

Appendix D to Tradition SEF Rulebook
Equities Product Listing

Version 7

May 25, 2024

Broad-Market Equity Index Swap Product Listing

I. Discussion of contracts; not readily susceptible to manipulation

- Index Selection: Tradition SEF limits the indexes underlying its equity index swap offerings to well-established, publicly available third-party equity index market benchmarks. Tradition SEF believes that the size and liquidity of the cash market that underlies these indexes creates in each case a deliverable supply of underlying securities and volume of trading that would not make them easily susceptible to manipulation. Furthermore, Tradition SEF believes that the large number of participants in each market, and the calculation of each index being based on actual transaction data from major stock markets further limit the susceptibility of manipulation of these indexes. The broad-based equity indexes underlying swaps on Tradition SEF are the timeliest, recognized and reliable benchmarks for equity prices in their respective markets. The index levels are readily available and commercially acceptable as benchmarks for investors, portfolio managers and public policy makers. Tradition SEF believes that such benchmark indexes, which also underlie liquid index futures contracts on major Designated Contract Markets, and equity index exchange traded funds on stock exchanges, due to the large number of index members, ubiquity, and broad-market nature are not readily susceptible to manipulation. Furthermore, the associated index futures contracts and exchange traded funds offer a deep liquidity pool to hedge and risk-manage swaps based on such indexes' index.

Swap Contract Specifications: A discussion of Variance and Volatility Swaps: Equity Index Variance and volatility swaps pay out on the degree of stock price fluctuation, not the absolute level or direction of the underlying index. Tradition SEF believes that these swaps are by their nature less susceptible to manipulation because the payout on the swap is based on mathematical calculations of variance or volatility for indexes that represent effectively entire stock markets. For example, the buyer of the variance swap receives the actual realized variance over the relevant period, and pays a fixed amount in return (generally based on the expected / historical variance). The buyer is buying implied variance and receives money from the seller if the realized is greater than the implied over the term period, or pays money to the seller if the realized is less than the implied buyer purchased.

- **Discussion of Index Reference Prices**
- **Standard and Poor's 500 Index "SPX S&P 500®"**
 - The **Standard & Poor's 500® index**, is a stock market index based on the market capitalizations of 500 large companies having common stock listed on the NYSE or NASDAQ. The S&P 500 index components and their weightings are determined by S&P Dow Jones Indices. It is one of the most commonly followed equity indices and many consider it the best representation of the U.S. stock market as well as a bellwether for the U.S. economy. The S&P 500 was

developed and continues to be maintained by S&P Dow Jones Indices, which is majority-owned by McGraw Hill Financial that publishes many stock market indices. It is a capitalization-weighted index meaning that the level of the index fluctuates with the market capitalization of its components. “S&P®”, “S&P 500®” are copyrights of Standard and Poor’s.

- **Standard and Poor’s MidCap 400 Index “MID S&P 400®”**
 - The S&P MidCap 400® provides investors with a benchmark for mid-sized companies. It is the most widely followed U.S. mid-cap index. To be included in the index, a stock must have a total market capitalization that ranges from roughly \$750 million to \$3.3 billion. It is a capitalization-weighted index meaning that the level of the index fluctuates with the market capitalization of its components. “S&P®”, “S&P 400®” are copyrights of Standard and Poor’s.

- **Standard and Poor’s S&P/BMV IPC MEXBOL**
 - The S&P/BMV IPC seeks to measure the performance of the largest and most liquid stocks listed on the Bolsa Mexicana de Valores. The index is designed to provide a broad, representative, yet easily replicable index covering the Mexican equities market. The constituents are weighted by modified market cap subject to diversification requirements.

- **Russell 1000 Index**
 - The Russell 1000 Index measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1,000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 90% of the U.S. market and is constructed to provide a comprehensive, unbiased, and stable barometer of the broad market. The Russell 1000 components are reconstituted annually in May. However, newly listed stocks with initial public offerings are considered for inclusion quarterly. The Russell 1000 is managed by FTSE Russell. FTSE Russell also manages the Russell 2000 and Russell 3000 as well as numerous alternative indexes derived from each. Copyright © FTSE Russell Investments.

- **Russell 2000 Index**
 - The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 is a subset of the Russell 3000® Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2000 Index is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set. Copyright © FTSE Russell Investments.

- **Russell 3000 Index**
 - The Russell 3000® Index measures the performance of the largest 3,000 companies representing approximately 98% of the investable U.S. equity market. The index is constructed to provide a comprehensive, unbiased, and stable

barometer of the broad market and is reconstituted annually to ensure new and growing equities are included. Copyright © FTSE Russell Investments.

- **Nasdaq 100**

- The NASDAQ-100 Index includes 100 of the largest domestic and international non-financial securities listed on The Nasdaq Stock Market based on market capitalization. The Index reflects companies across major industry groups including computer hardware and software, telecommunications, retail/wholesale trade and biotechnology. It does not contain securities of financial companies including investment companies.

Read more: <http://www.nasdaq.com/markets/indices/nasdaq-100.aspx#ixzz2q0hgdZ4j>

- **Dow Jones 30** The **Dow Jones Industrial Average®**, also called the **Dow 30**, or simply the **Dow** is owned by [S&P Dow Jones Indices](#), which is majority owned by [McGraw-Hill Financial](#), it is the most notable of the Dow Averages, of which the first (non-industrial) was first published on February 16, 1885. It is an index that shows how 30 large publicly owned companies based in the United States have traded during a standard trading session in the stock market. The average is price-weighted, and to compensate for the effects of stock splits and other adjustments, it is currently a scaled average. The value of the Dow is not the actual average of the prices of its component stocks, but rather the sum of the component prices divided by a divisor, which changes whenever one of the component stocks has a stock split or stock dividend, so as to generate a consistent value for the index. Since the divisor is currently less than one, the value of the index is larger than the sum of the component prices.

- **Eurostoxx 50**

- The EURO STOXX 50 Index®, designed by STOXX Ltd., is the leading Blue-chip index for the Eurozone, provides a Blue-chip representation of supersector leaders in the Eurozone. The index covers 50 stocks from 12 Eurozone countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. The index futures and options on the Euro Stoxx 50, traded on Eurex, are among the most liquid such products in Europe and the world. The EURO STOXX 50 Index® is licensed to financial institutions to serve as underlying for a wide range of investment products such as Exchange Traded Funds (ETF), Futures and Options, and structured products worldwide. © Copyright STOXX Ltd.

- **FTSE 100**

- The FTSE 100® is a market-capitalization weighted index of UK-listed blue chip companies. The index is part of the FTSE UK Series and is designed to measure the performance of the 100 largest companies traded on the London Stock Exchange that pass screening for size and liquidity. FTSE 100 constituents are all traded on the London Stock Exchange's SETS trading system. ©FTSE Group

- **FTSE MIB**

- The **FTSE MIB®** (Milano Italia Borsa) is the benchmark stock market index for the Borsa Italiana, the Italian national stock exchange. The index consists of the 40 most-traded stock classes on the exchange. The index is administered by

FTSE Group, which is 100% owned by the Borsa Italiana's parent company London Stock Exchange Group. ©FTSE Group.

- **AEX Index**
 - The **AEX index**®, derived from **Amsterdam Exchange index**, is a stock market index composed of Dutch companies that trade on NYSE Euronext Amsterdam, formerly known as the *Amsterdam Stock Exchange*. Started in 1983, the index is composed of a maximum of 25 of the most actively traded securities on the exchange. It is one of the main national indices of the stock exchange group NYSE Euronext. ©NYSE Euronext
- **OMX Index**
 - The OMX Stockholm 30 Index® consists of the 30 most actively traded stocks on the Stockholm Stock Exchange and is a market weighted price index. The composition of the OMXS30 index is revised twice a year. The index was developed with a base level of 125 as of September 30, 1986. Effective on April 27, 1998 there was a 4-1 split of the index value. ©NASDAQ OMX
- **SMI Swiss Index**
 - The Swiss Market Index (SMI® Family), which is the best-known SIX Swiss Exchange index comprises the 50 largest and most liquid stocks in the Swiss equity market. It represents about 85% of the free-float capitalization of the Swiss equity market. The blue-chip index SMI® is the most significant equity index in Switzerland. The SMI® Family is calculated using the Laspeyres method with the weighted arithmetic mean of a defined number of securities issues. The index level is calculated by dividing the market capitalization of all securities included in the index by a divisor..Detailed calculation methodology can be found at: http://www.six-swiss-exchange.com/index_info/online/share_indices/smi/smifamily_rules_en.pdf. ©SIX Group Ltd.
- **DAX 30**
 - The DAX 30® is a total return blue chip stock market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange. Prices are taken from the electronic Xetra trading system. According to Deutsche Börse, the operator of Xetra, DAX measures the performance of the Prime Standard's 30 largest German companies in terms of order book volume and market capitalization. It is the equivalent of the FT 30 and the Dow Jones Industrial Average, and because of its small selection it does not necessarily represent the vitality of the economy as whole. The Base date for the DAX is 30 December 1987 and it was started from a base value of 1,000. The Xetra system calculates the index after every 1 second since January 1, 2006. ©Deutsche Borse AG
- **CAC 40 Index**
 - The CAC 40®, the most widely-used indicator of the Paris market, reflects the performance of the 40 largest equities listed in France, measured by free-float market capitalization and liquidity. The index was developed with a base level of 1,000 as of December 31, 1987. ©NYSE Euronext
- **NKY Nikkei 225**
 - The Nikkei 225®, more commonly called the Nikkei, the Nikkei index, or the Nikkei Stock Average, is a stock market index for the Tokyo Stock Exchange (TSE). It has been calculated daily by the Nihon Keizai Shimbun (Nikkei) newspaper since 1950. It is a price-weighted index (the unit is yen), and the components are reviewed once a year. Currently, the Nikkei is the most widely

quoted average of Japanese equities, similar to the Dow Jones Industrial Average. © Nihon Keizai Shimbun

- **HSI Hang Seng Index**

- The Hang Seng Index® (abbreviated: HSI) is a freefloat-adjusted market capitalization-weighted stock market index in Hong Kong. It is used to record and monitor daily changes of the largest companies of the Hong Kong stock market and is the main indicator of the overall market performance in Hong Kong. These 48 constituent companies represent about 60% of capitalization of the Hong Kong Stock Exchange. HSI was started on November 24, 1969, and is currently compiled and maintained by Hang Seng Indexes Company Limited, which is a wholly owned subsidiary of Hang Seng Bank. © Hang Seng Indexes Company Limited.

- **Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV).**

- The IBOVESPA is a major stock market index which tracks the performance of around 50 most liquid stocks traded on the Sao Paulo Stock Exchange in Brazil. It is a gross total return weighted index. The index has a base value of BRL 100 as of January 2, 1968. Since 1968, The Bovespa Index has been adjusted 11 times by a factor of 100 in 1983 and by factor of 10 in 1985, 1988, 1989, 1990, 1991, 1992, 1993, 1994, and 1997.

- **MSCI® Global Equity Indexes**

- MSCI® indexes are built using a maintenance methodology that provides indexes that are flexible enough to adjust quickly to a constantly changing opportunity set. MSCI® indexes provide timely and consistent treatment of corporate events and synchronized rebalancings, globally. MSCI's indexes are created using the Global Industry Classification Standard (GICS®), an industry classification system developed by MSCI and S&P Global, which provides a common framework to classify stocks. They offer exhaustive coverage of the investable opportunity set with non-overlapping size and style segmentation. Where other providers use either a long- or short-term liquidity measure to assess the eligibility of stocks for their indexes, MSCI uses both, recognizing the differences in liquidity between developed and emerging markets and enhancing the investability and replicability of MSCI indexes. MSCI puts strong emphasis on investability and replicability of its indexes through the use of size and liquidity screens. The MSCI Global Equity Indexes are used by institutional investors worldwide for investment analysis, performance measurement, asset allocation, hedging and the creation of a wide range of index derivatives, funds, ETFs and structured products.

- **MSCI® Brazil Index**

- The MSCI Brazil Index is designed to measure the performance of the large and mid-cap segments of the Brazilian equity market. With 54 constituents, the index covers about 85% of the Brazilian equity universe.

- MSCI® Brazil Index USD Total Return (Net Dividends) (NDEUBRAF) is part of the MSCI Net Total Return Index Series.

- The NDEUBRAF index is based on the MSCI Global Investable Indexes (GIMI) Methodology—a comprehensive and consistent approach to index construction that allows for meaningful global views and cross regional comparisons across all market capitalization size, sector and style segments and combinations. This methodology aims to provide exhaustive coverage of the relevant investment opportunity set with a strong emphasis on index liquidity, investability and replicability. The index is reviewed quarterly—in February, May, August and November—with the objective of reflecting change in the underlying equity markets in a timely manner, while limiting undue index turnover. During the May and November semi-annual index reviews, the index is rebalanced and the large and mid-capitalization cutoff points are recalculated. MSCI Indexes are published by MSCI Inc.
- MSCI® EM Asia Net Total Return USD Index (NDUEEGFA)
 - MSCI Daily Total Return Net EM Asia USD. MSCI Net Total Return Index Series. The MSCI EM Asia Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of approximately 8 emerging markets in Asia.
- MSCI® Emerging Markets Net Total Return USD Index (NDUEEGF)
 - MSCI Daily Total Return Net Emerging Markets USD. MSCI Net Total Return Index Series. The iShares MSCI Emerging Markets Net Total Return seeks to track the investment results of an index composed of large- and mid-capitalization emerging market equities.
- MSCI® Emerging Latin America Net Total Return USD Index (NDUEEGFL)
 - MSCI Daily Total Return Net Emerging Markets Latin America USD. MSCI Net Total Return Index. The MSCI EM Latin America Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of emerging markets in Latin America.
- MSCI® Canada Net Total Return USD Index (NDDUCA)
 - MSCI Daily Total Return Net Canada USD. Morgan Stanley Capital International Equity Indices in US Dollars. Indices with net dividends reinvested use the same dividend minus-tax-credit calculations, but subtract withholding taxes retained at the source for foreigners who do not benefit from a double taxation treaty.
- MSCI® Daily TR Gross Canada USD (GDDUCA)
 - For the developed markets, indices with dividends reinvested provide an estimate of total return that would be achieved by reinvesting one twelfth of the annual yield reported at every month-end. The MSCI Canada Index is designed to measure the performance of the large and mid-cap segments of the Canada market. With 91 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Canada.
- MSCI® Emerging Markets Mexico Net Total Return USD Index (NDEUMXF)
 - MSCI Daily Total Return Net Emerging Markets Mexico USD. Morgan Stanley Capital International Equity Indices Emerging Markets in US Dollars. The MSCI Mexico Index is designed to measure the performance of the large and mid-cap

segments of the Mexican market. With 25 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Mexico.

- MSCI® Daily TR Net Emerging Markets Chile USD (NDEUSCH)
 - Morgan Stanley Capital International Equity Indices Emerging Markets in US Dollars. The MSCI Chile Index is designed to measure the performance of the large and mid-cap segments of the Chilean market. With 17 constituents, the index covers approximately 85% of the Chile equity universe.
- MSCI® Daily TR Net Emerging Markets Peru USD (NDEUSPR).
 - Morgan Stanley Capital International Equity Indices Emerging Markets in US Dollars. The MSCI Peru Index is designed to measure the performance of the large and mid-cap segments of the Peruvian market. With 3 constituents, the index covers approximately 85% of the Peruvian equity universe.
- MSCI® Daily TR Net Emerging Markets Colombia USD (NDEUSCO)
 - Morgan Stanley Capital International Equity Indices Emerging Markets in US Dollars. The MSCI Colombia Index is designed to measure the performance of the large and mid-cap segments of the Colombian market. With 9 constituents, the index covers approximately 85% of the Colombian equity universe.
- MSCI® Daily TR Gross USA (USD)
 - The MSCI Daily TR Gross USA Index is designed to measure the performance of the large and mid-cap segments of the US market. With 640 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.
- MSCI® Daily TR Net USA (USD)
 - The MSCI USA Index is designed to measure the performance of the large and mid-cap segments of the US market. With 640 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.
- MSCI® Daily TR Gross North America
 - The MSCI North America Index is designed to measure the performance of the large and mid-cap segments of the US and Canada markets. With 730 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US and Canada.
- MSCI® Daily TR Net North America
 - The MSCI North America Index is designed to measure the performance of the large and mid-cap segments of the US and Canada markets. With 730 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US and Canada.

II. Terms and Conditions

General:

- Equity Index Swaps traded on Tradition SEF are not cleared.
- Equity Index Swap trades are reported in accordance with SDR requirements.
- Minimum and Incremental Prices:
 - There is no minimum price for a contract.
 - There is no minimum incremental price for a contract

(1) Total Return Swaps (TRS) and Price Return Swaps (PRS):

A broad market equity index total return swap is a product which allows the ability to gain exposure to the returns of a broad market equity index, or broad-market custom basket of equities ("equity leg") in exchange for payment or receipt of regular fixed or floating payments ("floating leg") usually interest based, plus a differential.

Trade types:

Total Return Swap (TRS) – The calculation of the value of which the equity leg is based will be the appreciation/depreciation of the underlying equity leg plus any returns due from the components of underlying index.

Price Return Swap (PRS) – The calculation of the value of which the equity index leg is based will be the appreciation/depreciation of the underlying equity index leg.

Contract Description	A contract to pay or receive regular fixed or floating interest payments on a notional amount of an equity index in exchange for the notional based return performance of an equity index.	
Available Underlying Indexes	Index	Currency
	SPX S&P 500	USD
	Russell 1000 Index	USD
	Russell 2000 Index	USD
	Russell 3000 Index	USD
	NDX Nasdaq 100	USD
	DIA Dow Jones 30	USD
	MID S&P Mid 400	USD
	Eurostoxx 50	EUR
	FTSE FTSE 100	GBP
	FTSE MIB	EUR
	AEX Index	EUR
	OMX Index	SEK
	SMI Swiss Index	CHF
	DAX 30	EUR

	CAC 40 Index EUR NKY Nikkei 225 JPY HSI Hang Seng Index HKD MSCI® Daily Total Return Net Brazil USD – USD MSCI® Brazil Index USD Total Return (Net Dividends) USD MSCI® Emerging Markets Net Total Return USD Index USD MSCI® Emerging Latin America Net Total Return USD Index USD MSCI® Canada Net Total Return USD Index USD MSCI® Daily TR Gross Canada USD MSCI® Emerging Markets Mexico Net Total Return USD Index USD MSCI® Daily TR Net Emerging Markets Chile USD MSCI® Daily TR Net Emerging Markets Peru USD MSCI® Daily TR Net Emerging Markets Colombia USD MSCI® Daily TR Gross USA USD MSCI® Daily TR Net USA USD MSCI® Daily TR Gross North America MSCI® Daily TR Net North America Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV) Custom Baskets Currency of underlying equities in basket.
Contract Size	1 unit, incremental size is 1 unit
Tenor	As agreed by Participants, 1 day to 50 years.
Trade Date	Date which trade terms are agreed.
Trade Types	Outrights, Spreads: Equity swap in one index versus an equity swap in another
Trade Start Types	Immediate and delayed start
Quote Conventions	Quoted in bps as a spread or fixed rate.
Trading Hours	Trading Hours of Tradition SEF
Settlement	Cash settlement based on floating rate schedule.
Settlement Payments	<p>An equity index TRS Payor of agreed interest rate such as SOFR, Fed Funds, OBFR / Receiver of Index Return receives appreciation and dividends of the index / pays depreciation of, if any, on index, and pays a rate of interest plus a differential on the underlying notional amount of the TRS.</p> <p>An Equity Index TRS Receiver of agreed interest rate such as SOFR Fed Funds, OBFR / Payer of Index Return pays appreciation and dividends of the index / receives depreciation of, if any, on index, and receives a rate of interest plus a differential on the underlying notional amount of the TRS.</p>
Payment Frequency	Determined by agreed rate interest such as SOFR, Fed Funds, OBFR(3m, 6m, etc.) or agreed fixed rate frequency.
Day Count	Act/360

Maturity	As agreed by Participants; any maturity up to 50 years.
Notional Amount	Any amount as agreed by Participants.
Leg Conventions	Floating Leg - Cashflow: xM SOFR, Fed Funds, OBFR+ Spread or an agreed fixed rate Equity Leg - Notional x (% increase of equity index over floating rate period)
Business Day Convention	As agreed by Participants.
Breaks/Resets	As agreed by counterparties.
Minimum and Incremental Price	There is no minimum price or incremental price for a contract.

(2) Variance Swaps:

Contract Description	The variance swap is a product that is used to take a direct view on the volatility of a broad-based security index.																																																																				
Available Underlying Indexes	<table> <thead> <tr> <th>Index</th> <th>Currency</th> </tr> </thead> <tbody> <tr><td>SPX S&P 500</td><td>USD</td></tr> <tr><td>Russell 1000 Index</td><td>USD</td></tr> <tr><td>Russell 2000</td><td>USD</td></tr> <tr><td>Russell 3000 Index</td><td>USD</td></tr> <tr><td>NDX Nasdaq 100</td><td>USD</td></tr> <tr><td>DIA Dow Jones 30</td><td>USD</td></tr> <tr><td>MID S&P Mid 400</td><td>USD</td></tr> <tr><td>Eurostoxx 50</td><td>EUR</td></tr> <tr><td>FTSE FTSE 100</td><td>GBP</td></tr> <tr><td>FTSE MIB</td><td>EUR</td></tr> <tr><td>AEX Index</td><td>EUR</td></tr> <tr><td>OMX Index</td><td>SEK</td></tr> <tr><td>SMI Swiss Index</td><td>CHF</td></tr> <tr><td>DAX 30</td><td>EUR</td></tr> <tr><td>CAC 40 Index</td><td>EUR</td></tr> <tr><td>NKY Nikkei 225</td><td>JPY</td></tr> <tr><td>HSI Hang Seng Index</td><td>HKD</td></tr> <tr><td>MSCI® Daily Total Return Net Brazil</td><td>USD – USD</td></tr> <tr><td>MSCI® Brazil Index USD Total Return (Net Dividends)</td><td>USD</td></tr> <tr><td>MSCI® Emerging Markets Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Emerging Latin America Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Canada Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Gross Canada</td><td>USD</td></tr> <tr><td>MSCI® Emerging Markets Mexico Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net Emerging Markets Chile</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net Emerging Markets Peru</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net Emerging Markets Colombia</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Gross USA</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net USA</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Gross North America</td><td></td></tr> <tr><td>MSCI® Daily TR Net North America</td><td></td></tr> <tr><td>Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV)</td><td></td></tr> <tr><td>Custom Baskets</td><td>Currency of underlying equities in basket.</td></tr> </tbody> </table>	Index	Currency	SPX S&P 500	USD	Russell 1000 Index	USD	Russell 2000	USD	Russell 3000 Index	USD	NDX Nasdaq 100	USD	DIA Dow Jones 30	USD	MID S&P Mid 400	USD	Eurostoxx 50	EUR	FTSE FTSE 100	GBP	FTSE MIB	EUR	AEX Index	EUR	OMX Index	SEK	SMI Swiss Index	CHF	DAX 30	EUR	CAC 40 Index	EUR	NKY Nikkei 225	JPY	HSI Hang Seng Index	HKD	MSCI® Daily Total Return Net Brazil	USD – USD	MSCI® Brazil Index USD Total Return (Net Dividends)	USD	MSCI® Emerging Markets Net Total Return USD Index	USD	MSCI® Emerging Latin America Net Total Return USD Index	USD	MSCI® Canada Net Total Return USD Index	USD	MSCI® Daily TR Gross Canada	USD	MSCI® Emerging Markets Mexico Net Total Return USD Index	USD	MSCI® Daily TR Net Emerging Markets Chile	USD	MSCI® Daily TR Net Emerging Markets Peru	USD	MSCI® Daily TR Net Emerging Markets Colombia	USD	MSCI® Daily TR Gross USA	USD	MSCI® Daily TR Net USA	USD	MSCI® Daily TR Gross North America		MSCI® Daily TR Net North America		Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV)		Custom Baskets	Currency of underlying equities in basket.
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Contract Size	Variance Swap contracts are quoted in “Vega” amounts. The minimum contract size is 1,000 of the currency of which the underlying index settles in.																																																																				
Tenor	Tenors of any duration greater than 0 years and less than 50 years.																																																																				
Trade Types	Capped – The maximum payout of the contract is capped at an agreed price. Uncapped – There is no maximum payout on the contract.																																																																				
Trade Start Types	Immediate – The observation period of the swap begins immediately. Forward – The observation period of the swap begins on an agreed-upon date in the future.																																																																				

Quote Conventions	BPS – Vega; Variance Swap contracts are quoted in volatility percentage points.
Trading Hours	Tradition SEF trading hours.
Expiration Date	This is the date on which the swap expires, and the date upon which the final rate of volatility shall be calculated on using the detailed formula. [As agreed by the counterparties.
Settlement	<p>Variance swaps are cash settled. If the difference between the realized Variance and the Variance Strike is positive, then the seller pays the difference to the buyer. If the difference between the realized Variance and the Variance Strike is negative, then the buyer pays the difference to the seller.</p> <p>Settlement of a Variance Swap occurs after the expiration date and in line with the settlement convention of the underlying equity index.</p>
Settlement Payments	Payment Date: T+1 or as agreed by counterparties (adjustments according to Following Business Days Conventions)
Minimum Price or Incremental Price	There is no minimum price or incremental price for a Variance Swap contract.
Payment Frequency	One time
Payments Exchange	<p>The buyer of a variance swap pays a fixed rate (the Variance Strike) in exchange for a payout based on the daily realized variance.</p> <p>The seller of a variance swap receives a fixed rate (the Variance Strike) in exchange for a payout based on the daily realized variance.</p>
Day Count	Business Days Per Year = 252
Notional Amount	Minimum size 1 contract
Leg Conventions	<p>Floating Leg Rate - The realized variance rate that is calculated on the expiration date.</p> <p>Fixed Leg Rate - The agreed fixed rate of Variance (Traded Price).</p>
Observation Start Date	This is an agreed trading day of the underlying either on or an agreed number of days after the date on which the contract is agreed.
Number of Observations (N)	The number of observations will be the number of trading days of the underlying index between the observation start date and the expiration date.
Business Day Convention	The “Target Following” business day convention will apply (if any date is a non-business day, the date is moved forward to the next business day).
Minimum and Incremental Price	Variance Swap contracts are quoted in volatility percentage points. There is no minimum price or minimum incremental price for a Variance Swap contract.
Applicable Formula	<p>Variance Calculation Formula - The final realized rate of variance shall be calculated using the following formula:</p> <p>Actually realized Daily Volatility is defined according to the following formula;</p>

	$100 \times \sqrt{\frac{\sum_{i=1}^m \left[\ln\left(\frac{P_{i+1}}{P_i}\right) \right]^2}{n}} \times \sqrt{\text{Business Days Per Year}}$ <p>where, n = Number of Observations, meaning the number of days that, as of the Trade Date, are expected to be Scheduled Trading Days for the period from the Trade Date to, and including, the Scheduled Valuation Date; m = n, unless there is a market disruption event P_i = the daily closing price of the on the ith business day starting on the day following Trade Date (i=2), and P_m shall be equal to the Closing Level of the on the Final Valuation Date. If the Final Valuation Date is a listed option expiration date, then P_m is equal to the expiration print. Business Days Per Year = 252</p>
Market Disruption	<p>A Market Disruption event is triggered if member shares of the Index which account for 20 percent or more of capitalization of the Index are not trading. If a Market Disruption occurs on a business day, then that day will be omitted from the series P_i, so that m is reduced by one, but no corresponding adjustment will be made to the count n of business days.</p>

(3) Volatility Swaps

Contract Description	A volatility swap is a swap on the future realized volatility of a given underlying asset. Volatility swaps allow trading of volatility of an asset directly, much as they would trade a price index.																																																																				
Available Underlying Indexes	<table border="0"> <thead> <tr> <th data-bbox="459 390 743 422">Index</th> <th data-bbox="751 390 1412 422">Currency</th> </tr> </thead> <tbody> <tr><td>SPX S&P 500</td><td>USD</td></tr> <tr><td>Russell 1000 Index</td><td>USD</td></tr> <tr><td>Russell 2000</td><td>USD</td></tr> <tr><td>Russell 3000 Index</td><td>USD</td></tr> <tr><td>NDX Nasdaq 100</td><td>USD</td></tr> <tr><td>DIA Dow Jones 30</td><td>USD</td></tr> <tr><td>MID S&P Mid 400</td><td>USD</td></tr> <tr><td>Eurostoxx 50</td><td>EUR</td></tr> <tr><td>FTSE FTSE 100</td><td>GBP</td></tr> <tr><td>FTSE MIB</td><td>EUR</td></tr> <tr><td>AEX Index</td><td>EUR</td></tr> <tr><td>OMX Index</td><td>SEK</td></tr> <tr><td>SMI Swiss Index</td><td>CHF</td></tr> <tr><td>DAX 30</td><td>EUR</td></tr> <tr><td>CAC 40 Index</td><td>EUR</td></tr> <tr><td>NKY Nikkei 225</td><td>JPY</td></tr> <tr><td>HSI Hang Seng Index</td><td>HKD</td></tr> <tr><td>MSCI® Daily Total Return Net Brazil</td><td>USD – USD</td></tr> <tr><td>MSCI® Brazil Index USD Total Return (Net Dividends)</td><td>USD</td></tr> <tr><td>MSCI® Emerging Markets Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Emerging Latin America Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Canada Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Gross Canada</td><td>USD</td></tr> <tr><td>MSCI® Emerging Markets Mexico Net Total Return USD Index</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net Emerging Markets Chile</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net Emerging Markets Peru</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net Emerging Markets Colombia</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Gross USA</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Net USA</td><td>USD</td></tr> <tr><td>MSCI® Daily TR Gross North America</td><td></td></tr> <tr><td>MSCI® Daily TR Net North America</td><td></td></tr> <tr><td>Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV)</td><td></td></tr> <tr><td>Custom Baskets</td><td>Currency of underlying equities in basket.</td></tr> </tbody> </table>	Index	Currency	SPX S&P 500	USD	Russell 1000 Index	USD	Russell 2000	USD	Russell 3000 Index	USD	NDX Nasdaq 100	USD	DIA Dow Jones 30	USD	MID S&P Mid 400	USD	Eurostoxx 50	EUR	FTSE FTSE 100	GBP	FTSE MIB	EUR	AEX Index	EUR	OMX Index	SEK	SMI Swiss Index	CHF	DAX 30	EUR	CAC 40 Index	EUR	NKY Nikkei 225	JPY	HSI Hang Seng Index	HKD	MSCI® Daily Total Return Net Brazil	USD – USD	MSCI® Brazil Index USD Total Return (Net Dividends)	USD	MSCI® Emerging Markets Net Total Return USD Index	USD	MSCI® Emerging Latin America Net Total Return USD Index	USD	MSCI® Canada Net Total Return USD Index	USD	MSCI® Daily TR Gross Canada	USD	MSCI® Emerging Markets Mexico Net Total Return USD Index	USD	MSCI® Daily TR Net Emerging Markets Chile	USD	MSCI® Daily TR Net Emerging Markets Peru	USD	MSCI® Daily TR Net Emerging Markets Colombia	USD	MSCI® Daily TR Gross USA	USD	MSCI® Daily TR Net USA	USD	MSCI® Daily TR Gross North America		MSCI® Daily TR Net North America		Ibovespa Brasil Sao Paulo Stock Exchange Index (IBOV)		Custom Baskets	Currency of underlying equities in basket.
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Contract Size	The minimum contract size is 1,000 of the currency of which the underlying index settles in.																																																																				
Tenor	Tenors of any duration greater than 0 years and less than 50 years.																																																																				
Trade Types	Capped – The maximum payout of the contract is capped at an agreed price. Uncapped – There is no maximum payout on the contract.																																																																				
Trade Start Types	Immediate – The observation period of the swap begins immediately. Forward – The observation period of the swap begins on an agreed-upon date in the future.																																																																				

Quote Conventions	volatility percentage points
Trading Hours	Operating hours of Tradition SEF
Settlement	<p>If Realized Volatility is greater than the Volatility Strike the Swap Seller pays Swap Buyer a final payment as follows: Vega Notional * (Realized Volatility - Volatility Strike)</p> <p>If Realized Volatility less than Volatility Strike then Swap Buyer pays Swap Seller a final payment as follows: Vega Notional * (Realized Volatility - Volatility Strike)</p>
Settlement Payments	Payment Date: T+1 or as agreed by counterparties (adjustments according to Following Business Days Conventions)
Payment Frequency	One time
Payments Exchange	<p>If Realized Volatility > Volatility Strike, swap seller pays swap buyer a final payment as follows: Vega Notional * (Realized Volatility - Volatility Strike)</p> <p>If Realized Volatility < Volatility Strike then swap buyer swap seller a final payment as follows: Vega Notional * (Realized Volatility - Volatility Strike)</p>
Day Count	Business Days Per Year = 252
Maturity	the date upon which the final rate of volatility shall be calculated on using the detailed formula
Notional Amount	Minimum size 1 contract
Leg Conventions	<p>Floating Leg Rate - The realized volatility rate that is calculated on the expiration date.</p> <p>Fixed Leg Rate - The agreed fixed rate of Volatility (Traded Price).</p>
Observation Start Date	This is an agreed trading day of the underlying either on or an agreed number of days after the date on which the contract is agreed.
Number of Observations (N)	The number of observations will be the number of trading days of the underlying index between the observation start date and the expiration date.
Business Day Convention	Business Days Per Year = 252
Minimum and Incremental Price	There is no minimum price or minimum incremental price for a Variance Swap contract.
Applicable Formula	<p>Realized Volatility Actual realized Daily Volatility is defined according to the following formula; where,</p> $\sqrt{\frac{\sum_{i=1}^m [\ln(\frac{P_i}{P_{i-1}})]^2}{n}} \times \sqrt{\text{Business Days Per Year}} \times 100$ <p>where,</p>

	<p>n = the number of days that, as of the Trade Date, are expected to be Scheduled Trading Days for the period from, but excluding, the Trade Date to, and including, the Scheduled Valuation Date;</p> <p>$m = n$, unless there is a market disruption event</p> <p>P_i = the daily closing price of the Underlying Index on the ith business day, and P_m shall be equal to the Closing Level of the Underlying Index on the Final Valuation Date</p> <p>P_0 = the closing price of Underlying Index on Trade Date</p> <p>If the Final Valuation Date is a listed option expiration date, then P_m is equal to the expiration price</p> <p>Future Price Valuation: Applicable. Business Days Per Year = 252</p>
Market Disruption	<p>A Market Disruption event is triggered if member shares of the Index which account for 20 percent or more of capitalization of the Index are not trading. If a Market Disruption occurs on a business day, then that day will be omitted from the series P_i, so that m is reduced by one, but no corresponding adjustment will be made to the count n of business days.</p>