

Equity Clearing Process

BC3402 Seminar Group 2 Team 6

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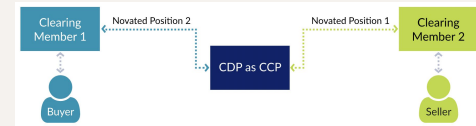
CDP Core Functions

- Central Depository (Pte) Limited
 - established in 1987
 - Wholly owned subsidiary of SGX
- Core functions:
 - Central counterparty (CCP)
 - Securities settlement system (SSS)
 - Central securities depository (CSD)

SG Equities Clearing Process — US Equities Clearing Process — SG vs US system Comparison — Strengths & Weaknesses

2a) Describe the process of equities clearing in SGX.

Clearing Process:



- Central Depository (CDP) acts as a **central counterparty (CCP)** to all trades executed on the SGX-ST trading engine (Securities Market)
- CDP assumes the role of **Seller to CM1 and Buyer to CM2**
 - Takes the buyer's credit risks & assumes seller's delivery risks
- CDP acts as risk management hub -> **eliminates Counterparty risk** for both buy and sell side

SG Equities Clearing Process — US Equities Clearing Process — SG vs US system Comparison — Strengths & Weaknesses

2a) Describe the process of equities clearing in SGX.

SGX-PTS-WEB

- Single web-based system
 - Settlement finalised once intraday batch settlement/Real Time Gross Settlement (RTGS) is completed
- Settlement occur only if there is sufficient securities and cash positions



2a) Describe the process of equities clearing in SGX.

Batch Settlement

- 2 batches: 10 am and 1:30pm
- Securities and money settlement occur simultaneously
- Delivery deferred to next settlement run/cash settlement if there is insufficient shares

Real Time Gross Settlement (RTGS)

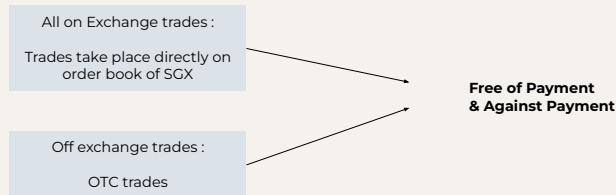
- Segregated from batch settlement
- Settlement of money and securities performed simultaneously
- Triggered automatically upon matching of settlement instructions



2a) Describe the process of equities clearing in SGX.

Settlement of Equities

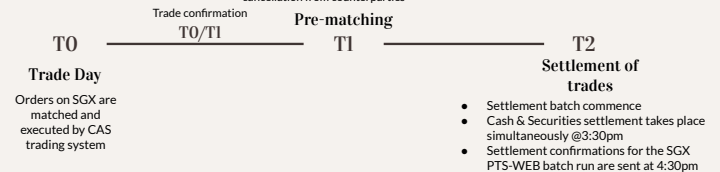
CDP-eligible trades (eligible for pre-matching within SGX-PTS Web Front End)



2a) Describe the process of equities clearing in SGX.

Settlement process:

- Delivering and receiving DAs input settlement instructions into SGX PTS-WEB
- No earmarking of successfully matched security positions
- Trades will only be settled if cash/securities are available during the settlement run/date
- Cancellations before market cut-off -> requires bilateral cancellation from counterparties



2a) Describe the process of equities clearing in SGX.

If seller have **insufficient shares** for settlement by start of final settlement run 1:30pm (T+2):

- CDP conducts Buy-in session (4-5pm)
- If not successful, buy-in continue on T+3



SG Equities Clearing Process	US Equities Clearing Process	SG vs US system Comparison	Strengths & Weaknesses
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2a) Describe the process of equities clearing in SGX.

Clearing Fees:

Clearing Fee	0.0325% of contract value ^a
Goods and Services Tax	Prevailing GST rate

- Fees may differ between institutional and retail investors
- Buy in:
 - CDP charge processing fee of \$80.25 (inclusive of GST) for **each failed contract**

SG Equities Clearing Process	US Equities Clearing Process	SG vs US system Comparison	Strengths & Weaknesses
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2a) Describe the process of equities clearing in SGX.

Clearing Fund:

- Used if clearing members are unable to discharge its cash obligations to the CDP or the CDP suffers a loss as a result of liquidating a clearing member's position
- **Consists of :**
 - Collateralized contributions
 - CDP contribution
 - Contingent contributions
 - Money paid by an insurer under a contract of insurance (if any) entered into by CDP
 - Any other contributions

SG Equities Clearing Process	US Equities Clearing Process	SG vs US system Comparison	Strengths & Weaknesses
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2a) Describe the process of equities clearing in SGX.

Clearing Fund:

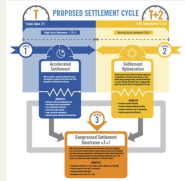
Collateralized Contributions	<ul style="list-style-type: none"> • From clearing members • The higher of SGD 500,000 or 0.5 basis points of its past 12-month traded value
CDP contribution	<ul style="list-style-type: none"> • CDP's contribution to the first layer • Higher of SGD 30 mil or min. 15% of total clearing fund
Contingent Contributions	<ul style="list-style-type: none"> • From member firm • 0.4 basis points of its past 12-month traded value
Money paid by an insurer	<ul style="list-style-type: none"> • under a contract of insurance (if any) entered into by CDP under Rule 7.5

SG Equities Clearing Process	US Equities Clearing Process	SG vs US system Comparison	Strengths & Weaknesses
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2b) Compare and contrast equities clearing (SG vs US)



US Equities Clearing System: Depository Trust and Clearing Corporation (DTCC)



- Depository Trust Company (DTC) and National Securities Clearing Corporation (NSCC) are subsidiaries of DTCC
- Trade information is sent to NSCC for clearinghouse services
- NSCC takes on the role of CCP then processes and matches the trade

SG Equities Clearing Process — US Equities Clearing Process — SG vs US system Comparison — Strengths & Weaknesses

2b) Compare and contrast equities clearing (SG vs US)



- Novation: NSCC provides report to brokers and financial professionals involved
 - Inclusive of net securities positions after trade & money to be settled between the two parties
- DTC transfers ownership of securities via book-entry electronic movements and transfers funds between settling bank
- Broker-dealers inform settling banks upon receipt of NSCC clearing calculations to send funds to DTC

SG Equities Clearing Process — US Equities Clearing Process — SG vs US system Comparison — Strengths & Weaknesses

2b) Compare and contrast equities clearing (SG vs US)

Comparison	Singapore - CDP	United States - NSCC, DTC
Who act as the CCP	Subsidiary of exchange (SGX)	Subsidiary of company (DTCC) unrelated to US exchanges
Settlement Processes	CDP function as Central Counterparty (CCP) and Central Securities Depository (CSD) <ul style="list-style-type: none"> - Providing clearing, settlement and custodian services 	Dependent on trade type: <ul style="list-style-type: none"> <u>Institutional Trade</u> <ul style="list-style-type: none"> - Trade matched by Omgeo - Settlement performed by DTC <u>Broker to Broker Trade</u> <ul style="list-style-type: none"> - Trade matched by NSCC - Settlement performed by DTC

SG Equities Clearing Process — US Equities Clearing Process — SG vs US system Comparison — Strengths & Weaknesses

2b) Compare and contrast equities clearing (SG vs US)

Comparison	Singapore - CDP	United States - NSCC, DTC
Exchanges	Acts as a CCP to all trades executed on the SGX-ST Trading Engine	Acts as CCP to only trades executed across 50 trading venues in the US captured on the Universal Trade Capture (UTC) system
Settlement Cycle	T+2	T+2 (plans to shift to T+1 in 2022)

SG Equities Clearing Process — US Equities Clearing Process — SG vs US system Comparison — Strengths & Weaknesses

2b) Strengths of Singapore System

- **T+2** settlement cycle
 - Securities and funds made available to investors earlier
 - **Reducing risk** across systems and market
- Broker-linked balance (**BLB**) functionality
 - Separate balance within CDP account - allow Investors to give their chosen broker **visibility & access** over specific securities
 - These shares reside in CDP account **owned by investors**, as opposed to residing in custodian account
 - Allow brokers to offer **more personalized products and services** to customers
- SG Dollar deposits finalised in MEPS+
 - Deposit of SGD by settlement participants & release of SGD to settlement participants will be made through & finalised by MEPS+ instead of in-settlement banks
 - Help participants reduce their exposure to settlement bank risks



2b) Weakness of Singapore System

- Settlement **twice a day**
 - More paperwork and processes
- Trading Member requires clearance from clearing member
 - **Decrease in volume of trades** which **increases liquidity risk**
- **T+2** settlement cycle
 - **Less time** to secure financing
 - Traders have to **source liquidity** within T+2 window



2b) Strengths of US System

- **Multilateral netting and guaranteed settlement** by NSCC
 - NSCC becomes the CCP to, and guarantees the settlement of, trades
 - Allows brokers to offset buy and sell positions executed against multiple counterparties into a single counterparty
 - Reduces payment/security obligations
 - Provides a guaranty of settlement for those obligations – thus also reducing credit and financial exposure
- **Compartmentalizing the risk** incurred by DTC and NSCC
 - Certain cross-guarantees and arrangements between NSCC and DTC were established
 - permit transactions to flow smoothly between DTC's system and NSCC's system in a collateralized environment
 - US system ensures that DTC and NSCC each maintain its own sets of risks, preventing the business risks that they incur from being too high



2b) Weaknesses of US System

- DTCC has **much larger volumes of trade** to handle compared to SGX
 - US system makes use of Electronic Communication Networks (ECNs) to facilitate trading of securities in the market
 - With the greater volume risk that DTCC bears compared to SGX, DTCC has to put in more resources to ensure the integrity and reliability of ECNs in transmitting data accurately
- Settlement **once a day**
 - Starts at approximately 1545H
 - Relatively higher counterparty risk as compared to SG with settlement twice a day



2b) US System

Plans for DTCC moving forward: (Project Ion)

- Q1 2021: DTCC anticipates completion of prototype development for the Project Ion settlement system, which provides a T+1 environment for the industry on a digital platform using distributed ledger technology (DLT) and other emerging technologies. Industry testing will begin shortly after the prototype is completed.
- H2 2022: DTCC to begin transitioning to an enhanced settlement model that more closely integrates processes from DTCC's equities clearing and settlement subsidiaries, NSCC and DTC. Studies have shown an integrated settlement model could provide an 11% reduction in the volatility component of NSCC margin.
- By 2023: DTCC proposes the U.S. settlement cycle to officially move to T+1, with market participant and regulator alignment.



2b) Benefits of a Shortened Settlement Cycle

- Shortened settlement cycle to **T+1**
 - Lowers the degree of counterparty, credit and default risks
 - Decreases the amount of margin and capital required to be deposited at NSCC while still preserving the efficiencies of guaranteed settlement and multilateral trade netting
 - Makes the proceeds of securities transactions available to end investors faster



Thank You!

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