

OSC Benchmarking Review

June 2015



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Introduction

The Ontario Securities Commission, OSC is the statutory body responsible for regulating Ontario's capital markets in accordance with the mandate established in the provincial Securities Act (Act) and the Commodity Futures Act. The OSC's mandate is to provide protection to investors from unfair, improper or fraudulent practices and to foster fair and efficient capital markets and confidence in capital markets.

As a securities regulator, the OSC performs both a policy and rule-making function and an adjudicative function. The OSC makes rules that have the force of law and adopts policies that influence the activities of market participants. The OSC's Market Regulation Branch oversees the activities of exchanges, clearing agencies, alternative trading systems, and other market infrastructures and develops policies relating to market structure and post-trade activities.

The Canadian Depository for Securities, CDS is a recognized clearing agency that is subject to oversight by the OSC. CDS operates the depository and the clearing and settlement system for equities and fixed income securities in Canada, and is the sole provider of such services for the Canadian cash market.

In November 2014, CDS submitted to the OSC for approval a proposal to amend its fee schedule relating to issuers services. Under this proposal, CDS intends to amend the issuance and eligibility fees and to start charging entitlement and corporate action event management fees to issuers, either directly or through the issuer's agent (the issuer fee proposal). Under the order issued by the OSC recognizing CDS as a clearing agency pursuant to section 21.2 of the Act, CDS is required to obtain prior OSC approval before implementing any amendments to its fee schedule, including implementing any new fees.

The OSC chose Market Structure Partners, MSP, through a Request For Proposal, to undertake a benchmarking comparison of similar fees in other global markets:

1. Focusing on comparable corporate actions and entitlement services offered by other central securities depositories (CSDs)
2. Providing a comparison of the fees of the benchmarked CSDs for such services; how they charge and bill these services, and whom they charge

Market Structure Partners, MSP, is a consultancy that specialises in strategic advice related to capital markets infrastructure. The team has many years of practical experience related to global financial market structure and trading, clearing and settlement across international markets. MSP operates with the highest integrity and undertook this report with an objective third party view.

Executive Summary

- The proposed prices for corporate actions and entitlement services that CDS currently provides at no cost are competitive compared to the benchmarked markets
- The current prices for corporate actions and entitlement service that CDS charges Participants are higher than the equivalent prices for the benchmarked markets, although this may be due to the comparative market size and level of participant activity
- This report has compared CDS against 11 other markets: six that were included in the original CDS fee amendment proposal and five others. These were selected to provide a range of charging models, including a subscription style service and an issuer pays model
- There are significant differences between the services provided by CSDs and the pricing models they use. Factors for this include their history, the legal and regulatory structures within countries, the negotiating strength of each market user type and the pricing principles adopted when they were created
- The pricing models used by the benchmarked CSDs include billing both Issuers and Participants, billing Participants only and billing Issuers only
- There are many instances where other CSDs charge for services and transaction types that are excluded from both the current and proposed CDS tariffs. This may mean other CSDs:
 - Are earning revenue from different sources: this may result in lower prices for the benchmarked services
 - Have asset types and services that are not applicable for the Canadian market
- The methodology used for this benchmarking is to only compare directly attributable items and exclude any charges that cannot be decomposed and aligned specifically to corporate action pricing
- The benchmark comparison of directly attributable items between CSDs includes one-to-one, one-to-many, and many-to-many mappings between services
- Comparisons have not been made where MSP's assessment is that they may be misleading

1 Overview

The benchmarking review compares the fees of the benchmarked CSDs for corporate actions and entitlement services; how they charge and bill these services (e.g. are they built into other depository fees such as custody charges, or billed as separate items), and whom they charge (e.g. clearing members, issuers, agents of the issuers or other parties).

The analysis includes applicable non-transactional costs (e.g. safekeeping fees) but excludes any indirect costs (e.g. data/connectivity fees).

The benchmarking was carried out against both existing and proposed CDS corporate action and entitlement services.

1.1 Markets covered

This report has compared CDS against 11 other markets: six that were included in the original CDS fee amendment proposal and five others. These were selected to provide a range of charging models, including a subscription style service and an issuer pays model. Data for Indeval (Mexico) was not obtained within the time available. The full list of markets is shown in the table below:

	Listed Stocks of	CSD	In CDS proposal?
Americas	Canada	CDS	
	Mexico	Indeval ¹	Yes
	USA	DTCC	Yes
Asia-Pac.	Australia	ASX Settlement	Yes
	India	NDSL & CSDL	No
	Singapore	SGX	Yes
EMEA	International	Euroclear Bank	No
	Denmark	VP Secs	Yes
	Germany	Clearstream AG	No
	South Africa	STRATE	Yes
	Sweden	Euroclear Sweden	No
	Switzerland	SIX SIS	Yes
	UK	Euroclear UK&I	No

¹ Information concerning Indeval (Mexico) pricing was not obtained within the review timeframe

1.2 Proposed CDS fee amendment scope

MSP has interpreted the CDS fee amendment scope to include both:

- Proposed fees for services currently provided but not charged for
- Existing fees for services currently provided and charged for

The objective for benchmarking both proposed and current fees is to understand the comparison from the perspectives of both Issuers and Participants.

1.3 Data sources

All fee levels in this report, shown in Appendix I, were current as of 31 May 2015.

Where FX conversions have been required, the rate used is shown in Appendix IV.

2 Methodology and assumptions for the Benchmark Comparison

Assumptions are necessary when comparing fees charged by different CSDs as there is no standard approach for pricing. The price structures for corporate actions are a combination of some or all of the following:

- Safekeeping fees: some services are provided free, as part of the safekeeping fee
- Messaging fees
- Transaction fees
- Subscription fees
- Data and report charges
- General Meeting notification charges
- Proxy voting charges

This benchmarking analysis focuses on directly attributable items. Any charges that cannot be decomposed and aligned specifically to corporate action pricing have therefore been excluded.

Examples of this are:

- Custody ad valorem charges, which are not specifically referenced for this service
- Settlement transactions that occur as a result of these distributions and are charged for in the normal course of trades processing.

As well as different charging mechanisms, there are differences as to whether the Issuer or the investor pays. A number of factors determine this, of which the most important are:

1. The history of how the CSD came into being
2. The way shares are held
3. The law and regulation applicable to securities
4. The negotiating strength of the various types of market user (wholesale vs retail, Issuer vs participant)
5. The pricing principles adopted when the CSD came into being (normally limited to the core roles of providing safekeeping and settlement services).

The terminology used in this analysis to classify parties is:

- Issuers: includes issuers and their agents (Issuer Agent, Paying Agent)
- Participants: includes clearing members, brokers, custodians and ultimately investors

There can also be significant differences between markets in how corporate actions and entitlements are processed, the level of automation, and between the services that the CSD provides to support them.

2.1 Comparison methodology

The approach taken to provide fair comparisons between corporate action and entitlement services provided by other CSDs was:

1. Obtain current corporate action and entitlement pricing schedules from each market (CSD or other market supplier)^{2,3}
2. Identify which party pays (Issuer, Issuer Agent, Participant, Paying Agent)
3. The primary driver for comparison is then which party type pays
 - a. Participant vs Participant
 - b. Issuer vs Issuer, Issuer Agent, or Paying Agent
4. Identify the comparative services (this may not be a one-to-one comparison)
5. Compare CAD equivalent prices for comparative services against the current and proposed CDS pricing **where the same party is charged** (Issuer, Participant, etc)
6. Identify where CDS pricing higher and lower
7. Identify where CDS pricing higher but market size activity could be a credible mitigating factor
8. Categorise each benchmarked service provided by each of the CSDs
9. Aggregate the results of the benchmarked markets categorisation to provide an overall assessment of the current and proposed CDS prices against the other markets
10. The same criteria have been used for both the benchmarked CSDs and CDS and are shown in the table below:

	Positive benchmark pricing – CDS lower than comparisons
	Negative benchmark pricing but market size could be a factor
	Negative benchmark pricing
	Difficult to make meaningful comparisons
P	Comparison is against CDS proposed pricing
C	Comparison is against CDS current pricing

11. Where possible, comparative costs have been provided for the services where MSP does not consider it possible to provide meaningful comparisons. However no conclusions have been drawn from these comparisons. The services with no meaningful comparisons are:

Current services	Proposed services
<ul style="list-style-type: none"> • Corporate Action Withdrawal 	<ul style="list-style-type: none"> • NHA maturity event
<ul style="list-style-type: none"> • Strip bond adjustment – debit/credit 	
<ul style="list-style-type: none"> • Dividend eligibility report archive request 	
<ul style="list-style-type: none"> • Serial bond ISIN set up 	
<ul style="list-style-type: none"> • Other bond ISIN set up 	

The full results of this detailed comparison are in Appendix II.

² Appendix I

³ Information concerning Indeval (Mexico) pricing was not obtained within the review timeframe

2.2 Assumptions

IPOs/New Issues

To ensure a consistent approach for comparing IPOs/New Issues, we have assumed that unless particular reference is made to the contrary) the CDS processes that constitute an IPO/New Issue are the sum of:

- Security eligibility administration fee (CAD 475)
- Certification fee (CAD 125)
- S&P ISIN issuance (CAD 268)

Other CSDs use different approaches to construct their charges for IPOs, New Issues and issuing security identifiers. For example, Clearstream charges EUR 4,000 (equivalent CAD 5,549)

Two charges are not included in the CDS charge for IPOs/New Issues unless particular reference is made to the contrary. These are:

- Paying agent processing
- Depository agent processing

This is to ensure consistency with the approach taken by others.

Timing of fee payments

MSP has compared CDS fees directly against equivalent services within acceptable tolerance limits. MSP has not created and compared scenarios that cover the lifecycle of an equity or fixed income product and include all the corporate action and entitlement services that it might require.

For example, a fixed income product will pay:

Event	Fees Paid
Issuance	<ul style="list-style-type: none">• Security eligibility administration fee• Certification fee• S&P ISIN issuance
Interest payment	<ul style="list-style-type: none">• Interest event fee
Maturity event	<ul style="list-style-type: none">• Maturity event fee

We have considered these as separate events and consider this normal market practice when comparing costs between CSDs.

Other assumptions

There are a variety of possible formats for the conversion of Convertible Bonds to Equity format. Where CDS services for Convertible Bond conversion are benchmarked against another CSD we have assumed both parties will be issuing a new equity as part of the process.

3 Corporate Action and Entitlement Costs Comparison

3.1 Summary

The proposed Issuer pricing by the CDS is very competitive when compared to the benchmarked CSDs.

The current transactional based pricing applied to Participants appear higher than the benchmarked CSDs although this may be due to the comparative market size and level of participant activity.

Proposed pricing

Paying Party	Description of service	Assessment
Issuer	Money Market interest & maturity event	CDS lower
Issuer	NHA interest event	CDS lower
Issuer	NHA maturity event	No meaningful comparison
Issuer	Interest event	CDS lower
Issuer	Maturity event	CDS lower
Issuer	Dividend event	CDS lower
Issuer	Corporate Action event with no option	CDS lower
Issuer	Corporate Action event with option	CDS lower
Issuer	Exchange Traded Fund event	CDS lower
Issuer	Paying agent processing fee	CDS lower
Issuer	Depository agent processing fee	CDS lower
Issuer	Single ISIN issuance	CDS lower
Issuer	Serial ISIN issuance	CDS lower
Issuer	Strip bond and package ISIN issuance (was \$105.00)	CDS lower
Issuer	Issuer code request	CDS lower
Issuer	Security eligibility administration fee	CDS higher, market size a factor
Issuer	Certification fee	CDS lower
Issuer	Late depository eligibility request <48hrs, >24hrs	CDS lower
Issuer	Late depository eligibility request <24hrs before closing date	CDS lower
Issuer	Late depository eligibility request on closing date	CDS lower
Issuer	S&P ISIN issuance (was \$325.00)	CDS lower

Current pricing

Paying Party	Description of service	Assessment
Participant	Corporate Action Withdrawal	No meaningful comparison
Participant	Strip bond adjustment – debit/credit	No meaningful comparison
Participant	Corporate Action manual transaction	CDS higher, market size a factor
Participant	Corporate Action automatic transaction	CDS higher, market size a factor
Participant	Dividend manual transaction	CDS higher, market size a factor
Participant	Dividend automatic transaction	CDS higher, market size a factor
Participant	Create and acknowledge Corporate Action liability record	CDS higher
Participant	Dividend eligibility report annual subscription	CDS lower
Participant	Dividend eligibility report archive request	No meaningful comparison
Participant	Shareholder meeting notices	CDS lower
Participant	Serial bond ISIN set up	No meaningful comparison
Participant	Other bond ISIN set up	No meaningful comparison

The table below provides an indication of the comparative costs of similar types of services provided by the benchmarked CSDs. All costs are shown in CAD. Appendix III shows the workings behind these comparisons.

All CAD	Income events (Dividends & Interest)				Other corporate events (IPO, distributions)			
	Participant		Issuer		Participant		Issuer	
	Transaction	Event	Transaction	Event	Transaction	Event	Transaction	Event
Canada	14.36			54.00	8.56	150.00		174.87
UK	1.09				1.69			29.00
Euroclear					76.30			
Germany				242.79	11.25			2,323.61
US	8.03				10.78	109.34		2,106.72
Singapore			3.16	9,769.92			3.81	8,961.16
Switzerland			13.28				49.79	970.69
Australia							0.77	1,266.93
Denmark			0.12	102.36			9.31	2,000.68
South Africa				544.05				1,553.35

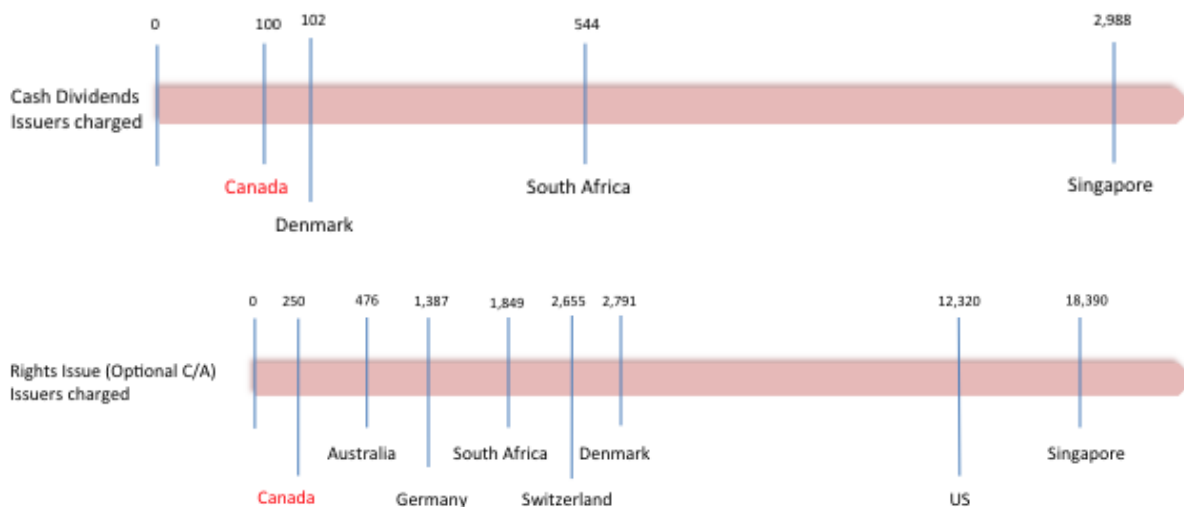
3.2 Comparing regular event items against closest equivalents

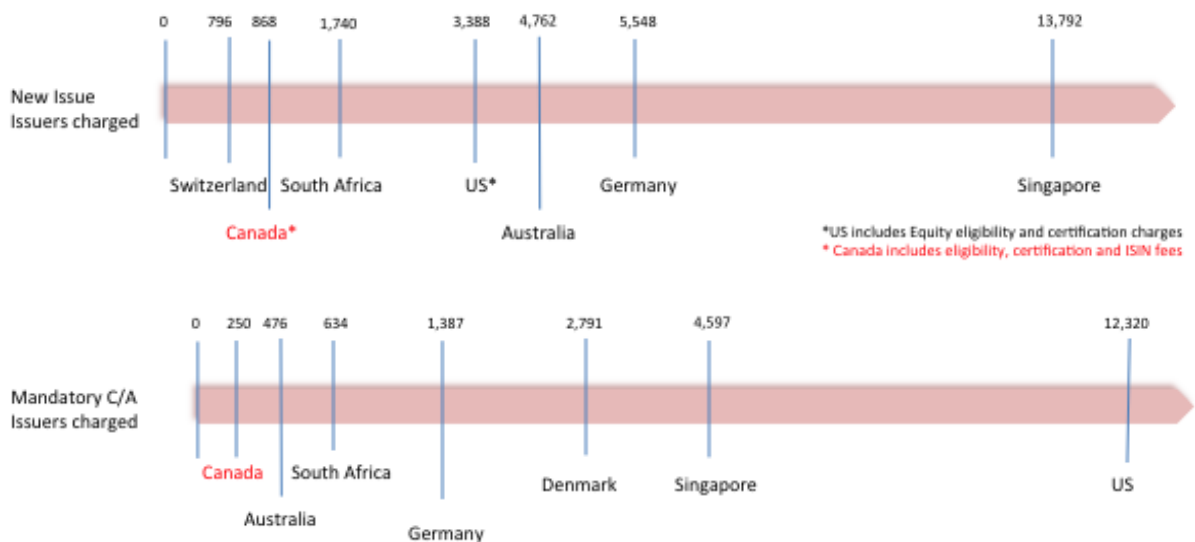
The charts below show that the CDS proposal is competitive when compared to the closest equivalent markets. The comparisons are for four regular grouped events:

- Cash dividends
- Rights issues
- New issues
- Mandatory corporate action events.

The US and Singapore prices on most events are extreme outliers. However even if these are removed and an arithmetic mean applied to the remaining price levels the CDS proposal is still competitive.

All prices are shown in CAD.





3.3 Descriptions of benchmarked CSDs

When comparing the proposed tariff to the other nominated depositories it is important to understand the context and application of their tariffs.

DTCC – US

The DTCC has a range of very detailed and specific charges for a number of types of corporate actions, which are applied to the account holder within the system. These events are differentiated between mandatory and voluntary types of events.

There are also charges applied to agents who acting on behalf of the Issuers. These are one off amounts and not on an item-by-item basis.

As there is no link between the DTCC and the Issuers, event type charging is generally applied to Issuers Agents, who in turn will pass on to their clients as they see fit.

The DTCC has noted that there are more and more “non-standard” corporate events now and for these they will look to pass through any additional costs or fees.

There are many pricing similarities between CDS and the DTCC in terms of application and methodology and on balance the CDS proposal is competitive.

ASX - Australia

The ASX depository, CHESS, has simple transaction types for New Issues and Corporate Action events. The schema of the system was a blueprint for the UK depository Crest but the tariff to support the services has evolved quite differently.

The transaction types for these events are straightforward to reconcile to the CDS proposed tariff and Australia is significantly more expensive than CDS for the Issuer.

NSDL & CDSL - India

The two main CSDs in India were created to meet Issuer requirements for shareholders to be able to participate in their companies. The companies benefited significantly in terms of raising shareholder capital from the CSDs' ability to support trading with electronic register and settlement capabilities. Because of this, the costs of processing settlement and corporate events are focused on the Issuing companies.

Corporate actions with trades (e.g. buy backs), which the Issuer conducts in the market, look like regular trades and are charged accordingly, however distributions over holders' accounts also charged.

Voluntary and mandatory corporate actions are split between non-cash and cash distributions. The CSD will not only provide the announcement free to the holders but will also provide the list of holders back to the Issuer for free. For cash distributions, the Issuer will process directly with the shareholders through the banking system.

There is a custody charge for the valuation of the holdings in the CSD. This is scaled base on the size and number of holdings in the system and again is paid by the Issuers.

The decision to charge issuers was taken by the regulator on the basis that the Issuers were getting the greatest benefits and cost savings from the creation of the CSD and that transaction fees for settlement are paid by the market participants.

India was selected for benchmarking because it provides an example of Issuer pays. Unfortunately the detailed comparison against CDS corporate action and entitlement services has shown that comparing the two charging models for these services does not provide useful benchmarking data.

SGX - Singapore

The Singaporean tariff is based on charging the Issuer. There is a split between the administration fee for the event and the processing fee, which is driven by the number of holders in the system. The latter is a difficult number to calculate and average.

Based on the administration fee, Singapore is considerably more expensive than the CDS proposal in all matched categories and transaction types.

Euroclear Bank

As Euroclear started as a fixed income custody system, the basis of its income stream has been obtained by ad valorem charges on assets held in custody. The tariffs for all markets are therefore all based on safekeeping fees, which are applied to the values of assets in a given depot.

There are very few specific corporate action charges. There are sliding scales for both safekeeping and settlement fees and these would also apply to any movement of assets resulting from corporate action events. These charges are applied to the account holder in Euroclear in a similar way to how a custodian treats its clients.

Specific corporate action events are not catalogued except for the cancellation and issuance of Depository receipts. There are charges on reporting giving advance notice of up and coming events on account holders' positions. This particular service is charged on a sliding scale by month.

These differences in approach means that it is not appropriate to compare Euroclear Bank pricing to the CDS proposal and current pricing.

VP - Denmark

The Danish CSD, VP, charges Issuers for these services and is a useful benchmark. However, a number of these charges are driven by a methodology based on unit charging of activity to the Issuer and not to the Participant and therefore a number of their charges are not reconcilable to the CDS.

The services that can be benchmarked show differences between New Issue pricing and on going corporate event pricing. An IPO in Denmark is cheaper to process than Canada but subsequent corporate actions are cheaper in Canada.

There are no volume related, or complexity weightings. On balance the CDS proposed prices are lower.

Clearstream – Germany

The domestic Clearstream service applies a blend of pricing methodologies across Issuers and Participants. As the German market is a vertical stack of services, it is difficult to ascertain what is and is not cross-subsidized. However for the services that can be compared, the CDS prices are lower.

STRATE - South Africa

The STRATE tariff is the most easily benchmarked against the CDS proposal as it uses an Issuer pays tariff methodology.

The CSD proposed prices are lower than South Africa.

Euroclear - Sweden

The Swedish approach to corporate action pricing is based on disseminating and subscribing to data. This is driven by how these events are processed between holders and Issuers, with a pricing model based on charging for the value in the data. Therefore there is little to compare here except for the subscription fees versus the publication charges in the current tariff rates supplied by the CDS.

SIX - Switzerland

The Swiss CSD charges Paying Agents, Participants and Issuers for these services and transaction types to. The methodology is also driven by a mix of transactions per account in the system, by issue and by whether the message relates to a delivery or instruction.

There are few comparisons that can be made with CDS. However for New Issue activity, SIX costs less than CDS.

Euroclear UK – Crest

Crest pricing of corporate actions is predominately transactional based as it evolved from the settlement services and their associated pricing. MSP understands from its own experience that there is a widely held view that this pricing is lower than it should be for the services supplied and to try to compensate they have recently introduced asset maintenance charges, which attempt to make up for under pricing.

There are many different types of transactions to support corporate actions as they range in different levels of complexity and these accommodate escrow adjustments (member and Registrar), reconstitution, Registrar adjustments, stock withdrawals, transfers to and from escrow and unmatched stock events. In terms of pricing there few differences on unit prices as events are categorized as being complex, matchable, optional, mandatory, number of legs, etc. While the associated message traffic linked with each one is different, the rates for items are generally the same.

It is important to note in any pricing comparison that Crest also acts as a giant claims engine, processing movements between participants to compensate for mismatches between event dates and the settlement dates of transactions.

Participants pay Crest (participants are Custodians, Brokers & Market Makers). Issuers and Registrars are not charged by Crest: there is an exception where Registrars are charged for movements out of escrow but the number of these is negligible. Crest would like to charge this sector but it views that it cannot and due to history it continues to look to ways of incentivizing for paper to move in electronic form.

Crest would like to charge for corporate action information and dates but this has been rejected. This is due to the fact they will only supply confirmed information and this validation creates too long a delay for the information to be competitively valuable.

When benchmarked against the CDS pricing proposals there is very little to compare except for the current transactional based pricing. The way Crest has structured its services means that Canadian participant user prices look high. However levels of activity and volume needs to be considered when making this comparison.

Section 2:

Appendix I: Fees by Country

Appendix I: Fees by Country

North America: Canada

CDS – Canada (Proposed)

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	Money Market interest & maturity event	\$10.00/event	\$10.00
Issuer	NHA interest event	\$10.00/event	\$10.00
Issuer	NHA maturity event	\$20.00/event	\$20.00
Issuer	Interest event	\$100.00/event	\$100.00
Issuer	Maturity event	\$150.00/event	\$150.00
Issuer	Dividend event	\$100.00/event	\$100.00
Issuer	Corporate Action event with no option	\$250.00/event	\$250.00
Issuer	Corporate Action event with option	\$250.00/event	\$250.00
Issuer	Exchange Traded Fund event	\$250.00/event	\$250.00
Issuer	Paying agent processing fee	\$50.00/event	\$50.00
Issuer	Depository agent processing fee	\$100.00/event	\$100.00
Issuer	Single ISIN issuance	\$160.00/ISIN	\$160.00
Issuer	Serial ISIN issuance	\$195.00/ISIN	\$195.00
Issuer	Strip bond and package ISIN issuance (was \$105.00)	\$160.00/ISIN	\$160.00
Issuer	Issuer code request	\$160.00/code	\$160.00
Issuer	Security eligibility administration fee	\$475.00/request	\$475.00
Issuer	Certification fee	\$125.00/request	\$125.00
Issuer	Late depository eligibility request <48hrs, >24hrs	\$2,000.00/request	\$2,000.00
Issuer	Late depository eligibility request <24hrs before closing date	\$5,000.00/request	\$5,000.00
Issuer	Late depository eligibility request on closing date	\$10,000.00/request	\$10,000.00
Issuer	S&P ISIN issuance (was \$325.00)	\$268.00/ISIN	\$268.00

CDS – Canada (Current)

Paying Party	Description of service	Local currency charge	CAD Equivalent
Participant	Corporate Action Withdrawal	\$1.94/withdrawal	\$1.94
Participant	Strip bond adjustment – debit/credit	\$6.15/trans	\$6.15
Participant	Corporate Action manual transaction	\$23.45/trans	\$23.45
Participant	Corporate Action automatic transaction	\$4.70/trans	\$4.70
Participant	Dividend manual transaction	\$23.74/trans	\$23.74
Participant	Dividend automatic transaction	\$4.98/trans	\$4.98
Participant	Create and acknowledge Corporate Action liability record	\$6.55/acknowledgement	\$6.55
Participant	Dividend eligibility report annual subscription	\$1,045.00/year	\$1,045.00
Participant	Dividend eligibility report archive request	\$1,045.00/file	\$1,045.00
Participant	Shareholder meeting notices	\$100.00/publication	\$100.00
Participant	Serial bond ISIN set up	\$100.00/ISIN	\$100.00
Participant	Other bond ISIN set up	\$250.00/ISIN	\$250.00

North America: USA

DTCC

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer Agent	Processing low volume tender offer	USD 10,000.00/event	\$12,320.00
Issuer Agent	Consent only event base processing	USD 2,000.00/election	\$2,464.00
Issuer Agent	Consent only event base processing – additional elections on event	USD 1,000.00/election	\$1,232.00
Issuer Agent	Consent only event payment processing	USD 200.00/election	\$246.40
Issuer Agent	Consent only event extension	USD 200.00/election	\$246.40
Issuer Agent	Voluntary Corporate Action late notification – 5 to 9 days pre expiration	USD 2,000.00/event	\$2,464.00
Issuer Agent	Voluntary Corporate Action late notification – < 5 days pre expiration	USD 5,000.00/event	\$6,160.00
Participant	Dividend - Cash	USD 1.80/credit	\$2.22
Participant	Dividend – Stock (including distributions and splits)	USD 13.75/credit	\$16.94
Participant	Redemptions	USD 17.00/allocation	\$20.94
Participant	Voluntary Corporate Action election for first 50 instructions	USD 11.50/instruction	\$14.17
Participant	Voluntary Corporate Action election for additional instructions	USD 0.75/instruction	\$0.92
Participant	Voluntary Corporate Action event	USD 95.00/event	\$117.04
Participant	Proxy voting record date meeting identification	USD 1.00/holding	\$1.23
Participant	Proxy voting processing of dissent letter of shareholder demand	USD 400.00/instruction	\$492.80
Participant	Reorganization rejection	USD 125.00/rejection	\$154.00
Participant	Report of Corporate Action liabilities	USD 75.00/account/month	\$92.40
Participant	Report of Corporate Action liabilities transactions	USD 0.75/transaction	\$0.92
Participant	Subscription to legal notices including Corporate Action Events	USD 2,000.00/month	\$2,464.00
Participant	Municipal bearer bonds – active/less active issue	USD 0.85 – 1.70/issue/month	\$1.05 - \$2.09
Participant	Municipal bearer bonds – BEO Issue	USD 0.10/issue/month	\$0.12
Participant	Municipal bearer bonds – Position in certificated form	USD 1.05/position/month	\$1.29
Participant	Municipal bearer bonds – Position required coupon collection	USD 0.25/issue/month	\$0.31
Participant	Municipal bearer bonds – Position in multi-purpose issues	USD 0.50/issue/month	\$0.62
Participant	Mandatory Corporate actions	USD 80.00/position	\$98.56
Participant	Bearer bonds interest payment	USD 4.00/trans	\$4.93
Participant	Coupon collection service	USD 75.00/position	\$92.40
Participant	Physical certificate for a mandatory event	USD 6.00/item	\$7.39
Participant	Deposit for mandatory reorganization	USD 90.00/deposit	\$110.88
Participant	Redemption deposit	USD 90.00/deposit	\$110.88
Issuer	Equity eligibility fee	USD 750.00/issue	\$924.00
Issuer	Equity eligibility fee – extra CUSIP	USD 250.00/issue	\$308.00
Issuer	Debt eligibility fee	USD 350.00/issue	\$431.20
Issuer	Debt eligibility fee – extra CUSIP	USD 250.00/issue	\$308.00
Issuer	Municipal bond eligibility fee	USD 350.00/issue	\$431.20
Issuer	Municipal bond eligibility fee – extra CUSIP	USD 800.00/issue	\$985.00
Issuer	Certificated issues eligibility fee	USD 2,000.00/issue	\$2,464.00
Issuer	Late eligibility request 2 days pre closing date	USD 2,000.00/issue	\$2,464.00
Issuer	Late eligibility request 1 day pre closing date	USD 5,000.00/issue	\$6,160.00
Issuer	Late eligibility request on closing date	USD 10,000.00/issue	\$12,320.00
Issuer	Submission for Money Market Instrument eligibility	USD 250.00/program	\$308.00
Issuer	Modification of Money Market Instrument eligibility	USD 300.00/CUSIP	\$369.60
Issuer	Late filing of Money Market Instrument eligibility	USD 300.00/program	\$369.60

Asia-Pacific: Australia

ASX

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	Primary Market facilitation	AUD 5,000/offer – Min	\$4,762.91
Issuer	Primary Market settlement	AUD 1.30/trans	\$1.24
Issuer	Corporate Action event offer establishment	AUD 500.00/offer	\$476.29
Issuer	Corporate Action event offer facilitation	AUD 1,000.00/offer	\$952.58
Issuer	Offer acceptance	AUD 0.30/instruction	\$0.29
Issuer	Corporate Action notification – high complexity	AUD 90.00/notification	\$85.73
Issuer	Corporate Action notification – medium complexity	AUD 60.00/notification	\$57.15
Issuer	Annual CHES operating charge	AUD 1,500.00/issuer/annual	\$1,428.87

Asia-Pacific: India

NSDL & CSDL

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	IPO, offer and rights issue verification	INR 1/rec – min INR 10,000	\$0.019 min \$192.20
Issuer	IPO, offer and rights issue processing	INR 10,000	\$192.20
Issuer	IPO, offer and rights issue instruction	INR 1/rec – min INR 1,000	\$0.019 min \$19.22
Issuer	Bonus, scheme of arrangement, consolidation and buy back processing	INR 10,000	\$192.20
Issuer	Bonus, scheme of arrangement, consolidation and buy back instruction	INR 1/rec – min INR 1,000	\$0.019 min \$19.22
Issuer	Allotment instruction	INR 1/rec – min INR 1,000	\$0.019 min \$19.22
Issuer	Asset servicing charge	INR 8/ISIN – min 6k max 50k	\$0.15 - \$115.32/\$961.00

Asia-Pacific: Singapore

SGX

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	Dividend admin fee	SGD 3,250.00	\$2,988.45
Issuer	Dividend processing fee	SGD 1.875/record (av)	\$1.72
Issuer	Dividend with Scrip election admin fee	SGD 18,000.00	\$16,551.39
Issuer	Dividend with Scrip election processing fee	SGD 5.00/record (av)	\$4.60
Issuer	Dividend Service Fee (unclaimed dividends)	SGD 2.00/record/year	\$1.84
Issuer	Rights Issue (Simple) admin fee	SGD 20,000.00	\$18,390.44
Issuer	Rights issue (Simple) processing fee	SGD 5.00/record (av)	\$4.60
Issuer	Rights Issue (Accelerated)	Customized	N/A
Issuer	Bonus Issue admin fee	SGD 5,000.00	\$4,597.61
Issuer	Bonus issue processing fee	SGD 1.5/record (av)	\$1.38
Issuer	Share consolidation admin fee	SGD 5,000.00	\$4,597.61
Issuer	Share consolidation processing fee	SGD 1.5/record (av)	\$1.38
Issuer	Stock split admin fee	SGD 5,000.00	\$4,597.61
Issuer	Stock split processing fee	SGD 1.5/record (av)	\$1.38
Issuer	Private placements admin fee	SGD 200.00	\$183.90
Issuer	Private placement processing fee	SGD 10.00/record (av)	\$9.20
Issuer	Takeovers admin fee	SGD 20,000.00	\$18,390.4
Issuer	Takeovers processing fee	SGD 5.00/record (av)	\$4.60
Issuer	IPO fixed charge	SGD 15,000.00	\$13,792.83
Issuer	IPO processing charge	SGD 4.50/applicant	\$4.14
Issuer	Equity - Annual Listing Fee (Catalist service)	SGD 30,000.00-100,000.00/year	\$27,585.65-\$91,952.18
Issuer	Equity - Admission to Listing (Catalist service)	SGD 2,000.00/issue	\$1,839.04
Issuer	Debt Issuance - Listing Fee	SGD 15,000.00/issue	\$13,792.83
Issuer	Debt Issuance - Processing Fee	SGD 10,000.00/issue	\$9,195.22
Issuer	Additional Debt Issuance - Processing Fee	SGD 10,000.00/issue	\$9,195.22
Issuer	Equity - Initial Listing Fee (Mainboard service)	SGD 100,000.00-200,000.00/issue	\$91,952.18-\$183,904.35
Issuer	Equity - Admission to Listing (Mainboard service)	SGD 20,000.00/issue	\$18,390.44
Issuer	Equity - Annual Listing Fee (Mainboard service)	SGD 35,000.00-150,000.00/year	\$32,183.26-\$137,928.26
Issuer	Conversion Bond or REIT to Equity (Mainboard service)	SGD 30,000.00-200,000.00/year	\$27,585.65-\$183,904.35
Issuer	Document Processing (Mainboard service)	SGD 3,000.00-8,000.00/year	\$2,758.57-\$7,356.17
Issuer	ETF - Initial Listing (Mainboard service)	SGD 10,000.00/issue	\$9,195.22
Issuer	ETF - Annual Listing (Mainboard service)	SGD 400.00-2,000.00/year	\$367.81-\$1,839.04

EMEA: International

Euroclear Bank

Paying Party	Description of service	Local currency charge	CAD Equivalent
Participant	Proxy voting instruction	EUR 55.00/instruction	\$76.30
Participant	External settlement charge for movements arising from events	EUR 23.00 to 14.00/trans	\$31.91 to \$19.42
Participant	Safe Keeping charge	2.2bps to 0.80bps	N/A
Participant	Domestic Investment Fund redemption	EUR 55.00/trans	\$76.30

EMEA: Denmark

VP Securities

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	Reduction in Capital	DKK 8,000.00 per event	\$1,488.88
Issuer	New Issue of securities & professional investment funds	DKK 0.006/unit	\$0.001
Issuer	Corporate action – Basic	DKK 15,000.00/event	\$2,791.65
Issuer	Corporate Action – Bank package	DKK 25,000.00/event	\$4,652.74
Issuer	Corporate Action change to register charge	DKK 3,000.00/ISIN	\$558.33
Issuer	Corporate Action change to register charge	DKK 0.11/record	\$0.02
Issuer	New ISIN for securities	DKK 2,000.00/ISIN	\$372.22
Issuer	Dividend	DKK 550.00/requisition	\$102.36
Issuer	Dividend reinvestment	DKK 550.00/requisition	\$102.36
Issuer	Dividend reinvestment	DKK 0.11/account	\$0.02
Issuer	Payments arising from Corporate Action events	DKK 1.20/payment	\$0.22
Issuer	New ISIN for bonds	DKK 1,000.00/ISIN	\$186.11
Issuer	Creation of securities	DKK 2,000.00/ISIN	\$372.22
Issuer	New ISIN for professional investment funds	DKK 30,000.00/ISIN	\$5,583.30
Issuer	Issue of bonds	DKK 50.00/trans	\$9.31
Issuer	Issue of securities	DKK 100.00/trans	\$18.61
Issuer	Issue of bonds	DKK 5.00/million DKK	\$0.93

EMEA: Germany

Clearstream

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	New Issue	EUR 4,000.00/issue	\$5,548.93
Issuer	Corporate Action event	EUR 1,000.00/event	\$1,387.23
Participant	First registration of shares resulting from capital changes	EUR 0.30/trans	\$0.42
Participant	Corporate Action notifications, confirmations and claims	EUR 0.50 to 0.15/item	\$0.69 to \$0.21
Participant	Instruction of Corporate Action	EUR 39.50/instruction	\$54.80
Participant	Proxy voting – Request of agenda	EUR 39.50/instruction	\$54.80
Participant	Proxy voting – Vote instruction	EUR 39.50/instruction	\$54.80
Participant	Proxy voting – Ordering of entrance cards	EUR 39.50/instruction	\$54.80
Issuer	Checking of certificate or coupon sheet	EUR 150.00/issue	\$208.10
Issuer	Checking of certificate and coupon sheet	EUR 250.00/issue	\$346.84
Issuer	Checking of printing	EUR 125.00/issue	\$173.42
Issuer	Issue of commercial paper tranche	EUR 25.00/issue	\$34.68
Issuer	Trustee service – 1 st issue	EUR 2,500.00/issue	\$3,468.35
Issuer	Trustee service – 2 nd to 50 th issue	EUR 1,250.00/issue	\$1,734.18
Issuer	Trustee service - >50 th issue	EUR 500.00/issue	\$693.67
Participant	Late event amendments	EUR 400.00/event	\$554.94
Participant	Cancellation of event	EUR 800.00/event	\$1,109.87
Participant	Re-registration of shares	EUR 0.30/trans	\$0.42
Participant	Automated re-registration of shares	EUR 0.10/trans	\$0.14

EMEA: South Africa

STRATE

Paying Party	Description of service	Local currency charge	CAD Equivalent
Issuer	Corporate Event Meeting Notification (Domestic) and vote collection	ZAR 4,125.23/event	\$410.60
Issuer	Corporate Event Meeting Notification (Foreign) and vote collection	ZAR 5,386.50/event	\$536.14
Issuer	Processing of Mandatory Corporate Action – Cash event only	ZAR 5,465.93/event	\$544.05
Issuer	Processing of Mandatory Corporate Action – Stock event only	ZAR 4,372.75/event	\$435.24
Issuer	Processing of Mandatory Corporate Action – Stock and cash event	ZAR 6,371.70/event	\$634.21
Issuer	Processing of Mandatory Corporate Action – With two options	ZAR 18,584.01/event/option	\$1,849.75
Issuer	Processing of Mandatory Corporate Action – With three options	ZAR 18,584.01/event/option	\$1,849.75
Issuer	Processing of Mandatory Corporate Action – With more than three options	ZAR 23,764.88/event/option	\$2,365.43
Issuer	Withdrawal of Corporate Action event	ZAR 3,035.02/event	\$302.09
Issuer	Increase or decrease of allotment	ZAR 96.49/update	\$9.60
Issuer	Processing of Voluntary Corporate Action – With one option	ZAR 18,584.01/event/option	\$1,849.75
Issuer	Processing of Voluntary Corporate Action – With two options	ZAR 18,584.01/event/option	\$1,849.75
Issuer	Processing of Voluntary Corporate Action – With three options	ZAR 18,584.01/event/option	\$1,849.75
Issuer	Processing of Voluntary Corporate Action – With more than three options	ZAR 22,814.28/event/option	\$2,270.81
Issuer	Initial Public Offering	ZAR 17,490.95/event	\$1,740.96
Issuer	Private Placements	ZAR 38,594.33/event	\$3,841.48
Issuer	New ISIN	ZAR 3,279.55/creation	\$326.43
Issuer	Exchange traded funds initial listing	ZAR 17,490.95/listing	\$1,740.95
Issuer	New warrant fee	ZAR 8,250.45/issue	\$821.21
Issuer	Warrant expiry – In the money	ZAR 7,174.30/issue	\$714.09
Issuer	Warrant expiry – Out the money	ZAR 7,174.30/issue	\$714.09

EMEA: Sweden

Euroclear Sweden

Paying Party	Description of service	Local currency charge	CAD Equivalent
Participant	Corporate Action information for redemption and dividends	SEK 1,000.00/month	\$150.52
Participant	Corporate Action information for rights issues and splits	SEK 500.00/month	\$75.26
Participant	Corporate Action information for all events	SEK 15,000.00/month	\$2,257.84
Participant	Corporate Action information for holding across 1-10 accounts	SEK 5,000.00/month	\$752.61
Participant	Corporate Action information for holding across 11-20 accounts	SEK 10,000.00/month	\$1,505.23
Participant	Corporate Action information for holding across 21-40 accounts	SEK 15,000.00/month	\$2,257.84
Participant	Corporate Action information for holding across >40 accounts	SEK 20,000.00/month	\$3,010.46
Participant	Corporate Action information search via web service	SEK 0.10/search	\$0.02
Participant	Corporate Action information download via the web service	SEK 20.00/download	\$3.01

EMEA: Switzerland

SIX

Paying Party	Description of service	Local currency charge	CAD Equivalent
Paying Agent	Rights, bonuses, splits and redemptions	CHF 25.00/trans/account	\$33.19
Paying Agent	Events where there is an exchange for new or other securities	CHF 50.00/trans/account	\$66.38
Paying Agent	Dividend	CHF 10.00/account	\$13.28
Paying Agent	New Issue – Uncertificated	CHF 250.00/issue	\$331.88
Paying Agent	New Issue – Certificated	CHF 600.00/issue	\$796.52
Participant	Late or corrected Voluntary Corporate Action	CHF 250.00/instruction	\$331.88
Participant	Proxy voting service (STP)	CHF 35.00/instruction	\$46.46
Participant	Proxy voting service (non-STP)	CHF 250.00/instruction	\$331.88
Issuer	Issue & capital increases	CHF 2,000.00/issue	\$2,655.04
Issuer	New Issue delivery	CHF 75.00/delivery	\$99.31

EMEA: UK

Euroclear UK&I (CREST)

Paying Party	Description of service	Local currency charge	CAD Equivalent
Participant	Claims – Settling	GBP 1.80/trans	\$3.45
Participant	Claims – Non settling	GBP 1.65/trans	\$3.16
Participant	Complex delivery (many to many)	GBP 1.10/trans	\$2.11
Participant	Dividend	GBP 0.225/trans	\$0.43
Participant	Transfer to/from escrow	GBP 0.275/trans	\$0.53
Participant	Reconstitution	GBP 0.575/trans	\$1.10
Participant	Unmatched Corporate Action event	GBP 0.275/trans	\$0.53
Participant	Proxy voting instruction	GBP 0.30/trans	\$0.58
Participant	Dividend election	GBP 0.50/trans	\$0.96
Participant	Interest Claim	GBP 0.975/trans	\$1.89
Issuer	Money Market Issuance	GBP 15.00/issue	\$29.00

Appendix II:

Corporate Action and Entitlement Mapping

Appendix II: Corporate Action and Entitlement Mapping

	Positive benchmark pricing – CDS lower than comparisons
	Negative benchmark pricing but market size could be a factor
	Negative benchmark pricing
	Difficult to make meaningful comparisons
P	Comparison is against CDS proposed pricing
C	Comparison is against CDS current pricing

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
CDS – Canada (Proposed)	Issuer	Money Market interest & maturity event	\$10.00/event	\$10.00	1		P
	Issuer	NHA interest event	\$10.00/event	\$10.00	2		P
	Issuer	NHA maturity event	\$20.00/event	\$20.00	3		P
	Issuer	Interest event	\$100.00/event	\$100.00	4		P
	Issuer	Maturity event	\$150.00/event	\$150.00	5		P
	Issuer	Dividend event	\$100.00/event	\$100.00	6		P
	Issuer	Corporate Action event with no option	\$250.00/event	\$250.00	7		P
	Issuer	Corporate Action event with option	\$250.00/event	\$250.00	8		P
	Issuer	Exchange Traded Fund event	\$250.00/event	\$250.00	9		P
	Issuer	Paying agent processing fee	\$50.00/event	\$50.00	10		P
	Issuer	Depository agent processing fee	\$100.00/event	\$100.00	11		P
	Issuer	Single ISIN issuance	\$160.00/ISIN	\$160.00	12 – Per 21 below		P
	Issuer	Serial ISIN issuance	\$195.00/ISIN	\$195.00	13		P
	Issuer	Strip bond and package ISIN issuance (was \$105.00)	\$160.00/ISIN	\$160.00	14 – Per other issuance		P
	Issuer	Issuer code request	\$160.00/code	\$160.00	15		P
	Issuer	Security eligibility administration fee	\$475.00/request	\$475.00	16		P
	Issuer	Certification fee	\$125.00/request	\$125.00	17		P
Issuer	Late depository eligibility request <48hrs, >24hrs	\$2,000.00/request	\$2,000.00	18		P	

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
	Issuer	Late depository eligibility request <24hrs before closing date	\$5,000.00/request	\$5,000.00	19		P
	Issuer	Late depository eligibility request on closing date	\$10,000.00/request	\$10,000.00	20		P
	Issuer	S&P ISIN issuance (was \$325.00)	\$268.00/ISIN	\$268.00	21		P
CDS – Canada (Current)	Participant	Corporate Action Withdrawal	\$1.94/withdrawal	\$1.94	A – No equivalent		C
	Participant	Strip bond adjustment – debit/credit	\$6.15/trans	\$6.15	B – No equivalent		C
	Participant	Corporate Action manual transaction	\$23.45/trans	\$23.45	C		C
	Participant	Corporate Action automatic transaction	\$4.70/trans	\$4.70	D		C
	Participant	Dividend manual transaction	\$23.74/trans	\$23.74	E		C
	Participant	Dividend automatic transaction	\$4.98/trans	\$4.98	F		C
	Participant	Create and acknowledge Corporate Action liability record	\$6.55/acknowledgement	\$6.55	G		C
	Participant	Dividend eligibility report annual subscription	\$1,045.00/year	\$1,045.00	H		C
	Participant	Dividend eligibility report archive request	\$1,045.00/file	\$1,045.00	I – No equivalent		C
	Participant	Shareholder meeting notices	\$100.00/publication	\$100.00	J		C
	Participant	Serial bond ISIN set up	\$100.00/ISIN	\$100.00	K – No equivalent		C
Participant	Other bond ISIN set up	\$250.00/ISIN	\$250.00	L – No equivalent		C	
Crest – Euroclear UK	Participant	Claims - Settling	GBP 1.80/trans	\$3.45			
	Participant	Claims – Non settling	GBP 1.65/trans	\$3.16			
	Participant	Complex delivery (many to many)	GBP 1.10/trans	\$2.11	C	\$23.45	C
	Participant	Dividend	GBP 0.225/trans	\$0.43	E or F	\$14.36 mean \$23.74 (E) \$4.98 (F)	C
	Participant	Transfer to/from escrow	GBP 0.275/trans	\$0.53	C or D	\$14.07 mean \$23.45 (C) \$4.70 (D)	C
	Participant	Reconstitution	GBP 0.575/trans	\$1.10	D	\$4.70	C
	Participant	Unmatched Corporate Action event	GBP 0.275/trans	\$0.53	D	\$4.70	C
	Participant	Proxy voting instruction	GBP 0.30/trans	\$0.58			
	Participant	Dividend election	GBP 0.50/trans	\$0.96	C	\$23.45	C
	Participant	Interest Claim	GBP 0.975/trans	\$1.89			
	Issuer	Money Market Issuance	GBP 15.00/issue	\$29.00	12+16+17	\$760.00 Ag \$160.00 (12) \$475.00 (16) \$125.00 (17)	P
Euroclear	Participant	Proxy voting instruction	EUR 55.00/instruction	\$76.30			

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
Bank	Participant	External settlement charge for movements arising from events	EUR 23.00 to 14.00/trans	\$31.91 to \$19.42			
	Participant	Safe Keeping charge	2.2bps to 0.80bps	N/A			
	Participant	Domestic Investment Fund redemption	EUR 55.00/trans	\$76.30			
Clearstream - Germany	Issuer	New Issue	EUR 4,000.00/issue	\$5,548.93	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Corporate Action event	EUR 1,000.00/event	\$1,387.23	7 or 8	\$250.00 mean \$250.00 (7) \$250.00 (8)	P
	Participant	First registration of shares resulting from capital changes	EUR 0.30/trans	\$0.42			
	Participant	Corporate Action notifications, confirmations and claims	EUR 0.50 to 0.15/item	\$0.69 to \$0.21	D	\$4.70	C
	Participant	Instruction of Corporate Action	EUR 39.50/instruction	\$54.80	C or E	\$23.74 mean \$23.45(C) \$23.74 (E)	C
	Participant	Proxy voting – Request of agenda	EUR 39.50/instruction	\$54.80			
	Participant	Proxy voting – Vote instruction	EUR 39.50/instruction	\$54.80			
	Participant	Proxy voting – Ordering of entrance cards	EUR 39.50/instruction	\$54.80			
	Issuer	Checking of certificate or coupon sheet	EUR 150.00/issue	\$208.10	1 or 2 or 4	\$40.00 mean \$10.00 (1) \$10.00 (2) \$100.00 (4)	P
	Issuer	Checking of certificate and coupon sheet	EUR 250.00/issue	\$346.84			
	Issuer	Checking of printing	EUR 125.00/issue	\$173.42			
	Issuer	Issue of commercial paper tranche	EUR 25.00/issue	\$34.68	17	\$125.00	P
	Issuer	Trustee service – 1 st issue	EUR 2,500.00/issue	\$3,468.35			
	Issuer	Trustee service – 2 nd to 50 th issue	EUR 1,250.00/issue	\$1,734.18			
	Issuer	Trustee service - >50 th issue	EUR 500.00/issue	\$693.67			
	Participant	Late event amendments	EUR 400.00/event	\$554.94			
	Participant	Cancellation of event	EUR 800.00/event	\$1,109.87			
Participant	Re-registration of shares	EUR 0.30/trans	\$0.42				
Participant	Automated re-registration of shares	EUR 0.10/trans	\$0.14				
DTCC - US	Issuer Agent	Processing low volume tender offer	USD 10,000.00/event	\$12,320.00	7 or 8	\$250.00 mean \$250.00 (7) \$250.00 (8)	P
	Issuer Agent	Consent only event base processing	USD 2,000.00/election	\$2,464.00	7	\$250.00	P
	Issuer Agent	Consent only event base processing – additional elections on	USD 1,000.00/election	\$1,232.00	8	\$250.00	P

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
		event					
	Issuer Agent	Consent only event payment processing	USD 200.00/election	\$246.40	7+10+11	\$400.00 Ag \$250.00 (7) \$50.00 (10) \$100.00 (11)	P
	Issuer Agent	Consent only event extension	USD 200.00/election	\$246.40	7 or 8	\$250.00 mean \$250.00 (7) \$250.00 (8)	P
	Issuer Agent	Voluntary Corporate Action late notification – 5 to 9 days pre expiration	USD 2,000.00/event	\$2,464.00			
	Issuer Agent	Voluntary Corporate Action late notification – < 5 days pre expiration	USD 5,000.00/event	\$6,160.00			
	Participant	Dividend - Cash	USD 1.80/credit	\$2.22	F	\$4.98	C
	Participant	Dividend – Stock (including distributions and splits)	USD 13.75/credit	\$16.94	D	\$4.70	C
	Participant	Redemptions	USD 17.00/allocation	\$20.94	D	\$4.70	C
	Participant	Voluntary Corporate Action election for first 50 instructions	USD 11.50/instruction	\$14.17			
	Participant	Voluntary Corporate Action election for additional instructions	USD 0.75/instruction	\$0.92	C	\$23.45	C
	Participant	Voluntary Corporate Action event	USD 95.00/event	\$117.04			
	Participant	Proxy voting record date meeting identification	USD 1.00/holding	\$1.23			
	Participant	Proxy voting processing of dissent letter of shareholder demand	USD 400.00/instruction	\$492.80			
	Participant	Reorganization rejection	USD 125.00/rejection	\$154.00			
	Participant	Report of Corporate Action liabilities	USD 75.00/account/month	\$92.40	H	\$1,045.00/year	C
	Participant	Report of Corporate Action liabilities transactions	USD 0.75/transaction	\$0.92	G	\$6.55	C
	Participant	Subscription to legal notices including Corporate Action Events	USD 2,000.00/month	\$2,464.00			
	Participant	Municipal bearer bonds – active/less active issue	USD 0.85 – 1.70/issue/month	\$1.05 - \$2.09			
	Participant	Municipal bearer bonds – BEO Issue	USD 0.10/issue/month	\$0.12			
	Participant	Municipal bearer bonds – Position in certificated form	USD 1.05/position/month	\$1.29			
	Participant	Municipal bearer bonds – Position required coupon collection	USD 0.25/issue/month	\$0.31			
	Participant	Municipal bearer bonds – Position in multi-purpose issues	USD 0.50/issue/month	\$0.62			
	Participant	Mandatory Corporate actions	USD 80.00/position	\$98.56	D	\$4.70/trans	C
	Participant	Bearer bonds interest payment	USD 4.00/trans	\$4.93			
	Participant	Coupon collection service	USD 75.00/position	\$92.40			
	Participant	Physical certificate for a mandatory event	USD 6.00/item	\$7.39			
	Participant	Deposit for mandatory reorganization	USD 90.00/deposit	\$110.88			
	Participant	Redemption deposit	USD 90.00/deposit	\$110.88			
	Issuer	Equity eligibility fee	USD 750.00/issue	\$924.00	16+21	\$743.00 Ag \$475.00 (16)	P

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
						\$268.00 (21)	
	Issuer	Equity eligibility fee – extra CUSIP	USD 250.00/issue	\$308.00	21	\$268.00	P
	Issuer	Debt eligibility fee	USD 350.00/issue	\$431.20	16+21	\$743.00 Ag \$475.00 (16) \$268.00 (21)	P
	Issuer	Debt eligibility fee – extra CUSIP	USD 250.00/issue	\$308.00	21	\$268.00	P
	Issuer	Municipal bond eligibility fee	USD 350.00/issue	\$431.20	16+21	\$743.00 Ag \$475.00 (16) \$268.00 (21)	P
	Issuer	Municipal bond eligibility fee – extra CUSIP	USD 800.00/issue	\$985.00	21	\$268.00	P
	Issuer	Certificated issues eligibility fee	USD 2,000.00/issue	\$2,464.00	17	\$125.00	P
	Issuer	Late eligibility request 2 days pre closing date	USD 2,000.00/issue	\$2,464.00	18	\$2,000.00	P
	Issuer	Late eligibility request 1 day pre closing date	USD 5,000.00/issue	\$6,160.00	19	\$5,000.00	P
	Issuer	Late eligibility request on closing date	USD 10,000.00/issue	\$12,320.00	20	\$10,000.00	P
	Issuer	Submission for Money Market Instrument eligibility	USD 250.00/program	\$308.00	12+16+17	\$760.00 Ag \$160.00 (12) \$475.00 (16) \$125.00 (17)	P
	Issuer	Modification of Money Market Instrument eligibility	USD 300.00/CUSIP	\$369.60	16+17	\$600.00 Ag \$475.00 (16) \$125.00 (17)	P
	Issuer	Late filing of Money Market Instrument eligibility	USD 300.00/program	\$369.60	18 or 19 or 20	\$5,667.00 mean \$2,000.00 (18) \$5,000.00 (19) \$10,000 (20)	P
Euroclear Sweden	Participant	Corporate Action information for redemption and dividends	SEK 1,000.00/month	\$150.52	H	\$1,045.00	C
	Participant	Corporate Action information for rights issues and splits	SEK 500.00/month	\$75.26			
	Participant	Corporate Action information for all events	SEK 15,000.00/month	\$2,257.84	J	\$100.00/ publication	C
	Participant	Corporate Action information for holding across 1-10 accounts	SEK 5,000.00/month	\$752.61			
	Participant	Corporate Action information for holding across 11-20 accounts	SEK 10,000.00/month	\$1,505.23			
	Participant	Corporate Action information for holding across 21-40 accounts	SEK 15,000.00/month	\$2,257.84			
	Participant	Corporate Action information for holding across >40 accounts	SEK 20,000.00/month	\$3,010.46			
	Participant	Corporate Action information search via web service	SEK 0.10/search	\$0.02			
	Participant	Corporate Action information download via the web service	SEK 20.00/download	\$3.01			

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
NSDL & CDSL - India	Issuer	IPO, offer and rights issue verification	INR 1/rec – min INR 10,000	\$0.019 min \$192.20	16	\$475.00/request	P
	Issuer	IPO, offer and rights issue processing	INR 10,000	\$192.20	17+21	\$393.00/ISIN Ag \$125.00 (17) \$268.00 (21)	P
	Issuer	IPO, offer and rights issue instruction	INR 1/rec – min INR 1,000	\$0.019 min \$19.22			
	Issuer	Bonus, scheme of arrangement, consolidation and buy back processing	INR 10,000	\$192.20	7	\$250.00/event	P
	Issuer	Bonus, scheme of arrangement, consolidation and buy back instruction	INR 1/rec – min INR 1,000	\$0.019 min \$19.22			
	Issuer	Allotment instruction	INR 1/rec – min INR 1,000	\$0.019 min \$19.22			
	Issuer	Asset servicing charge	INR 8/ISIN – min 6k max 50k	\$0.15 - \$115.32/\$961.00			
SGX - Singapore	Issuer	Dividend admin fee	SGD 3,250.00	\$2,988.45	6	\$100.00	P
	Issuer	Dividend processing fee	SGD 1.875/record (av)	\$1.72			
	Issuer	Dividend with Scrip election admin fee	SGD 18,000.00	\$16,551.39	7	\$250.00	P
	Issuer	Dividend with Scrip election processing fee	SGD 5.00/record (av)	\$4.60			
	Issuer	Dividend Service Fee (unclaimed dividends)	SGD 2.00/record/year	\$1.84			
	Issuer	Rights Issue (Simple) admin fee	SGD 20,000.00	\$18,390.44	8	\$250.00	P
	Issuer	Rights issue (Simple) processing fee	SGD 5.00/record (av)	\$4.60			
	Issuer	Rights Issue (Accelerated)	Customized	N/A	8	\$250.00	
	Issuer	Bonus Issue admin fee	SGD 5,000.00	\$4,597.61	7	\$250.00	P
	Issuer	Bonus issue processing fee	SGD 1.5/record (av)	\$1.38			
	Issuer	Share consolidation admin fee	SGD 5,000.00	\$4,597.61	7	\$250.00	P
	Issuer	Share consolidation processing fee	SGD 1.5/record (av)	\$1.38			
	Issuer	Stock split admin fee	SGD 5,000.00	\$4,597.61	7	\$250.00	P
	Issuer	Stock split processing fee	SGD 1.5/record (av)	\$1.38			
	Issuer	Private placements admin fee	SGD 200.00	\$183.90	10+11	\$150.00 Ag \$50.00 (10) \$100.00 (11)	P
	Issuer	Private placement processing fee	SGD 10.00/record (av)	\$9.20			
	Issuer	Takeovers admin fee	SGD 20,000.00	\$18,390.44	8	\$250.00	P
	Issuer	Takeovers processing fee	SGD 5.00/record (av)	\$4.60			
Issuer	IPO fixed charge	SGD 15,000.00	\$13,792.83	16+17+21	\$868.00 Ag \$475.00 (16)	P	
Issuer	IPO processing charge	SGD 4.50/applicant	\$4.14				

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
						\$125.00 (17) \$268.00 (21)	
	Issuer	Equity - Annual Listing Fee (Catalist service)	SGD 30,000.00-100,000.00/year	\$27,585.65-\$91,952.18			
	Issuer	Equity - Admission to Listing (Catalist service)	SGD 2,000.00/issue	\$1,839.04			
	Issuer	Debt Issuance - Listing Fee	SGD 15,000.00/issue	\$13,792.83	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Debt Issuance - Processing Fee	SGD 10,000.00/issue	\$9,195.22	10+11	\$150.00 Ag \$50.00 (10) \$100.00 (11)	P
	Issuer	Additional Debt Issuance - Processing Fee	SGD 10,000.00/issue	\$9,195.22	10+11	\$150.00 Ag \$50.00 (10) \$100.00 (11)	P
	Issuer	Equity - Initial Listing Fee (Mainboard service)	SGD 100,000.00-200,000.00/issue	\$91,952.18-\$183,904.35	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Equity - Admission to Listing (Mainboard service)	SGD 20,000.00/issue	\$18,390.44			
	Issuer	Equity - Annual Listing Fee (Mainboard service)	SGD 35,000.00-150,000.00/year	\$32,183.26-\$137,928.26			
	Issuer	Conversion Bond or REIT to Equity (Mainboard service)	SGD 30,000.00-200,000.00/year	\$27,585.65-\$183,904.35	5+7+16+17+21	\$1,268.00 Ag \$150.00 (5) \$250.00 (7) \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Document Processing (Mainboard service)	SGD 3,000.00-8,000.00/year	\$2,758.57-\$7,356.17			
	Issuer	ETF - Initial Listing (Mainboard service)	SGD 10,000.00/issue	\$9,195.22	9+16+17+21	\$1,118.00 Ag \$250.00 (9) \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	ETF - Annual Listing (Mainboard service)	SGD 400.00-2,000.00/year	\$367.81-\$1,839.04			
SIX -	Paying Agent	Rights, bonuses, splits and redemptions	CHF 25.00/trans/account	\$33.19	1 or 3 or 5 or 7	\$107.50/event	P

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
Switzerland						mean \$10/event (1) \$20/event (3) \$150/event (5) \$250/event (7)	
	Paying Agent	Events where there is an exchange for new or other securities	CHF 50.00/trans/account	\$66.38	7+16+17+21	\$1,118.00/event Ag \$250.00 (7) \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Paying Agent	Dividend	CHF 10.00/account	\$13.28	6	\$100.00	P
	Paying Agent	New Issue - Uncertificated	CHF 250.00/issue	\$331.88	16+21	\$743.00 Ag \$475.00 (16) \$268.00 (21)	P
	Paying Agent	New Issue - Certificated	CHF 600.00/issue	\$796.52	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Participant	Late or corrected Voluntary Corporate Action	CHF 250.00/instruction	\$331.88	C	\$23.45	C
	Participant	Proxy voting service (STP)	CHF 35.00/instruction	\$46.46			
	Participant	Proxy voting service (non-STP)	CHF 250.00/instruction	\$331.88			
	Issuer	Issue & capital increases	CHF 2,000.00/issue	\$2,655.04	7	\$250.00	P
	Issuer	New Issue delivery	CHF 75.00/delivery	\$99.31	10+11	\$150.00 Ag \$50.00 (10) \$100.00 (11)	P
Indeval - Mexico							
ASX - Australia	Issuer	Primary Market facilitation	AUD 5,000/offer - Min	\$4,762.91	16+17+21	\$868.00	P
	Issuer	Primary Market settlement	AUD 1.30/trans	\$1.24			
	Issuer	Corporate Action event offer establishment	AUD 500.00/offer	\$476.29	7	\$250.00	P
	Issuer	Corporate Action event offer facilitation	AUD 1,000.00/offer	\$952.58	10+11	\$150.00 Ag \$50.00 (10) \$100.00 (11)	P
	Issuer	Offer acceptance	AUD 0.30/instruction	\$0.29			
	Issuer	Corporate Action notification – high complexity	AUD 90.00/notification	\$85.73			

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
	Issuer	Corporate Action notification – medium complexity	AUD 60.00/notification	\$57.15	7	\$250.00	P
	Issuer	Annual CHES operating charge	AUD 1,500.00/issuer/annual	\$1,428.87			
	Issuer	Reduction in Capital	DKK 8,000.00 per event	\$1,488.88	7	\$250.00	P
	Issuer	New Issue of securities & professional investment funds	DKK 0.006/unit	\$0.001	16+17+21	\$868.00/issue Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Corporate action – Basic	DKK 15,000.00/event	\$2,791.65	7	\$250.00	P
	Issuer	Corporate Action – Bank package	DKK 25,000.00/event	\$4,652.74	7+10+11	\$400.00 Ag \$250.00 (7) \$50.00 (10) \$100.00 (11)	P
	Issuer	Corporate Action change to register charge	DKK 3,000.00/ISIN	\$558.33	7	\$250.00	P
	Issuer	Corporate Action change to register charge	DKK 0.11/record	\$0.02	7	\$250.00	P
	Issuer	New ISIN for securities	DKK 2,000.00/ISIN	\$372.22	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Dividend	DKK 550.00/requisition	\$102.36	6	\$100.00	P
	Issuer	Dividend reinvestment	DKK 550.00/requisition	\$102.36	6	\$100.00	P
	Issuer	Dividend reinvestment	DKK 0.11/account	\$0.02	6	\$100.00/event	P
	Issuer	Payments arising from Corporate Action events	DKK 1.20/payment	\$0.22	10+11	\$150.00/event Ag \$50.00 (10) \$100.00 (11)	P
	Issuer	New ISIN for bonds	DKK 1,000.00/ISIN	\$186.11	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Creation of securities	DKK 2,000.00/ISIN	\$372.22	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	New ISIN for professional investment funds	DKK 30,000.00/ISIN	\$5,583.30	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Issue of bonds	DKK 50.00/trans	\$9.31	16+17+21	\$868.00 Ag	P

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
						\$475.00 (16) \$125.00 (17) \$268.00 (21)	
	Issuer	Issue of securities	DKK 100.00/trans	\$18.61	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	Issue of bonds	DKK 5.00/million DKK	\$0.93	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
STRATE – South Africa	Issuer	Corporate Event Meeting Notification (Domestic) and vote collection	ZAR 4,125.23/event	\$410.60			
	Issuer	Corporate Event Meeting Notification (Foreign) and vote collection	ZAR 5,386.50/event	\$536.14			
	Issuer	Processing of Mandatory Corporate Action – Cash event only	ZAR 5,465.93/event	\$544.05	6 or 7	\$175.00 mean \$100.00 (6) \$250.00 (7)	P
	Issuer	Processing of Mandatory Corporate Action – Stock event only	ZAR 4,372.75/event	\$435.24	6 or 7	\$175.00 mean \$100.00 (6) \$250.00 (7)	P
	Issuer	Processing of Mandatory Corporate Action – Stock and cash event	ZAR 6,371.70/event	\$634.21	7	\$250.00	P
	Issuer	Processing of Mandatory Corporate Action – With two options	ZAR 18,584.01/event/option	\$1,849.75	8	\$250.00	P
	Issuer	Processing of Mandatory Corporate Action – With three options	ZAR 18,584.01/event/option	\$1,849.75	8	\$250.00	P
	Issuer	Processing of Mandatory Corporate Action – With more than three options	ZAR 23,764.88/event/option	\$2,365.43	8	\$250.00	P
	Issuer	Withdrawal of Corporate Action event	ZAR 3,035.02/event	\$302.09			
	Issuer	Increase or decrease of allotment	ZAR 96.49/update	\$9.60			
	Issuer	Processing of Voluntary Corporate Action – With one option	ZAR 18,584.01/event/option	\$1,849.75	8	\$250.00	P
	Issuer	Processing of Voluntary Corporate Action – With two options	ZAR 18,584.01/event/option	\$1,849.75	8	\$250.00	P
	Issuer	Processing of Voluntary Corporate Action – With three options	ZAR 18,584.01/event/option	\$1,849.75	8	\$250.00	P
	Issuer	Processing of Voluntary Corporate Action – With more than three options	ZAR 22,814.28/event/option	\$2,270.81	8	\$250.00	P
Issuer	Initial Public Offering	ZAR 17,490.95/event	\$1,740.96	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17)	P	

CSD	Paying Party	Description of service	Local currency charge	CAD Equivalent	Link #	CDS Equivalent (Ag = aggregate)	P/C
						\$268.00 (21)	
	Issuer	Private Placements	ZAR 38,594.33/event	\$3,841.48	16+17+21	\$868.00 Ag \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	New ISIN	ZAR 3,279.55/creation	\$326.43	12 or 13 or 15 or 21	\$195.00 mean \$160.00 (12) \$195.00 (13) \$160.00 (15) \$268.00 (21)	P
	Issuer	Exchange traded funds initial listing	ZAR 17,490.95/listing	\$1,740.95	9+16+17+21	\$1,118.00 Ag \$250.00 (9) \$475.00 (16) \$125.00 (17) \$268.00 (21)	P
	Issuer	New warrant fee	ZAR 8,250.45/issue	\$821.21	(12 or 15)+16	\$635.00 Ag \$160.00 (12) \$160.00 (15) \$475.00 (16)	P
	Issuer	Warrant expiry – In the money	ZAR 7,174.30/issue	\$714.09	5	\$150.00	P
	Issuer	Warrant expiry – Out the money	ZAR 7,174.30/issue	\$714.09	5	\$150.00	P

Appendix III:

Workings showing the basis for 3.1: Indication of the comparative costs of similar types of services provided by the benchmarked CSDs

Appendix III: Indication of Comparative Costs for Similar Types of Services

All CAD	Income events (Dividends & Interest)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	14.36			54.00
UK	1.09			
Euroclear				
Germany				242.79
US	8.03			
Singapore			3.16	9,769.92
Switzerland			13.28	
Australia				
Denmark			0.12	102.36
South Africa				544.05

Canada	Dividend manual transaction	\$23.74/trans
Canada	Dividend automatic transaction	\$4.98/trans

23.74
4.98
14.36

UK	Dividend	GBP 0.225/trans
UK	Dividend election	GBP 0.50/trans
UK	Interest Claim	GBP 0.975/trans

0.43
0.96
1.89
1.09

US	Dividend - Cash	USD 1.80/credit
US	Dividend – Stock (including distributions and splits)	USD 13.75/credit
US	Bearer bonds interest payment	USD 4.00/trans

2.22
16.94
4.93
8.03

All CAD	Income events (Dividends & Interest)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	14.36			54.00
UK	1.09			
Euroclear				
Germany				242.79
US	8.03			
Singapore			3.16	9,769.92
Switzerland			13.28	
Australia				
Denmark			0.12	102.36
South Africa				544.05

Singapore	Dividend processing fee	SGD 1.875/record (av)
Singapore	Dividend with Scrip election processing fee	SGD 5.00/record (av)

1.72
4.60
3.16

Switzerland	Dividend	CHF 10.00/account
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13.28

Denmark	Dividend reinvestment	DKK 0.11/account
Denmark	Payments arising from Corporate Action events	DKK 1.20/payment

0.02
0.22
0.12

All CAD	Income events (Dividends & Interest)				
	Participant		Issuer		
	CSD	Transaction	Event	Transaction	Event
Canada	14.36				54.00
UK	1.09				
Euroclear					
Germany					242.79
US	8.03				
Singapore				3.16	9,769.92
Switzerland				13.28	
Australia					
Denmark				0.12	102.36
South Africa					544.05

Canada	Money Market interest & maturity event	\$10.00/event	10.00
Canada	NHA interest event	\$10.00/event	10.00
Canada	Interest event	\$100.00/event	100.00
Canada	Dividend event	\$100.00/event	100.00
Canada	Paying agent processing fee	\$50.00/event	50.00
			54.00
Germany	Checking of certificate or coupon sheet	EUR 150.00/issue	208.10
Germany	Checking of certificate and coupon sheet	EUR 250.00/issue	346.84
Germany	Checking of printing	EUR 125.00/issue	173.42
			242.79
Singapore	Dividend admin fee	SGD 3,250.00	2,988.45
Singapore	Dividend with Scrip election admin fee	SGD 18,000.00	16,551.39
			9,769.92
Denmark	Dividend	DKK 550.00/requisition	102.36
South Africa	Processing of Mandatory Corporate Action – Cash event only	ZAR 5,465.93/event	544.05

	Other corporate events (IPO, distributions)			
All CAD	Participant		Issuer	
CSD	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

Canada	Corporate Action Withdrawal	\$1.94/withdrawal
Canada	Strip bond adjustment – debit/credit	\$6.15/trans
Canada	Corporate Action manual transaction	\$23.45/trans
Canada	Corporate Action automatic transaction	\$4.70/trans
Canada	Create and acknowledge Corporate Action liability record	\$6.55/acknowledgement

1.94
6.15
23.45
4.70
6.55
8.56

UK	Claims – Settling	GBP 1.80/trans
UK	Claims – Non settling	GBP 1.65/trans
UK	Complex delivery (many to many)	GBP 1.10/trans
UK	Transfer to/from escrow	GBP 0.275/trans
UK	Reconstitution	GBP 0.575/trans
UK	Unmatched Corporate Action event	GBP 0.275/trans
UK	Dividend election	GBP 0.50/trans

3.45
3.16
2.11
0.53
1.10
0.53
0.96
1.69

All CAD	Other corporate events (IPO, distributions)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

Euroclear	Domestic Investment Fund redemption	EUR 55.00/trans
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76.30

Germany	Corporate Action notifications, confirmations and claims	EUR 0.50 to 0.15/item
Germany		
Germany	First registration of shares resulting from capital changes	EUR 0.30/trans
Germany	Instruction of Corporate Action	EUR 39.50/instruction
Germany	Re-registration of shares	EUR 0.30/trans
Germany	Automated re-registration of shares	EUR 0.10/trans

\$0.69 to \$0.21
0.45
0.42
54.80
0.42
0.14
11.25

US	Dividend – Stock (including distributions and splits)	USD 13.75/credit
US	Redemptions	USD 17.00/allocation
US	Voluntary Corporate Action election for first 50 instructions	USD 11.50/instruction
US	Voluntary Corporate Action election for additional instructions	USD 0.75/instruction
US	Report of Corporate Action liabilities transactions	USD 0.75/transaction

16.94
20.94
14.17
0.92
0.92
10.78

All CAD	Other corporate events (IPO, distributions)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

Canada	Shareholder meeting notices	\$100.00/publication
Canada	Serial bond ISIN set up	\$100.00/ISIN
Canada	Other bond ISIN set up	\$250.00/ISIN

100.00
100.00
250.00
150.00

US	Voluntary Corporate Action event	USD 95.00/event
US	Mandatory Corporate actions	USD 80.00/position
US	Deposit for mandatory reorganization	USD 90.00/deposit
US	Redemption deposit	USD 90.00/deposit

117.04
98.56
110.88
110.88
109.34

All CAD	Other corporate events (IPO, distributions)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

Singapore	Rights issue (Simple) processing fee	SGD 5.00/record (av)
Singapore	Bonus issue processing fee	SGD 1.5/record (av)
Singapore	Share consolidation processing fee	SGD 1.5/record (av)
Singapore	Stock split processing fee	SGD 1.5/record (av)
Singapore	Private placement processing fee	SGD 10.00/record (av)
Singapore	Takeovers processing fee	SGD 5.00/record (av)
Singapore	IPO processing charge	SGD 4.50/applicant

4.60
1.38
1.38
1.38
9.20
4.60
4.14
3.81

Switzerland	Rights, bonuses, splits and redemptions	CHF 25.00/trans/account
Switzerland	Events where there is an exchange for new or other securities	CHF 50.00/trans/account

33.19
66.38
49.79

Australia	Primary Market settlement	AUD 1.30/trans
Australia	Offer acceptance	AUD 0.30/instruction

1.24
0.29
0.77

Denmark	Issue of bonds	DKK 50.00/trans
Denmark	Issue of securities	DKK 100.00/trans
Denmark	Corporate Action change to register charge	DKK 0.11/record

9.31
18.61
0.02
9.31

All CAD	Other corporate events (IPO, distributions)				
	Participant		Issuer		
	CSD	Transaction	Event	Transaction	Event
Canada	8.56		150.00		174.87
UK	1.69				29.00
Euroclear	76.30				
Germany	11.25				2,323.61
US	10.78		109.34		2,106.72
Singapore				3.81	8,961.16
Switzerland				49.79	970.69
Australia				0.77	1,266.93
Denmark				9.31	2,000.68
South Africa					1,553.35

Canada	Security eligibility administration fee	\$475.00/request	475.00
Canada	Certification fee	\$125.00/request	125.00
Canada	S&P ISIN issuance (was \$325.00)	\$268.00/ISIN	268.00
Canada	Money Market interest & maturity event	\$10.00/event	10.00
Canada	NHA maturity event	\$20.00/event	20.00
Canada	Maturity event	\$150.00/event	150.00
Canada	Corporate Action event with no option	\$250.00/event	250.00
Canada	Corporate Action event with option	\$250.00/event	250.00
Canada	Exchange Traded Fund event	\$250.00/event	250.00
Canada	Paying agent processing fee	\$50.00/event	50.00
Canada	Depository agent processing fee	\$100.00/event	100.00
Canada	Single ISIN issuance	\$160.00/ISIN	160.00
Canada	Serial ISIN issuance	\$195.00/ISIN	195.00
Canada	Strip bond and package ISIN issuance (was \$105.00)	\$160.00/ISIN	160.00
Canada	Issuer code request	\$160.00/code	160.00
			174.87
UK	Money Market Issuance	GBP 15.00/issue	29.00

	Other corporate events (IPO, distributions)			
All CAD	Participant		Issuer	
CSD	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

Germany	New Issue	EUR 4,000.00/issue
Germany	Corporate Action event	EUR 1,000.00/event
Germany	Issue of commercial paper tranche	EUR 25.00/issue

5,548.93
1,387.23
34.68
2,323.61

US	Processing low volume tender offer	USD 10,000.00/event
US	Consent only event base processing	USD 2,000.00/election
US	Consent only event base processing – additional elections on event	USD 1,000.00/election
US	Consent only event payment processing	USD 200.00/election
US	Consent only event extension	USD 200.00/election
US	Equity eligibility fee	USD 750.00/issue
US	Debt eligibility fee	USD 350.00/issue
US	Municipal bond eligibility fee	USD 350.00/issue
US	Certificated issues eligibility fee	USD 2,000.00/issue
US	Submission for Money Market Instrument eligibility	USD 250.00/program

12,320.00
2,464.00
1,232.00
246.40
246.40
924.00
431.20
431.20
2,464.00
308.00
2,106.72

All CAD	Other corporate events (IPO, distributions)				
	Participant		Issuer		
	CSD	Transaction	Event	Transaction	Event
Canada	8.56		150.00		174.87
UK	1.69				29.00
Euroclear	76.30				
Germany	11.25				2,323.61
US	10.78		109.34		2,106.72
Singapore				3.81	8,961.16
Switzerland				49.79	970.69
Australia				0.77	1,266.93
Denmark				9.31	2,000.68
South Africa					1,553.35

Singapore	Rights Issue (Simple) admin fee	SGD 20,000.00	18,390.44
Singapore	Bonus Issue admin fee	SGD 5,000.00	4,597.61
Singapore	Share consolidation admin fee	SGD 5,000.00	4,597.61
Singapore	Stock split admin fee	SGD 5,000.00	4,597.61
Singapore	Private placements admin fee	SGD 200.00	183.90
Singapore	Takeovers admin fee	SGD 20,000.00	18,390.40
Singapore	IPO fixed charge	SGD 15,000.00	13,792.83
Singapore	Equity - Admission to Listing (Catalist service)	SGD 2,000.00/issue	1,839.04
Singapore	Debt Issuance - Listing Fee	SGD 15,000.00/issue	13,792.83
Singapore	Debt Issuance - Processing Fee	SGD 10,000.00/issue	9,195.22
Singapore	ETF - Initial Listing (Mainboard service)	SGD 10,000.00/issue	9,195.22
			8,961.16

Switzerland	New Issue – Uncertificated	CHF 250.00/issue	331.88
Switzerland	New Issue – Certificated	CHF 600.00/issue	796.52
Switzerland	Issue & capital increases	CHF 2,000.00/issue	2,655.04
Switzerland	New Issue delivery	CHF 75.00/delivery	99.31
			970.69

All CAD	Other corporate events (IPO, distributions)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

Australia	Primary Market facilitation	AUD 5,000/offer – Min	4,762.91
Australia	Corporate Action event offer establishment	AUD 500.00/offer	476.29
Australia	Corporate Action event offer facilitation	AUD 1,000.00/offer	952.58
Australia	Corporate Action notification – high complexity	AUD 90.00/notification	85.73
Australia	Corporate Action notification – medium complexity	AUD 60.00/notification	57.15
			1,266.93

Denmark	Reduction in Capital	DKK 8,000.00 per event	1,488.88
Denmark	Corporate action – Basic	DKK 15,000.00/event	2,791.65
Denmark	Corporate Action – Bank package	DKK 25,000.00/event	4,652.74
Denmark	Corporate Action change to register charge	DKK 3,000.00/ISIN	558.33
Denmark	New ISIN for securities	DKK 2,000.00/ISIN	372.22
Denmark	New ISIN for bonds	DKK 1,000.00/ISIN	186.11
Denmark	Creation of securities	DKK 2,000.00/ISIN	372.22
Denmark	New ISIN for professional investment funds	DKK 30,000.00/ISIN	5,583.30
			2,000.68

All CAD	Other corporate events (IPO, distributions)			
	Participant		Issuer	
	Transaction	Event	Transaction	Event
Canada	8.56	150.00		174.87
UK	1.69			29.00
Euroclear	76.30			
Germany	11.25			2,323.61
US	10.78	109.34		2,106.72
Singapore			3.81	8,961.16
Switzerland			49.79	970.69
Australia			0.77	1,266.93
Denmark			9.31	2,000.68
South Africa				1,553.35

South Africa	Processing of Mandatory Corporate Action – Stock event only	ZAR 4,372.75/event	435.24
South Africa	Processing of Mandatory Corporate Action – Stock and cash event	ZAR 6,371.70/event	634.21
South Africa	Processing of Mandatory Corporate Action – With two options	ZAR 18,584.01/event/option	1,849.75
South Africa	Processing of Mandatory Corporate Action – With three options	ZAR 18,584.01/event/option	1,849.75
South Africa	Processing of Mandatory Corporate Action – With more than three options	ZAR 23,764.88/event/option	2,365.43
South Africa	Processing of Voluntary Corporate Action – With one option	ZAR 18,584.01/event/option	1,849.75
South Africa	Processing of Voluntary Corporate Action – With two options	ZAR 18,584.01/event/option	1,849.75
South Africa	Processing of Voluntary Corporate Action – With three options	ZAR 18,584.01/event/option	1,849.75
South Africa	Processing of Voluntary Corporate Action – With more than three options	ZAR 22,814.28/event/option	2,270.81
South Africa	Initial Public Offering	ZAR 17,490.95/event	1,740.96
South Africa	Private Placements	ZAR 38,594.33/event	3,841.48
South Africa	New ISIN	ZAR 3,279.55/creation	326.43
South Africa	Exchange traded funds initial listing	ZAR 17,490.95/listing	1,740.95
South Africa	New warrant fee	ZAR 8,250.45/issue	821.21
South Africa	Warrant expiry – In the money	ZAR 7,174.30/issue	714.09
South Africa	Warrant expiry – Out the money	ZAR 7,174.30/issue	714.09
			1,553.35

Appendix IV:

FX Rates

Appendix IV: FX Rates

FX Rates used in any calculations where applicable are shown below.

	per CAD 1
CAD	1.000000
AUD	0.952580
CHF	1.327520
DKK	0.186110
EUR	1.387233
GBP	1.933333
INR	0.019220
SEK	0.150520
SGD	0.919522
USD	1.232000
ZAR	0.099534