Compass SESAMm Crypto Sentiment Index

Methodology

SESAMm

Bringing Big Data to the Financial World

May 10th, 2024

Version History

Readers can access other versions of the methodology for the Compass SESAMm Crypto Sentiment Index online when they become available on Compass Financial Technologies website (`www.compass-ft.com`).

Date	Version	Change
15/05/2023	1.0	Methodology Publication
10/05/2024	1.1	Change of volume data provider

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1 Introduction

The Compass SESAMm Crypto Sentiment Index (the *Index* or the *Indices*) is a diversified digital asset index designed with the objective to offer exposure to the cryptoassets space.

The Index is composed of most representative and liquid cryptocurrencies or tokens satisfying eligible requirements defined in Section 3.2. Weightings are based on multiple criteria including Liquidity, Market capitalization and Sentiments scores based on NLP (Natural Language Processing).

The components have to be selected within the Compass Crypto References Indices (CCRI) registered as benchmarks under the EU benchmark regulations (BMR).

The Compass SESAMm Crypto Sentiment Index combines expertise in cryptocurrency, index engineering and artificial intelligence (NLP algorithm) to offer investors a diversified exposure to the digital asset class.

The Index may be accessed online on the Compass Financial Technologies website (`www.compass-ft.com`) or on Bloomberg or Refinitiv.

The Index Administrator and Calculation Agent is Compass Financial Technologies (France).

2 Data Sources

2.1 Volume Data Providers

The daily volumes are sourced from the eligible exchanges.

2.2 Market Capitalization Data Provider

The Circulating Supply is provided by CoinGecko. (`https://www.coingecko.com/`).

CoinGecko: CoinGecko is a cryptocurrency data aggregation and tracking web site that provides 360 degree overview of digital currencies and provides tools for users to fundamentally analyze the market. In addition to tracking price, volume, and market capitalization, CoinGecko tracks community growth, open-source development, major events and on-chain metrics. It was founded in 2014 and is based in Malaysia.

2.3 Sentiments Score Data Provider

The Sentiment Scores data used to define the Weights are provided by SESAMm.
(`https://www.sesamm.com`).

SESAMm: SESAMm is a leading artificial intelligence and NLP technology company serving global investment firms, corporations, and investors, such as asset managers, banks, private equity firms, hedge funds, and index providers. SESAMm analyzes more than 20 billion documents in real time to generate insights and indicators for controversy detection on investments, clients and suppliers, ESG, and positive impact scores, among others. With a global footprint, SESAMm supports a team of over a hundred professionals, spread across six strategically situated offices in international hubs like Paris, New York, and Tokyo.

3 Index Underlying Components

3.1 Underlying Components

The Compass SESAMm Crypto Sentiment Index invests in single digital asset crypto indices, called Underlying Components. The prices used to compute the Index are the Underlying Component Closing Prices. They are based on the Compass Crypto Reference Indices prices.

The Compass Crypto Reference Indices ($CCRI$) have been designed to provide institutional investors with independent and robust cryptocurrency reference prices. Based on a resilient and BMR-ready compliant methodology, they serve as independent and transparent reference prices to value cryptocurrency portfolios or as benchmarks for investors willing to issue investment products tracking cryptocurrencies prices.

More details on the CCRI indices including their methodology are available on the Compass website (`www.compass-ft.com`)

3.2 Underlying Component Eligibility requirements

To be considered as an Eligible Underlying Component, a cryptoasset linked to a $CCRI$ Index needs to satisfy the following criteria:

- Trades in USD

- Is not a stablecoin

- Presents favorable protocol tokenomics (taking into consideration supply issuance, distribution of cryptocurrencies/tokens and any parameter which could affect the behaviour of the cryptocurrency/token)

- Has at least a 3-month history of trading on an eligible exchange

- Has no known security vulnerabilities

- Is traded on at least one of the Eligible Exchanges (or equivalent) and supported by one of the Eligible Custodians (or equivalent), described below (Section 3.3)

Outside of exceptional circumstances, Eligible Underlying Components are reviewed every month based on eligibility requirements described above.

3.3   Eligible Exchanges and Custodians

The lists of Eligible Exchanges and Eligible Custodians as of May 10$^{\text{th}}$ 2023 are:

Eligible Exchanges
Bitstamp
Bitfinex
BinanceUS
Coinbase
Gemini
Kraken
LMAX

Table 1: Eligible Exchanges

Eligible Custodians
BitGo
Coinbase
Gemini
Fidelity

Table 2: Eligible Custodians

4 Index Mechanisms

Index Description - Motivation

The Compass SESAMm Crypto Sentiment Index is a diversified digital asset index designed to offer broad exposure to the market's top crypto assets (all sectors included), while capping each component exposure at 30%.

The Compass SESAMm Crypto Sentiment Index aims to give investors exposure to the crypto market with a Sentiment tilt to determine the weights of underlying tokens. The index selects tokens based on financial filters such as average trading volume and market capitalization. The use of NLP-based sentiment scores in the weighting mechanism allows the index to efficiently rebalance towards the digital assets with the best sentiment scores and therefore those with the highest expected relative returns.

The Index is to be composed of the most representative and liquid crypto assets. The Index includes up to 20 components.

Weightings are based on Liquidity, Market capitalization and Sentiment Scores provided by SESAMm. The Compass SESAMm Crypto Sentiment Index combines expertise in cryptocurrency, index engineering and AI to offer investors a new dynamic diversified exposure to the crypto world.

Index Start Date

June 7$^{\text{th}}$, 2023

Index Code

Compass : CSCSI20   Bloomberg : CSCSI20 Index   Refinitiv : .CSCSI20

Index Components Selection

On each Rebalancing Determination Date $RD(t)$, the Selected Underlying Components are defined following the steps below:

1. Select Eligible Underlying Components

2. Select Eligible Underlying Components meeting the following criteria:

$$\text{MC}_{RD(t)-1,k} >= MinMktCap \quad \& \quad RMC_{RD(t),k} >= MinMktCap \quad \& \quad RTV_{RD(t),k} >= MinVolume$$

Where,

- $MC_{RD(t)-1,k}$ is the USD Market Capitalization of Eligible Underlying Component k at the calculation date preceding $RD(t)$
- $RMC_{RD(t),k}$ is the rolling average USD Market Capitalization over the last 30 days of Eligible Underlying Component k, $RD(t)$ excluded
- $RTV_{RD(t),k}$ is the rolling median USD Traded Volume over the last 30 days of Eligible Underlying Component k, $RD(t)$ excluded
- $MinMktCap$ is the Minimum Market Cap threshold equal to 250 million USD
- $MinVolume$ is the Minimum Traded Volume threshold equal to 1 million USD
- $MinVolume$ & $MinMktCap$ are set to 1 USD before January 1st, 2020. After this date, the market was liquid enough to apply thresholds defined above.

3. For the selected components, $RMC_{RD(t),k}$ are ranked in descending order

4. Then we defined the Selected Underlying Components as the first 20 Eligible Components obtained via the process above

Weightings definition

- Market Capitalization Weights

Market Capitalization Weights, w_{MktCap}, are computed on every Rebalancing Determination Date using the average Market Capitalization over the last 30 days ($RD(t)$ excluded) for the set of Selected Underlying Components. On each day, Market Capitalization is the USD Market Capitalization based on Circulating Supply provided by CoinGecko. For each Selected Underlying Component i, Rebalancing Determination Date $RD(t)$ and the number of Selected Underlying Components N, we have :

$$w_{MktCap,RD(t),i} = \frac{RMC_{RD(t),i}}{\sum_{k=1}^{N} RMC_{RD(t),k}} \tag{1}$$

- Volume Traded Weights

Volume Traded Weights, w_{Volume}, are defined on every Rebalancing Determination Date for the set of Selected Underlying Components using the aggregated median USD volume over the list of Eligible Exchanges during the last 30 days ($RD(t)$ excluded). For each Selected Underlying Component i, Rebalancing Determination Date $RD(t)$ and the number of Selected Underlying Components N, we have :

$$w_{Volume,RD(t),i} = \frac{RTV_{RD(t),i}}{\sum_{k=1}^{N} RTV_{RD(t),k}} \tag{2}$$

- Sentiment Score Weights

SESAMm's Crypto sentiment scores are based on the crypto sentiment scores (negative, positive, neutral) computed using a proprietary, fine-tuned robust NLP algorithm on articles related to the defined crypto entities. Then, a Polarity indicator is used to build the final score, which is defined as::

$$Polarity(t) = \frac{PositiveSentiment(t) - NegativeSentiment(t)}{PositiveSentiment(t) + NegativeSentiment(t)} \tag{3}$$

with :

- **Negative/Positive Sentiment(t)**: is the average negative/positive sentiment calculated for day t for a given company. This daily sentiment is calculated by aggregating article-level sentiment. The score is the exponential moving average of the polarity. The exponential moving average gives more weight to recent articles than to old ones. We created different variants of the score by varying several parameters:

- **Memory**: The crypto universe is much more volatile, as things move faster compared to classical finance. We use a half-life of 7 days to weigh the importance of related articles to each token. A half-life of 7 days means that an article that is 7 days old counts for 50% compared to an article published today.

- **Volume**: Weighting the sentiment by volume to highlight days with significant events.

$$CryptoSentimentScore(t) = \frac{\sum_{k}^{t} (1 - alpha)^{t-k} \times volume(k) \times polarity(k)}{\sum_{k}^{t} (1 - alpha)^{t-k} \times volume(k)} \tag{4}$$

with :

- *volume* : number of articles related to the entity on day k

- *polarity* : average polarity of articles related to the entity on day k

- *alpha* : memory parameter

Sentiment Weights, $w_{Sentiment}$, are defined on every Rebalancing Determination Date for the set of Selected Underlying Components using the last Sentiment Scores available before $RD(t)$. For each Selected Underlying Component i, Rebalancing Determination Date $RD(t)$ and the number of Selected Underlying Components N, we have :

$$w_{Sentiment,RD(t),i} = \frac{CryptoSentimentScore_{RD(t),i}}{\sum_{k=1}^{N} CryptoSentimentScore_{RD(t),k}} \tag{5}$$

- Final Weights

Final Weights, w_{final}, are defined according to the following steps:

1. First, for BTC and ETH, Primary Weights, pw_{final}, are defined as a linear combination of Market Capitalization Weights and Volume Traded Weights.

$$pw_{Final,RD(t)} = w_{MktCap,RD(t)} \times \frac{2}{3} + w_{Volume,RD(t)} \times \frac{1}{3} \tag{6}$$

Then the remaining weight (ex BTC and ETH) is allocated to the other digital assets i such that:

$$pw_{Final,RD(t),i} = \frac{w_{Sentiments,RD(t),i}}{\sum_{k \neq (BTC,ETH)} w_{Sentiments_{RD(t),k}}} \tag{7}$$

2. Final Weights are then derived from the Primary Weights by applying the following:

   Primary Weight exceeding the $CapWeight$ ($CapWeight$ =30%) are fixed to $CapWeight$ and the excess weight is allocated proportionately to the Selected Underlying Components with a Final Weight superior to 0 and inferior to $CapWeight$. This process will be repeated iteratively as long as a Final Weight is greater than $CapWeight$.

To minimize the replication cost of the Index, rebalancing toward the new Final Weights will only apply if, for at least on of the Index Component, the change in weight exceeds 3%.

Index Rebalancing

We define $R(t)$ as the Rebalancing Date preceding t and $RD(t)$ as the Rebalancing Determination Date. $R(t)$ is the first business day of the month and $RD(t)$ is the second business day strictly preceding $R(t)$.

The Index is rebalanced monthly on every Rebalancing Date. The list of Selected Underlying Components may change every month. New weights and Selected Underlying Components are determined on every Rebalancing Determination Date.

Underlying Components Prices

Underlying Component Closing Prices are the official levels of Compass Crypto References Indices ($CCRI$) at 4pm, London Time.

5 Index Calculation

5.1 Calculation date - business day

A calculation date t means any calendar day.
A business day means any day other than a Saturday, a Sunday, January 1$^{\text{st}}$, Good Friday, Easter Monday or December 25$^{\text{th}}$.

5.2 Index Calculation

The Compass SESAMm Crypto Sentiment Index is formulated as weighted basket of cryptocurrencies or tokens. Weights are the Final Weights w_{Final} defined for each Index in their respective *Final Weights* section. The Index price base level is set to 100 :

$$\text{Index}_{t_0} = 100 \tag{8}$$

The Index price level on day t from their starting base date onwards is calculated as:

$$\text{Index}_t = \left(1 + \sum_{i \in N_{c,t}} w_{Final,i,RD(t)} \times \left(\frac{P_{i,t}}{P_{i,R(t)}} - 1 \right) \right) \times \text{Index}_{R(t)} \tag{9}$$

Where,

- $N_{c,t}$ is the set of the Selected Underlying Components of each index on day t

- $R(t)$ is the most recent Index Rebalancing Date preceding t

- $RD(t)$ is the most recent Index Rebalancing Determination Date preceding t

- $P_{i,t}$ is the Underlying Component Closing Price representing the USD price of cryptocurrency or token i on day t

- $P_{i,R(t)}$ is the Underlying Component Closing Price representing the USD price of cryptocurrency or token i on the Rebalancing Date preceding t

- $w_{Final,i,RD(t)}$ is the Final Weight of Selected Underlying Component i of each index, on the last Rebalancing Determination Date preceding t

- Index_t is the Index price level on t

5.3 Rounding of Data

Index values are computed with all decimals available and are published with a precision of 2 decimals .

5.4 Calculation Frequency and Dissemination

The Compass SESAMm Crypto Sentiment Index is computed and published on every calendar day at 4:20pm London Time.
Index levels are published on the Compass Financial Technologies website (`www.compass-ft.com`) and are distributed to Bloomberg and Refinitiv.

5.5 Hard Fork policy

Hard fork policy

A hard fork occurs when a change is made to the transaction validation rules of a crypto asset's underlying blockchain protocol in a way that is not compatible with its earlier version. Nodes that wish to continue to participate are expected to upgrade to the new version of the protocol's software. Usually such a fork is planned and accepted by the overwhelming majority of nodes. However, where the fork is contentious enough that a non-negligible number of nodes continue to run the old version of the software, a chain split occurs.

The Steering Committee will evaluate all upcoming hard forks. The treatment of hard forks will be led by decisions of exchanges with respect to the ticker symbols used to represent the resulting crypto assets and the markets that they maintain. Concretely, suppose some crypto asset traded under ticker COIN is expected to undergo a hard fork resulting in an original chain Chain with crypto asset C and a modified chain Chain' with crypto asset C'. There are a few scenarios to consider:

- C continues to trade under ticker symbol COIN while C' starts trading under a newly-created ticker symbol COIN'. In this case, C continues as a constituent of the Index. C' is not eligible to become a constituent of the Index (as it does not have enough price history) and does not contribute to the Index value. C' may be sold by stakeholders tracking the Index as an excess return; the precise decision of when (or whether) to sell will be a matter of judgment for the tracking investment products.

- C' trades under ticker symbol COIN while C starts trading under a new ticker symbol COIN'. In this case, C' replaces C as a constituent of the Index. The pricing history for C' is taken as being that of C prior to the fork. C is no longer a constituent of the Index, does not contribute to the Index value and may be sold by stakeholders tracking the Index as an excess return.

- There is significant disagreement amongst exchanges as to the ticker symbols that C' and C should trade under. It is expected that this situation would apply to Index constituents only in very rare circumstances. In this case, an extraordinary meeting of the Steering Committee will be organized in order to decide on an appropriate course of action which may include replacing C by the next eligible crypto asset or rebalancing across the remaining constituent crypto assets.

Airdrop policy

An "airdrop" occurs when a blockchain project distributes free crypto assets to investors in the hopes of attracting more people to use their platform. Requirements to qualify for an airdrop may vary; in some cases the participant has to hold the crypto asset in their wallet while other times they have to promote the project on an online forum. The Index does not incorporate potential airdrop values in their computation process. Stakeholders tracking the Index may sell valuable airdrops at their earliest convenience, thus contributing to deliver excess returns over the base Index.

Staking

A staking reward is granted to holders of a crypto asset when they lock up that asset as collateral to secure fairness when validating transactions or other network actions. Staking rewards require agency on the part of crypto asset holders and also introduce liquidity restrictions since the act of staking includes locking up coins for a period of time. The Index does not incorporate the value of staking rewards in their computation process Stakeholders tracking the Index may use the value of the resulting staking to deliver excess returns over the base Index.

5.6 Market Disruption Adjustments

A Market Disruption event occurs when the trading activity of an Index constituent is disrupted or the fair determination of its price is obstructed. Such scenarios take place when:

- An Index constituent is not open for trading on the specific day on all eligible exchanges

- All eligible exchanges suspend their trading for an Index constituent at a time prior to the Index published closing time with no prior notice on

The occurrence of a Market Disruption Event is determined by the Steering Committee.

If a Market Disruption Event occurs during a rebalancing date, the constituents involved are not rebalanced and their respective weights are equal to those they had on the first business day preceding the Market Disruption Event. The rebalancing period for the involved constituents will be postponed until the next available business day upon which no Market Disruption Event occurs them.

If a Market Disruption Event occurs on any other date, the affected weights are calculated as expressed in 10:

$$w_{Final,i}(t) = \begin{cases} w_{i,\text{WFD}(t)} & \text{if } R_i(t) = R(t) \\ w_{i,R(t)} \times \frac{P_{i,R(t)} \times \text{Index}_{R(R(t))}}{P_{i,R(R(t))} \times \text{Index}_{R(t)}} & \text{if } R_i(t) < R(t) \end{cases} \tag{10}$$

Where,

- WFD(t) is the Weight Fixing Date with respect to date t, i.e. the first weekday preceding or equal to the 4th calendar day before the end of the month

- $w_{Final,i,\text{WFD}(t)}$ is the weight of asset i on date t, determined on WFD(t)

- $R(t)$ is the most recent index Rebalancing Date preceding t

- $R(R(t))$ is the second most recent index Rebalancing Date preceding t

- $R_i(t)$ is with respect to constituent i and date t, the first calculation date equal to or following $R(t)$, but strictly preceding date t on which the constituent i is unaffected by a Market Disruption Event. If such a date does not exist, $R_i(t)$ is the first date equal to or following $R(R(t))$ but strictly preceding date t on which on which the constituent i is unaffected by a Market Disruption Event

- $P_{i,t}$ is the price of constituent i at date t

- Index$_t$ is the index value at date t

If, after a period of five business days, no settlement price has been made available by the exchange, the Steering Committee will determine, in good faith, the closing prices necessary for the rolling of the contracts and for the calculation of the Index.

5.7 Exceptional Circumstances

In exceptional circumstances, the Committee governing the Index may trigger an exceptional rebalancing to adjust the composition if it considers that some of the Selected Underlying Components do break one or more of the requirements defined in Section 3.2

The calculations of the Compass SESAMm Crypto Sentiment Index is obstructed when there are no price available for one of the Underlying Component $CCRI$ at the official time of publication. If no closing price is available for the calculation date t, the Compass SESAMm Crypto Sentiment Index will use the last available closing price for their Underlying Components.

The $CCRI$ methodology outlines management of extraordinary circumstances where data used in the $CCRI$ computation is delayed or missing. In the event of failure to retrieve the official closing prices for the Underlying Components, the Steering Committee will do its best effort to determine relevant Underlying Component prices from alternative providers that are readily available.

6   Index Governance

6.1   Index Administrator

Compass Financial Technologies (France) is the Administrator of the Index ("the Index Administrator"). The Index Administrator is responsible for the day-to-day management of the Index and is also responsible for decisions regarding the interpretation of these rules.

6.2   Index Calculation Agent

Compass Financial Technologies is the Calculation Agent of the Compass Crypto Family Indices. It is responsible for the day-to-day management of the Index computation according to this methodology.

6.3   Index Committees – Supervisor

Compass Financial Technologies has established governance functions to review and provide challenges on all aspects of the Index determination process. Governance functions are managed by the Compass Oversight Committee and by the Compass SESAMm Crypto Sentiment Steering Committee.

Compass Oversight Committee:

The Compass Oversight Committee oversees all areas of the benchmark determination processes. It is responsible for supervising and controlling the Index operations team on all Compass indices. It is also responsible for:

1. Periodic review of incidents
2. Making final decisions in case the Index operations team are not capable or allowed to take decisions
3. Defining and implementing organisation procedures for the Index operations team
4. Defining and overseeing measures that allow for mitigation of operational risks
5. Supervising internal or external audit results
6. The implementation and supervision of the potential codes of conduct that have to be implemented

The Committee is comprised of senior representatives of Compass Financial Technologies and external industry experts.

Compass SESAMm Crypto Sentiment Steering Committee (the Steering Committee):

The Steering Committee is responsible for:

1. Determining the calculation methodology and the rules governing the publication of the Index
2. Making periodic reviews of the Index to validate the robustness of the methodology and to analyse the impact of methodology changes
3. Organising consultation with Index stakeholders if necessary
4. Ensuring that Index offers a reliable and representative view of the market

The Steering Committee is composed of members from Compass and from other entities. The Steering Committee may include individuals or representatives of companies, academics, external counsels, or market participants.

The Steering Committee assembles once a year in April. However, at the request of a member of the committee, the Steering Committee may meet on any other day of the year to discuss potential "market emergency" and "force majeure" events or any other situation, which makes an extraordinary meeting necessary.

All Committee decisions will be published without delay following the Committee decision.

The Steering Committee members as of May 2023 are:

- Edouard Mouton, Compass Financial Technologies
- Guillaume Le Fur, Compass Financial Technologies
- Thomas Montagnon, SESAMm
- Paul Marty, SESAMm

As of May 31st, 2023, Edouard Mouton chairs the Steering Committee.

Notwithstanding the eligible criteria in Section 3.2, the Steering Committee reserves the right to further exclude any assets based on one or more factors, including but not limited to, its review of general reputational, fraud, manipulation, or security concerns connected to the asset.

6.4   Cases Not Covered in Rules

In certain cases which are not covered by these rules, operational adjustments will take place in respect of the aim of the Index. Operational adjustments may also take place if, in the opinion of the Index Administrator, it is desirable to do so to maintain a fair and orderly market in derivatives on the Index and/or this is in the best interests of the investors in products based on the Index and/or the proper functioning of the markets. The Index Administrator will report to the Supervisor if it took a decision about a case which is not specifically covered in the rules for comments and review.

7   Methodology Changes - Maintenance

This methodology may be supplemented, amended in whole or in part, revised or withdrawn at any time. Supplements, amendments, revisions and withdrawals may also lead to changes in the way the Index is compiled or calculated or affect the Index in another way.
In the absence of exceptional circumstances affecting the Index calculation or methodology, this Methodology is reviewed annually. The review will includes, inter alia, the following points:

1. Verify if the methodology and computation are still in line with the original purpose of the Index

2. Make sure the quality and quantity of the input data remain sufficient

Changes made to this methodology are published after the review date and implemented on a reasonable time horizon.

Compass Financial Technologies may terminate any of the Indices due to certain extraordinary market circumstances.

Changes or termination will be subject to the review and approval of the Steering Committee which will receive all the information related to the change or termination. In case of material changes, a notice will be provided at least two weeks in advance.
The results of the Steering Committee meetings will be published in a press release on Compass Financial Technologies website and distributed timely to data vendors and major news sources.

8   Expert Judgment

The Index is based on written and transparent rules and procedures with the purpose of minimising as much as possible the exercise of discretion and expert judgment.

The Index is built from input data that is not interpolated, extrapolated or adjusted. In case of lack of data, the last available data is employed.

Nevertheless, the exercise of expert judgment may become necessary in case of errors and Index restatements, delayed and missing data, hard forks, airdrops, or unexpected situations arising from market stress.

In the event that expert judgment is exercised, this will be done by resorting to the written procedures reported in the methodology and by communicating the decisions taken to the Steering Committee and the Internal Compliance Function in order to prevent conflicts of interest and to protect the integrity and the independence of the Index determinations. In addition, the interest of the Index users and the market integrity will be taken into account.

9   Errors and Recalculations

Even though the process of each Index calculation is completely automated and pre-defined, an error can be discovered after the publication of the Index.

In case of a material error, the Index will be redetermined, and the Index clients will be notified about the error and the date of the publication of the redetermined Index. An error is considered material on the basis of its size, the dates of its discovery and of its occurrence, and the impact of the Index redetermination on the users. The discovery of any error is reported to the Steering Committee.

In the case where a material error is discovered and the Administrator recognises a manipulation or an attempted manipulation of any of the Index level or the input data, it will be reported to the regulator.

10 Potential Limitations

The issues presented in the following non-exhaustive list may limit the ability of the Index to represent the market they are intended to measure, the ease of replication by investors, and more generally the usefulness of the Index to users.

- All the markets the Index is meant to measure are volatile. In particular, cryptocurrencies may be subject to much more market movements than traditional asset classes such as stocks and bonds as a consequence of illiquidity, market trends and changes to market structure.

- The input data providers may fail to provide accurate and timely data.

- Cryptocurrency prices are derived from several trading venues, each of which is characterised by a different market structure and the price of a cryptocurrency may sometimes be different across different trading venues. In addition, cryptocurrency exchanges may suffer problems that usually do not affect regulated asset exchanges, such as distributed denial-of-service, trading halt, hacking of private keys, lack of standards comparable to those of regulated exchanges, rapidly evolving technology and uncertain legal frameworks. Finally, the publication of the Index may cease. Should this occur, the regulation regarding user transitions will be followed, but the existence of a suitable substitute is not assured.

11 Cases not covered in rules

In cases which are not expressly covered in these rules, operational adjustments will take place along the lines of the aim of every Index. Operational adjustments may also take place if, in the opinion of the Index Administrator, it is desirable to do so to maintain a fair and orderly market in derivatives on the Index and/or this is in the best interests of the investors in products based on the Index and/or the proper functioning of the markets. The Index Administrator will report to the Supervisor if it took a decision about a case which is not specifically covered in the rules for comments and review.

12 Liability

The Index Administrator and the Supervisor are not liable for any losses resulting from supplementing, amending, revising or withdrawing the rules for every Index. The Administrator will do everything within its power to ensure the accuracy of the composition, calculation, publication and adjustment of the Index in accordance with relevant rules. However, neither the Index Administrator, nor the Supervisor are liable for any inaccuracy in the Index composition, calculation and the publication of the Index levels, the information used for making adjustments to the Index and the actual adjustments. Furthermore, the Index Administrator and the Supervisor do not guarantee the continuity of the composition of any of the Index, the continuity of the method of calculation of the Index, the continuity of the dissemination of the Index levels, and the continuity of the calculation of the Index.

Appendix - Compass SESAMm Crypto Sentiment Index

Compass SESAMm Crypto Sentiment Index				
Index	**Compass API Code**	**Bloomberg Code**	**Refinitiv Code**	**Round**
Compass SESAMm Crypto Sentiment Index	CSCSI20	CSCSI20	.CSCSI20	2

Table 3: Compass SESAMm Crypto Sentiment Index - Publication Codes and Rounding policy

13 Disclaimer

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