by the SSS with specific participants as lenders or only with a common pool of securities available for lending? Does the participant whose securities are lent become a principal to the transaction?

In allocating the securities, Clearstream Banking AG acts as an intermediary in the conclusion of the securities lending contract between the contracting customers since, representing both lender and borrower, it accepts the declaration of intent from both parties. The customers entitle and authorise Clearstream Banking AG to undertake all declarations and actions necessary for this allocation procedure and release Clearstream Banking AG from the prohibition to act as principal and agent simultaneously (self-contracting party) (Section 181 of the German Civil Code). Clearstream Banking AG does not net the delivery and payment claims of lenders and borrowers.

Clearstream Banking AG does not examine the rights or entitlements of the lender with respect to the lending of securities.

Clearstream Banking AG is empowered to transfer to the borrower the unrestricted ownership, or other equivalent legal title according to the common practice in the place of custody, to the allocated lending securities. In compliance with the lending provisions, Clearstream Banking AG posts the lending securities to the account of the borrower. This accounting entry transfers to the borrower the ownership, or other equivalent legal title according to the common practice in the place of custody, including the power of disposal, to the extent to which the lender was entitled at the time of booking. In so far as necessary, Clearstream Banking AG, as representative of the lender, or the lender himself on request of Clearstream Banking AG, make all statements required in this respect.

Collateral in securities must be provided to Clearstream Banking AG by way of pledge or assignment as security. Clearstream Banking AG acquires the right of lien or collateral security ownership as fiduciary for the lender by

crediting such collateral in the form of securities to the account for pledged securities and collateral security ownership managed by Clearstream Banking AG for the respective borrower. In addition, Clearstream Banking AG also acquires the right of lien on collateral in the form of securities correspondingly allocated as such to Clearstream Banking AG in the collateral management system. Clearstream Banking AG determines the securities accepted as collateral and their respective value. Security in the form of cash must be credited to the RTGS / T2 account of Clearstream Banking AG at Deutsche Bundesbank. Clearstream Banking AG is entitled to request the borrower to submit a direct debit authorisation for the borrower's RTGS / T2 account. Clearstream Banking AG is under no obligation to pay interest on security supplied in the form of cash.

The amount of cash collateral, if applicable to the client, is determined by Clearstream Banking AG on a daily basis. The transfer of such collateral is processed within the second Bundesbank processing cycle directly after SDS2 cycle. The balance of the cleared cash amount (settlement, cash collateral etc.) will then be compensated via Bundesbank. Cash collateral is consequently part of SDS2 cycle.

C. How does the SSS settle back-to-back transactions?

Instruction linking is not possible for the settlement of transactions in collective safe custody securities in the CASCADE system of Clearstream Banking AG. However, customers can block their delivery instructions for settlement and release them only when the respective purchase has settled. Blocking does not prevent pre-matching of an instruction.

However, Clearstream Banking AG offers back-to-back transactions for the international business of NCSC securities that are held on the Clearstream Banking S.A., Luxembourg Creation platform.

C.1. Under what conditions are delivery instructions by participants receiving and re-delivering securities on the same day under back-to-back transactions settled for same-day value?

The back-to-back service is only offered on the Creation platform for the NCSC activity. It should be noted that this service is restricted to those markets where the respective domestic depository supports this functionality.

This service is not offered for so-called internal transactions between a Clearstream Banking AG and a Clearstream Banking S.A., Luxembourg counterparty, or for so-called "Bridge transactions" between a customer of Clearstream Banking AG and a counterparty in Euroclear Bank S.A., Brussels routed via the ICSD link between Clearstream Banking S.A., Luxembourg and Euroclear Bank S.A. Domestic back-to-back processing comprises the following features:

- Linkage of a domestic purchase with a domestic sale (1:1);
- Verification that the domestic purchase and sale together constitute a valid back-to-back transaction (that is, same settlement date, nominal of purchase greater than or equal to nominal of sale etc.);
- Simultaneous release of the purchase and the sale to the depository;
- Guarantee that the settlement of the domestic delivery will only be possible once the related back-to-back purchase is confirmed.

If both counterparties meet their settlement obligations and fulfil the back-to-back requirements within the relevant deadlines, then the purchase and the sale will settle with same value date.

C.1.(a) Only if the participant has securities on deposit with the SSS that have been received pursuant to a final securities transfer?

In any case, the delivery instruction can only be settled once the linked purchase is irrevocable, as the securities received from the purchase will be used to provision the sale.

C.1.(b) If the participant has securities on deposit with the SSS that have been received pursuant to a provisional securities transfer?

Not applicable as Clearstream Banking AG is a pure DvP model 1 settlement system. Securities transfers are not considered for onward delivery unless they become final and irrevocable.

C.1.(c) Before securities have been received either provisionally or finally, but when a matched receipt instruction exists for the same or greater value? Is such a practice limited to markets where matching is binding?

No, as securities transfers are not considered for onward delivery unless they become final and irrevocable.

C.1.(d) Before securities have been received either provisionally or finally, but when a third party has promised to deliver to the SSS securities of the same or greater value? Must the provider of the guarantee have itself received the securities through a final transfer? Please describe how the SSS evaluates such promises, and whether they are addressed by the written rules and procedures of the SSS.

No, as Clearstream Banking AG does not credit securities to a customer's account based on a third party's promise to deliver them. Only securities actually received are credited to customers' accounts and made available for onward-delivery.

C.1.(e) Other? Please specify.

Not applicable.

C.2. Please describe limits or controls in place with respect to any of the above arrangements for the settlement of back-to-back transactions, including limits on amounts involved or related to the liquidity of the underlying securities.

Clearstream Banking AG does not support back-to-back transactions for CSC business.

The limits and controls in place at Clearstream Banking AG for the settlement of back-to-back transactions for the NCSC activities include the following:

- The purchase and sale transactions must be linked by defining an identical pool reference in both active instructions;
- Back-to-back transactions are only allowed where one domestic purchase is linked to one domestic transaction;
- Back-to-back transactions are only possible for instruments for which this service is supported in the related domestic market;
- The back-to-back transaction service is only offered for markets that support the service and guarantee that the linked delivery transaction will only be settled upon settlement of the related purchase.

C.3. Under what conditions are payment instructions by participants in the SSS under back-to-back transactions settled for same-day value? Can participants use the proceeds of an onward delivery of securities without the need for an extension of credit?

Unless a sufficient credit line is available, payment instructions related to back-to-back transactions can settle with same-day value only where the concerned receipt and delivery instructions are irrevocably settled. Where a sufficient credit line is available, it will be used to settle the instruction independently of the settlement of the back-to-back instructions.

VIII. Risk control measures

This section of the Disclosure Framework is intended to provide a description of the risk management systems employed by the SSS. Sound risk management encompasses a number of aspects, including assessment of risks and input into the risk management process from senior management and the Board of Directors, particularly with respect to the review of new products and services by the SSS. Internal and external audits as well as supervisory oversight can also play a vital role in ensuring that the risk management approach is sound and implemented with integrity.

A range of different risks can arise in conjunction with the different services that SSSs may provide. For example, in the course of providing settlement services, the SSS may become exposed to credit, custody or liquidity risks if, either explicitly or implicitly, it extends funds credit or lends securities to participants. In the provision of custody services, the SSS may take on credit risk if it extends funds to or on behalf of third parties. A variety of risk management approaches to these risks are possible, including in particular the use of collateral or limits on risk exposures. The questions also address several other provisions or tools that may be helpful to SSSs in managing or containing the different risks that they face, but are not meant to exhaust all the possible approaches that SSSs may employ.

A. Please describe the roles and responsibilities of those areas of the SSS responsible for risk management and control.

The Clearstream Banking AG Executive Board is responsible for managing risks within and for Clearstream Banking AG. The organisation of Clearstream Banking S.A.'s risk management is decentralised. The business areas are responsible for identifying risks and for reporting them promptly to Group Risk Management. Risk management is an elementary component of the management and control of Deutsche Börse Group (DBG) as the ultimate parent company of Clearstream Banking AG. Effective and efficient risk management is fundamental to safeguarding DBG's interests (both in terms of corporate goals and continued existence). Therefore, DBG has established a groupwide risk management concept in terms of processes, roles and responsibilities applicable to all staff and organisational entities of DBG to ensure that risk development can be identified and dealt with at an early stage.

The risk management framework of DBG, as stated in the Group Risk Management Policy, aims at ensuring that all threats as well as causes of loss and potential disruption are properly and timely identified, centrally recorded, assessed (quantified in financial terms to the greatest extent possible), that the most adequate treatment is applied and that a consolidated report is submitted to the Executive Board in a timely manner.

The risk management processes are: the identification, notification, assessment, control and reporting of risks.

Risk identification involves - to the most complete extent possible - the identification of all threats, as well as causes, of loss and potential disruption as described in the risk tree. Risks may arise as a result of internal activities or external factors and, when concluding new business or entering new service areas, risk examination must be performed with regard to both existing and new processes.

The risk identification process can be reactive, following an incident. It should also be proactive, based on the regular review of processes in order to identify weak areas, or based on scenarios of failure taking into consideration all sources of issues.

Risk identification also involves a phase of quantification, implying the definition of parameters that can be based on statistical data (in the case of actual process monitoring) or on subjective expert appraisal (when no statistics are available). These parameters illustrate the risk and are determined by the relevant organisational unit in accordance with this policy. All organisational units and individual employees are in principle required to identify and quantify by themselves potential risks in their area of responsibility.

Risk notification is the step in the risk management process that ensures that risks are centrally recorded at Group Risk Management.

Risk assessment of an incident or of a potential risk development aims at quantifying the risk in financial terms using the "Value at Risk" methodology and comparing the result with the available risk cover. It is performed by

Group Risk Management and takes into account mitigation measures currently in place, such as business continuity measures, insurance policies etc.

A qualitative approach may be used whenever it adds value or is deemed more adequate.

Clearstream has been using the Advanced Measurement Approach (AMA) since 1 January 2008 to calculate its capital requirements with regard to operational risk.

Risk control involves determining and implementing the most appropriate treatment for the identified risk. It encompasses the following: risk avoidance, risk reduction, risk transfer and intentional risk acceptance. All organisation units and employees must perform risk control and implement mitigating action according to the established escalation process.

Risk reporting of any material risks to the responsible Executive Board members and committees is performed by Group Risk Management. Reporting to the Audit, Compliance and Risk Management Committee (ACRC) covers all areas where risk might occur. At least once a year, the Audit, Compliance and Risk Management Committee reviews a compliance status report obtained from executive management.

Internal Audit ensures through independent audits, that the adequacy of risk control and management functions is monitored. The result of these audits is also fed into the risk management system.

Clearstream has installed a standardised approach for measuring and reporting all operational and financial business and project risk across its organisation: the concept of "Value at risk" (VaR). The purpose is to allow the overall risk appetite to be expressed in a comprehensive and easily understandable way and to facilitate the prioritisation of risk management actions.

A.1. Please describe the process for the internal review of risk management policies and procedures.

The Clearstream Banking AG Executive Board has primary responsibility for approval of risk management policies and procedures; preliminary steps, including the review of policies, may be partially delegated to relevant functions/units.

In terms of process, all new policies and major changes to policies are submitted to the Audit, Compliance and Risk Management Committee (ACRC) and the Clearstream Banking AG Executive Board.

A.2. Is there a risk management policy that addresses the review and approval of new products and services offered by the SSS? At what level of the organisation is risk management approval given for a new product or service?

According to the Risk Management Policy, all organisational units and individual employees must in principle notify Risk Management in a timely manner of the risks they have identified and quantified. This also applies to the development of new products and services or alterations to existing products and services.

In all cases, the proposed change must also be submitted to the management of the areas affected by the change, including the relevant units in Operations, and must ultimately be reviewed and approved by the Group Product Development and Group Investment Committees at the various stages of the product pre-life cycle. The Corporate Project Coordination unit is reviewing all projects that involve significant investment, bear high complexity or have impact across the Group. Based on reference guidance provided by Group Risk Management, they may alert Group Risk Management, who in turn will produce a risk assessment and escalate to relevant executive management if necessary.

While primary responsibility lies with the business units for the monitoring of their own risks (identification, notification to Group Risk Management and risk control), Group Risk Management, whether routinely or on an ad-hoc basis, is performing risk assessments and is in charge of producing adequate reporting to the relevant management boards and committees.

A.3. Does the SSS have a risk management function with clear independence from and authority over operational or marketing functions?

The risk management function of Clearstream Banking AG is independent from any other business line. The risk manager is reporting direct to the responsible Member of the Executive Management of Clearstream Banking AG. Due to outsourcing arrangements he is supported by the complete team of Risk Management.

A.4. Does the Board of Directors review risk management policies and procedures? Does the Board have a risk management or audit committee?

The Supervisory Board of Clearstream Banking AG is informed of risk management policies and procedures via the Clearstream Banking AG Executive Board. It is the latter that directly approves the annual audit plans of internal and external auditors and can request a specific audit by internal or external auditors of Clearstream Banking AG's compliance with, among other things, its risk management strategy, policies and procedures. Clearstream Banking AG Supervisory Board receives a quarterly risk management and at year end a report on the overall status of internal controls within the organisation.

B. Please describe any internal or external audits or supervisory/regulatory examinations that are performed with respect to the SSS. For each such audit or examination, please address the following questions.

According to German law, Clearstream Banking AG is subject to an annual audit of its financial statement. Based on the commercial code and the German Banking Act in conjunction with the ordinance on banking audits, the annual audit needs to be documented in a dedicated long form audit report which needs to tackle a variety of defined topics. The report goes to the Supervisory Board as well as to the banking supervisors of Clearstream Banking AG. In addition, Clearstream Banking AG is subject to an annual custody audit by its statutory (external) auditor according to the Banking Act. Again – in conjunction with the ordinance on banking audits – a dedicated report is issued and is sent to the Supervisory Board and the banking supervisors.

Furthermore, Clearstream Banking AG is subject to any ad-hoc examination by the banking supervisors often supported by the oversight function for the SSS. Being classified for years as systematically important (not to be mixed up with any future classification under the SIFI regime currently discussed internationally and nationally which may or may not confirm this status – potentially being modified as “systematically important Financial Markets Infrastructure”) the general BaFin regular examinations in the context also of the Clearstream Holding group (being a supervised financial holding group) comprises of an annual audit of two to four weeks, annual audit visits of the important group locations worldwide (including discussion with local supervisors of the group's entities), an annual talk with Executive Management, an annual college meeting comprising all EU supervisory and oversight authorities and frequent exchange of views on dedicated topics.

In addition, BaFin requests, on an ad-hoc basis, formal information for any topic it considers as being important. Finally, based on the Einlagensicherungs- und Anlegerentschädigungsgesetz (EAEG English: Deposit Insurance and Investor Indemnification Law) and the by-laws of the deposit insurance the following external examinations are performed:

- a) An annual examination of the risk profile of the company;
- b) On-site audits on a regular, but not annual basis.

The internal Chief Auditor and audit staff remain independent from any other group activities in order to allow them to carry out their work freely and objectively and render impartial and unbiased judgments. The Chief Auditor reports directly to Executive Management. Internal Audit is authorised to have unrestricted access to all records, personnel and physical properties.

An Audit Universe of all auditable units, processes and IT systems has been set up by Internal Audit and is reviewed annually. A three-year rotational plan is prepared, based on a risk analysis of the audit universe, from which the detailed plan for the coming year is determined. The three-year rolling plan and detailed annual plan are both approved by the Executive Management.

B.1. Who performs the audit or examination?

See [B.](#) above.

B.2. What is the scope of the audit or examination?

Internal Audit performs examinations, reviews and reports on:

- The control environment;
- The controls over key processes, operational and functional;
- The reliability and integrity of financial and operating information and of the means used to identify, measure, classify and report such information;
- The systems established to ensure compliance with applicable policies, procedures, laws and regulations and determine whether the organisation is in compliance;
- The means of safeguarding assets;
- The process by which risks are identified, analysed and managed; and
- The economy and efficiency with which resources are employed.

In addition, they are responsible for providing to all levels of management of the organisation:

- Objective and independent evaluations of internal controls;
- Recommendations to improve controls and processes;
- Suggestions to improve the economy, efficiency and effectiveness of controls and procedures within the unit's activities;
- Regular updates of the status of open audit recommendations.

The Internal Audit function is audited annually by the external auditors, KPMG, to validate the operating effectiveness of its internal controls and to obtain the sign off for the accounting and operational audit records

B.2.(a) Please indicate whether and how it addresses the sufficiency of and compliance with internal controls.

Internal Audit is an independent appraisal function established to provide a reasonable assurance to the executive management and the Executive Board of Clearstream Banking AG of the adequacy and effectiveness of the risk management and control framework in operation.

The objective of Internal Audit is to assist executive management in the effective discharge of its responsibilities. It provides management with analysis, appraisals, recommendations and information concerning the risk management and control framework covering all business activities. To enable the achievement of this objective, Internal Audit is authorised to have unrestricted access to all records and all personal and physical properties.

The Head of Internal Audit at Clearstream Banking AG and the Chief Auditor at Deutsche Börse Group level prepare rotational Audit Plans based on a risk analysis that ensures that all areas are covered on a 3-year cycle, in accordance with regulatory requirements, and that focuses coverage on high-risk areas each year.

The Chief Auditor of the Group and the Head of Internal Audit for Clearstream Banking AG together prepare and submit once a year to the Audit, Compliance and Risk Management Committee (ACRC), for their concurrence, an audit programme based on a risk assessment methodology. The Chief Auditor determines the nature and type of examinations that will be conducted throughout the company, in accordance with the audit programme or according to exceptional circumstances.

The scope of audits by Clearstream Banking AG's statutory external auditors is determined in accordance with International Standards on Auditing and specific regulatory requirements of the BaFin. Those standards require that they plan and perform the audit to obtain reasonable assurance about whether the annual accounts are free of material misstatement.

There is no limit to the scope of audits that may be requested by the Board of Directors.

External audits by Clearstream Banking AG's statutory auditors carried out at the request and with the mandate of Clearstream Banking AG's supervisory authorities, the BaFin, include annual audits and exceptional audits of specific areas. The scope of the former is set by their regulations; the scope of the latter is set on a case-by-case basis.

B.2.(b) Please indicate whether and how it addresses the SSS's compliance with its own rules and procedures.

Compliance with the company's policies and procedures is an integral part of the scope of all internal audits. Clearstream Banking AG also addresses compliance related subjects in its organisational handbook, implemented in accordance with the requirements for banks pursuant to Section 25a, paragraph 1, of the German Banking Act.

The external auditor's review includes the compliance of Clearstream Banking AG with its internal controls and procedures.

B.3. What is the frequency of the audit or examination?

Internal audits are carried out according to the annual internal audit plan and, in addition, whenever the Group Chief Auditor or Head of Internal Audit for Clearstream Banking AG considers that an audit is necessary. Reports, including detailed findings and recommendations, are distributed to Line Management, to the responsible member(s) of the executive management and to the CEO of Clearstream Banking AG. All major items are reported to the Audit, Compliance and Risk Management Committee (ACRC).

In the case of external audits, these can be undertaken as follows:

- External audits must be undertaken at least annually by Clearstream Banking AG's statutory external auditors and include detailed analytical requirements determined by the regulators.
- External audits of specific areas may be undertaken on a case-by-case basis at the request of the Board of Directors.
- External audits by Clearstream Banking AG's statutory auditors at the request and with the mandate of Clearstream Banking AG's supervisory authorities may be undertaken at any time.

B.4. Are audit or examination reports available for review by participants?

Apart from the KPMG Opinion Letter in the DBAG Annual Report, no internal nor external audit reports are publicly available for the CSC activity.

The NCSC activity is reviewed on an annual basis by KPMG and as a result The International Standard on Assurance Engagements (ISAE) No. 3402 is produced; this is an assurance report on the description of controls, their design and operating effectiveness.

C. Please discuss whether the SSS has the capacity to value (that is, mark to market) the securities that it holds.

Clearstream Banking has the capacity to revalue the securities that it holds as collateral on a daily basis. For credit purposes, securities without recent market prices (generally, not older than 5 trading days) are applied a higher haircut or not accepted as collateral.

The evaluation performed in the collateral management system Xemac on assets pledged to cover customer credit lines is based on the eligibility and evaluation criteria given by the Eurosystem.

C.1. Please describe how these valuations are used by risk control systems at the SSS.

For transactions in NCSC securities held in the Creation platform, whenever a transaction of any kind is considered for settlement, the system checks, among other things, whether settlement of the transaction would result in the customer's account having a total exposure requiring to be secured that is in excess of the exposure that can be secured by the collateral available in the account pledged (or to be pledged).

- If the resulting exposure would be in excess of the exposure that can be secured by the collateral available in the account, the settlement system will not settle the transaction.
- If the resulting exposures are each within the limits of the relevant credit facility available to the customer and all other conditions for settlement are met, the settlement system will settle the transaction.

When evaluating the collateral available in an account to secure a given exposure, the Clearstream Banking S.A. system takes into account the following details:

- Which securities holdings are available in the account and eligible as collateral to secure the particular exposure considered;

- The market price of the securities stored in the system;
- The exchange rates, where relevant, stored in the system;
- The relevant haircut to be applied to each security when used as collateral to secure the type of exposure considered for the relevant creditor.

At the beginning of the settlement process, the settlement system re-evaluates the outstanding exposures and collateral available based on the securities prices and exchange rates stored in the system at that time.

C.2. How frequently are securities revalued?

Clearstream Banking AG's system updates securities prices at least daily for its NCSC services and collateral management services.

Clearstream Banking AG has subscribed to the services of several information providers. If no price is provided by these information services or by market customers (for example, depositories) the price of a security will be the issue price. In cases where non-priced securities are considered to be eligible for collateral, mitigation measures are applied; that is, either the haircut increases or these securities are rejected as valid collateral. If a price is not listed on a stock exchange, then prices provided by market makers are used for the acceptance of such a security. For equity instruments, the issue price is required at the initial set-up of the security.

C.3. What are the sources for security valuations?

The valuation of securities is based on prices obtained from external independent sources, for example Wertpapier Service System (WSS).

C.3.(a) What outside price or data sources are used?

Clearstream Banking AG obtains price information from independent external sources:

- Wertpapier-Service System (WSS).
- IDC (Interactive Data Corporation) which sends a pricing file per day from Monday to Friday and on public holidays. Prices are globally collected during a business day.
- Bloomberg Generic Prices: BBG provides multiples files, according to instrument type (Debt, Equity,...) and geographic zone (Europe, North America, etc.)
- Reuters, which has been implemented for an automatic research of prices to compare the feeds received through external sources.
- Telekurs stand-alone workstations, enabling the manual research of prices.

IDC and Telekurs provide theoretically evaluated prices. If a security cannot be priced by the regular data feed (IDC Market price - BBG), an evaluated price is requested from IDC. If IDC is not in the position to provide a price, the request will be re-routed to Telekurs.

Since the implementation of the new pricing system, average pricing was replaced by the selection of prices. The most appropriate price provided by several data vendors is selected and promoted as Silver Copy.

In accordance with the evaluation rules of the Eurosystem, collateral pledged via Xemac receives a manual price provided by the Deutsche Bundesbank if no accurate market price is applicable.

C.3.(b) If pricing models are used, please describe how the models are chosen and how the model inputs are obtained.

For assets that cannot be evaluated within Xemac due to missing prices, the Deutsche Bundesbank provides the necessary price information.

For assets that are not traded on an exchange, formulae are used to calculate the respective prices. For this, a specific calculation tool (Zinsmodul) is used.

For assets held in non-collective custody, theoretical prices are obtained from IDC and Telekurs.

D. Please discuss whether the SSS has a lien on the securities held in or transferred through it.

Clearstream Banking AG is empowered by law, according to Section 9 and Section 4, paragraph 1, sentence 2 of the Securities Custody Act (Depotgesetz), to place liens on the customer's accounts for fees and expenses of Clearstream Banking AG in connection with services related to the safekeeping, settlement and administration of securities, the collateralisation of overdrafts, or as a technical overdraft facility to ensure payment of equivalents under good value.

This potential lien by law is not limited to securities owned by the customers themselves. However, German law assumes that an account contains non-proprietary assets of the customer unless Clearstream Banking AG has been notified to the contrary.

D.1. Does the lien apply only to the securities owned by the participants themselves or does it extend to the securities beneficially owned by customers of participants?

Generally, the lien applies only to the securities owned by the customer. Nevertheless, according to Section 4, paragraph 1, sentence 1 of the Securities Custody Act (Depotgesetz), Clearstream Banking AG must assume that securities do not belong to the customer unless Clearstream Banking AG is notified otherwise. If Clearstream Banking AG was notified accordingly with respect to a customer's account, then Clearstream Banking AG might assume for the future that all securities on this account belong to that customer.

D.2. Under what circumstances and in what manner would such a lien allow the SSS to use the securities?

If a customer cannot fulfil all or some of its settlement obligations., the lien would allow an enforcement of collateral in order to cover related obligations under the terms described above.

E. Please discuss the circumstances in which the SSS requires collateral to limit or mitigate risks.

Generally, Clearstream Banking AG always requires collateral to secure credit lines for transactions in NCSC securities for which Clearstream Banking AG maintains cash accounts (6-series accounts) for each customer to enable settlement in commercial bank money.

Customers that do not have access to a marginal lending facilities at their Central Bank and that, for the purposes of Clearstream Banking AG's cash operations, have their own RTGS / T2 account must provide collateral to become a customer according to the GTCs of Clearstream Banking AG. If a customer ever fails to cover its RTGS / T2 account, Clearstream Banking AG may grant the customer an exceptional intraday bridging loan, provided either that any resulting and future claims are covered by the collateral provided or the customer has access the marginal lending facilities of its Central Bank.

E.1. Does the SSS manage its own collateral system?

Yes.

E.2. Does the SSS share a collateral system with another SSS or payment system?

No, Clearstream Banking AG does not share a collateral system with another SSS or payment system.

E.3. Can collateral at the SSS be posted and returned on the same day?

Yes. For each business day, Clearstream Banking AG carries out overnight processing, in one batch and one real-time settlement cycle, and in the daytime in 2 batches, 3 continuous settlement cycles and a real-time cycle. Collateral can be posted in one of those cycles and returned in another cycle on the same day.

E.4. What types of transaction at the SSS involve the use of collateral?

As mentioned earlier, transactions are settled in Clearstream Banking AG as a general rule by means of central bank money; hence no use of collateral is involved.

Generally, for the NCSC credit lines of the SSS to the customer require by definition the use of collateral; other transactions can require collateral.

Nevertheless, for the non-collective safe custody transactions, transactions might involve the use of certain forms of collateral.

Collateral is required for:

1. All settlements in which Clearstream Banking AG extends credit to a customer pursuant to section XIX (7) of the GTCs;
2. All securities borrowings through ASL;
3. All securities borrowings through ASLplus; and
4. All transactions settled through the Triparty Repo Service.

E.5. What are the policies with regard to the type of collateral used or haircuts required?

Generally, for the NCSC settlement services of Clearstream Banking AG, only fixed-income investment grade issues are eligible for collateral. The haircuts range from 2% to 99.99%. Selected equities are also accepted with a 35% haircut. Some sub-investment grade issues may be accepted on a case-by-case basis.

For the collective safe custody business, the value-added securities lending service is subject to the Eurosystem standard haircuts, which are applied within the Xemac collateral management application and for securities lending.

Collateral is marked to market daily.

E.6. How are collateral valuation methodologies developed and reviewed?

For the NCSC settlement services, decisions on changes of eligible collateral, applicable haircuts and valuation methodologies for the purposes of securing credit granted by Clearstream Banking AG and for securities lending and borrowing programmes require the approval of management.

For the collective safe custody business, the Eurosystem valuation methodology is applied.

E.7. To what extent are collateral policies described in the written rules and procedures of the SSS?

Collateral policies are defined in Clearstream Banking AG's Customer Handbook and in Clearstream Banking AG's announcements whenever there is a change. Collateral policies concerning ASL and SSL are covered in the legal agreements for these services.

F. Please describe the SSS's use of limits on exposures to monitor or control risks.

As a general rule for Clearstream Banking AG operations, no loans are granted to customers in relation to collective safe custody business. Only in exceptional cases may exceptions arise for settlement purposes. See section XIX of the GTCs of Clearstream Banking AG.

For the NCSC business of Clearstream Banking AG, credit limits may only serve to facilitate the settlement of securities transactions. Outstanding exposures are subject to enhanced credit supervision and corrective actions. Only financially sound customers are granted credit limits. A customer's financial standing is reflected in its internal credit rating.

F.1. Please explain the types of limit used and the exposures to which they apply.

1. Unconfirmed Funds Facility (UCF): Unconfirmed funds can be used for settlement purposes of the NCSC activity, based on pre-advice of an anticipated receipt of funds or the sale of securities either over the Bridge with Euroclear or over a domestic market link.
2. Technical Overdraft Facility (TOF): It facilitates the settlement of securities transactions against payment the NCSC activity. It is intended to be used exclusively for securities settlements, and not for cash withdrawals. It is an intraday credit line available to purchase securities at the start of the settlement processing in the night-time against covering funds to be confirmed by the end of real-time processing on value day.
3. National Central Bank (NCB) Limit: An NCB limit is a secured credit facility offered to customers for night-time settlement in collective safe custody securities. NCB limits allow customers to settle in central bank liquidity.
4. Placement Limit: A Placement Limit is an approved amount that Treasury can place with counterparties in the

interbank market. Placement limits are set by the Credit Section and approved in conjunction with the credit authorities.

F.2. Do the limits apply to all participants and/or to other SSSs with which the SSS is linked? What are the exceptions to the limits?

Yes, for the NCSC business of Clearstream Banking AG, credit limits apply to all customers according to the particular terms agreed in their individual contractual documents. Credit limits apply also to other SSSs where Clearstream Banking AG customers settle via Creation into domestic markets.

F.3. Do limits apply to participants individually or in the aggregate or both?

For the NCSC business of Clearstream Banking AG, credit limits are applied to individual customers and/or groups of related customers.

F.4. Do limits apply to implicit as well as explicit extensions of credit or securities (for example, when onward deliveries of securities are permitted pursuant to provisional XXX but not final delivery of securities)?

For the NCSC business of Clearstream Banking AG, limits apply to explicit extensions of credit and to implicit credit based on unconfirmed funds.

Securities are not onward delivered unless already credited to the customer's account. As explained in Section [V](#), [E.2.\(a\)](#) and [E.3](#), above, such credit is final except in the case of securities received through an SSS other than Euroclear Bank S.A. if such SSS confirms receipt of the securities prior to finality being achieved in the jurisdiction concerned. The limits set by Clearstream Banking AG will not apply ex ante to this exposure; they would only apply ex post if the confirmation received from the SSS were subsequently reversed.

Regulatory limits apply to the exposures as defined by legislation and regulations.

F.5. Does the SSS automatically reject transactions that exceed limits or is compliance determined ex post?

For the NCSC business, Clearstream Banking AG automatically rejects transactions that exceed credit limits.

F.6. How are limit policies developed and reviewed?

For the NCSC business of Clearstream Banking AG, limit policies are reviewed at least annually and amended if necessary by the Head of Credit. All changes to the limit policies are submitted for approval to executive management. Ad-hoc changes – if required – will go through the same review cycles.

F.7. To what extent are limit policies described in the written rules and procedures of the SSS? Where does additional authority to set or amend limit policies reside?

For the NCSC business of Clearstream Banking AG, limit policies are clearly defined in Clearstream Banking's credit policy guidelines, which set limits for each type of credit type according to the internal credit ratings. Authority for the determination of credit policies and standards resides with the Head of Credit and executive management.

G. Please describe other controls to mitigate or reduce risks at the SSS.

In addition to the measures described in the answer to question [A.](#) in this section a fully automated monitoring system is available to ensure credit limits are not exceeded for the NCSC business of Clearstream Banking AG. Clearstream Banking AG's staff can consult customer accounts on line and identify potential shortfalls.

Customer credit risk is regularly reassessed, and may lead to cancellation of credit facilities or blocking of the account.

G.1. Does the SSS or its participants have the capacity to monitor participants' accounts continuously during processing?

Yes, Clearstream Banking AG's CASCADE settlement system allows the continuous monitoring of customers' cash memorandum and securities accounts during processing. Clearstream Banking AG staff can consult customers' accounts between settlement runs. Customers can monitor their own account(s) in real time throughout the day.

Additionally, Clearstream Banking AG maintains a fully automated monitoring system to ensure secured credit lines do not exceed established limits for NCSC activity

G.2. Is there a special risk control regime that the SSS would apply to a participant known to be experiencing financial difficulties?

Yes, reflecting the prevailing regulatory requirements for banks, Clearstream Banking can unilaterally reduce or cease to extend any form of credit (if applicable) to such a customer and/or block its account in accordance with its credit policy. In addition, the poor performance of a customer's account (i.e. financial stability, failure to provide required collateral) may also lead to a reduction of its credit lines for NCSC business.

G.3. Does the SSS maintain or administer loss-sharing arrangements other than those applicable to events of default and addressed in Section VI. above? Are these loss-sharing pools pre-funded by participants?

No.

IX. Operational risks

Operational failures at the SSS could limit the ability of participants to access their assets held at the SSS and prevent them from honouring their commitments to others, with potential spill-over effects on other payment, clearance and settlement systems. Furthermore, prolonged problems could reduce or eliminate trading activity with respect to the affected securities, with substantial consequences for market participants.

It is good practice to mitigate operational risks through redundancy and the maintenance of strong internal controls over the operations of the SSS. In the event of an unavoidable problem or natural disaster, the SSS should also have in place a well-rehearsed plan for business continuity that addresses all the business functions and resources that the SSS would need in order to renew operations.

A. Please provide assessments of the operational reliability of the computer and other systems used by the SSS, including any criteria that the SSS uses internally for this purpose.

A formal risk management process is in place to enable the Executive Board to monitor material risks and to comply consistently with its responsibility for controlling risks. The Risk Management function assesses all new and existing risks. It also reports on a quarterly basis and, if necessary, ad-hoc to the particular Executive Board. Risk control is performed in the decentralised business areas, that is, in the areas where the risks occur. Risk control in the Clearstream Banking AG operational units is supported by "Operational Risk Representatives", who are responsible, as mentioned above, for identifying, notifying and controlling any risk in their area whereas the Risk Management function is responsible for the assessment and reporting of risks.

The risk management framework of Clearstream Banking AG, as stated in the Group Risk Management Policy, aims at ensuring that all threats, causes of loss and potential disruptions are properly identified as soon as possible, centrally recorded, assessed (that is, quantified in financial terms to the greatest possible extent), reported in a timely manner and consistently, together with suitable recommendations to the respective Executive Board, and controlled.

A.1. What is the percentage uptime of the systems used by the SSS?

The average system availability for Clearstream Banking AG for the major customer communications systems in 2012 was 100% of scheduled time. (Occasional downtime was scheduled on Sunday mornings for essential system maintenance.)

A.1.(a) Whole system overall?

The average system availability for the core system in 2011 was 100% scheduled time. (Occasional downtime was scheduled during week-ends for essential system maintenance.)

A.1.(b) Broken down by major components? (for example, communications network, central processing facility)

Mainframe central services [100%]

Online services [100%]

A.1.(c) During critical processing periods?

These above figures represent averages excluding scheduled downtime. Clearstream Banking AG offers a 24-hour service and considers the entire day to be critical.

A.2. Has the SSS experienced major operational problems during the past two years?

No.

A.2.(a) Have settlements been delayed, been disrupted or otherwise failed because of operational problems during this period?

No.

A.2.(b) Please describe the nature of any such problems.

Not applicable.

B. Please describe contingency or disaster recovery planning at the SSS.

A business continuity management policy exists that outlines Clearstream Banking AG's objective to be able to continue to operate under adverse conditions and in the face of unexpected events or disasters.

The policy prescribes a business continuity organisation with defined responsibilities. This includes a central team, organisationally independent from the Operations and IT departments, whose responsibilities include the direction and coordination of a business continuity plan and the provision of a framework for coherent planning in all other units and departments.

Business functions and systems are classified by varying degrees of criticality in accordance with the risk management framework. This analysis identifies the point in time when non-delivery of all or part of a service will have a non-tolerable impact on the business. It also determines services, staff, systems, facilities and other dependencies that are mission-critical and that must be included in the business continuity plan.

B.1. Does the SSS have a formal plan for business continuity in place?

Yes.

B.2. Is this plan available for review by participants?

Specific information not disclosed in this document can be requested and is typically shared with customers in their routine due-diligence reviews.

B.3. How often is this plan tested? Does this involve participants in the SSS?

Business continuity plans are tested at least annually. Clearstream Banking AG applies a comprehensive testing, simulating situations as close as possible to real-life. Based on this approach, a test program is established for each year and includes planned as well as unannounced live activities. The program includes systems, workspace and staff unavailability tests. Findings are reported to Executive Management.

B.4. What are the major elements of the business continuity plan?

The Clearstream Banking AG business continuity plan contains information, guidelines and procedures that are developed and maintained for use in the event of an emergency or disaster, including the loss of IT, workspace, staff or suppliers, in order to maintain the continuity of critical services. It comprises a crisis management process, business unit, IT and facilities recovery plans.

The data centres are duplicated remotely to form primary and secondary centres acting as backup to each other. The data centres are equipped with similar capacity data processing and communications equipment and are inter-connected with high-speed redundant data links. Data is written to multiple disks in real time across the two data centres. Should an event occur that disables the primary data centre, the secondary could be brought into operation without loss of data. The data centres are equipped with environmental protection devices including intrusion, fire and humidity detectors, fire suppression systems, UPS (uninterrupted power supplies) and backup generators.

Moreover, dedicated backup facilities are established to provide backup office space for mission critical staff in the event that their normal office location would become unavailable. The backup office facilities are fully equipped and networked to both the primary and the backup data centre.

Business continuity measures have also been developed to address the loss of very significant numbers of staff in order to ensure the continuity of the most critical operations also in catastrophic scenarios.

Service Level Agreements and/or Manual of Procedures describe the minimum service level expected from, and the contingency procedures with, suppliers, such as cash correspondent banks or depositories.

B.5. How long would it take the SSS to resume operations if primary systems become unusable?

The business continuity plan recovery time objective is 4 hours. Depending on the nature of the incident, recovery can be achieved more quickly or may be influenced by factors not under the control of Clearstream Banking AG.

C. What are the key features of the internal controls covering operations and security at the SSS (for example, change controls or those covering remote access)?

Physical and logical access to systems is controlled by both technical and organisational means. Access right management is formalised. Access right changes can only be approved by the line manager and where applicable, the business, system or application owner must also give prior approval. Password management restrictions have been defined. Security is monitored by the use of tools.

The IT security architecture implements defence in depth:

- The operating systems, including security sub-systems, are maintained in a hardened state to provide a secure platform.
- Features of the operating system and/or application provide authentication and authorisation mechanisms.
- A cryptographic architecture based on PKI technologies is in use in certain applications.
- A control framework is in place to protect against malicious code, where applicable.
- Networks are segregated and utilise security controls to protect communication e.g. tunnelling.
- Systems and networks are monitored, e.g. IDS, policy compliance checking, log analysis.

C.1. Please describe controls or security procedures in place to ensure that the SSS acts only on authentic settlement instructions from valid participants.

Clearstream Banking AG accepts settlement instructions through its proprietary communications systems related to CASCADE and Creation, by authenticated SWIFT or through CPU-CPU links established with customers, all of which guarantee the authenticity of the customer.

Most instructions are processed without human intervention. Certain transactions may be processed or entered into the system by Clearstream Banking AG staff, based on the customer's instructions; any such entries must be keyed and re-keyed and authorised by authorised persons. Policies and procedures are implemented that ensure segregation of tasks and reinforce controls.

C.2. Are internal operational and security controls included in the internal and/or external audits of the SSS?

Yes.

C.3. Are internal operational and security controls covered by regulatory requirements applicable to the SSS?

Yes.

D. Does the SSS impose minimum operational or performance standards on third parties (for example, communications providers)?

Clearstream Banking AG has outsourced some operational functions to its sister companies Clearstream Services S.A., Luxembourg, Clearstream Banking S.A., Luxembourg Clearstream Operations Prague, s.r.o. IT production development and maintenance for systems used for the CSC activity are being handled by the IT department of Deutsche Börse AG in Frankfurt, whereas IT development, production and maintenance for the NCSC activity is mainly handled by Clearstream Services S.A., Luxembourg..

Generally Clearstream Banking AG will detail all requirements, including operational and performance standards, in the relevant contract or service level agreement. The ability to do this may, however, be influenced by the type of third-party service or provider; that is, whether the provider has a monopoly or quasi-monopoly for delivering a certain service, whether the service is standardised or customised.

D.1. How does the SSS ensure that such standards are met on a continuing basis and what sanctions are available to the SSS if they are not?

Clearstream Banking AG will regularly monitor and assesses the quality of the performance. Contracts usually have a cancellation or penalty clause in case of non-fulfilment of obligations by the supplier. The inherent risk of outsourced material activities are at least at the beginning of the service and on an annual basis assessed.

D.2. How would the SSS allocate losses incurred due to operational problems caused by third parties?

The rights and obligations of Clearstream Banking AG are determined by its GTCs. In addition, Special Conditions, containing provisions that deviate from or are supplementary to the GTCs, apply to certain individual business relations. All laws and regulations governing the trading and settlement of securities are publicly available. They can be found mostly in the Securities Custody Act, the German Civil Code and the Insolvency Code.

Basically, Clearstream Banking AG is liable for its obligations under its GTCs in case of its negligence or wilful misconduct. Liability is excluded in the event of "force majeure" and in cases of securities losses without Clearstream Banking AG's default. If negligence of the customer contributes to the occurrence of a damage, the damage to be borne by Clearstream Banking AG and the customer shall be determined in accordance with the principles of contributory negligence.

The risks inherent to the activities of Clearstream Banking AG are covered with a very broad insurance programme concluded at group level for all relevant entities. Again, as stated under [D.](#) above, the coverage is satisfactory where Clearstream Banking AG has concluded specific procurement agreements. The adequacy and currency of the major policies is reviewed in detail each year by the risk management function and must be validated by the Audit, Compliance and Risk Management Committee (ACRC). The insurance of Clearstream Banking AG does not cover failures of mandatory infrastructure services or goods providers, such as telecommunications services, electricity and power supply services, also SWIFT services. Operational losses resulting from customer claims or other losses suffered by Clearstream Banking AG that would be incurred due to deficiencies from these providers will lead either to an indemnification in compliance with the contract terms or, where the contract does not foresee an indemnification, to an amicable settlement or, if a settlement cannot be reached, to a court's allocation of damage awards. None of such cases has occurred since Clearstream Banking AG has been in existence. However, it may realistically be stated that indirect losses, that is, losses that cannot be immediately and naturally attributed to the event having caused the loss, will not be indemnified by those providers and will not be awarded by a court. It is most likely that direct losses only will be considered.

According to Clearstream Banking's GTCs, Clearstream Banking AG shall not be liable towards its customers for losses that would result from any act or omission, the bankruptcy or insolvency of any third party assigned by Clearstream Banking AG for the performance of an order (executing of which by Clearstream Banking AG the customer could not expect) subject to the diligent selection and instruction of the relevant third party by Clearstream Banking AG.

Disclaimer:

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