

# Wilshire

## FT Wilshire Digital Asset Index Series

Methodology

# 1 Exchange and Asset Due Diligence

## 1.1 Exchange Benchmark Review

The FT Wilshire Digital Asset Index Series has strict criteria for which digital asset exchanges qualify as a contributing price source. The qualifying exchanges also dictate the universe of available digital asset on which a FT Wilshire Blended Price Index (FTWBP) can be calculated.

The semi-annual Cryptocompare Exchange Benchmark Review (CCEBR) is used as the basis for the Wilshire Exchange Review. The CCEBR considers eight categories of criteria and a total score out of 100 is determined. For more information on the CCEBR the reader is directed to <https://data.cryptocompare.com/research>

Wilshire applies the additional criterion to determine if an exchange qualifies as a price contributor.

- 1) Exchanges must be rated A or AA or have an average score across all criteria of 75+
- 2) The exchange provided digital asset trading in U.S. Dollars
- 3) A contributing exchange satisfies (1) and (2) in the two most recent CCEBR

### 1.1.1 Contributing Exchange Watchlist

If a current contributing exchange fails to meet the standards in (1) and (2) it is placed on the Contributing Exchange Watchlist and reassessed at the following semi-annual CCEBR. If the criteria in (1) and (2) are still not met the said exchange loses its contributing exchange status.

### 1.1.2 Non-Contributing Exchange Watchlist

If a non-contributing exchange meets the standards in (1) and (2) in the most recent CCEBR, but not the CCEBR prior to the most recent review, it is placed on the Non-Contributing Exchange Watchlist and reassessed at the following semi-annual CCEBR. If the criteria in (1), (2) and (3) are met the said exchange becomes a contributing exchange to the FT Wilshire Blended Price.

A flow chart describing the Wilshire Exchange Review process is detailed in Figure 1.

### 1.1.3 Loss of Eligibility

If a contributing exchange suffers a prolonged outage, has a costly security breach, restricts access to fund withdrawals, closes access to new market participants, or other events which puts price fidelity in doubt, Wilshire may remove the said exchange as a price contributor.

## 1.2 Digital Asset Pricing Eligibility

To be eligible for calculation of an FTWBP digital assets must:

- (1) Trade in U.S. Dollars on at least three contributing exchanges
- (2) Have available custody of institutional quality
- (3) Not be identified as a known scam or fraud

If the number of contributing exchanges drops to zero, the digital asset is removed from any multi-coin index on t+2 basis and pricing of the FTWBP ceases

### 1.2.2 Asset Watchlists

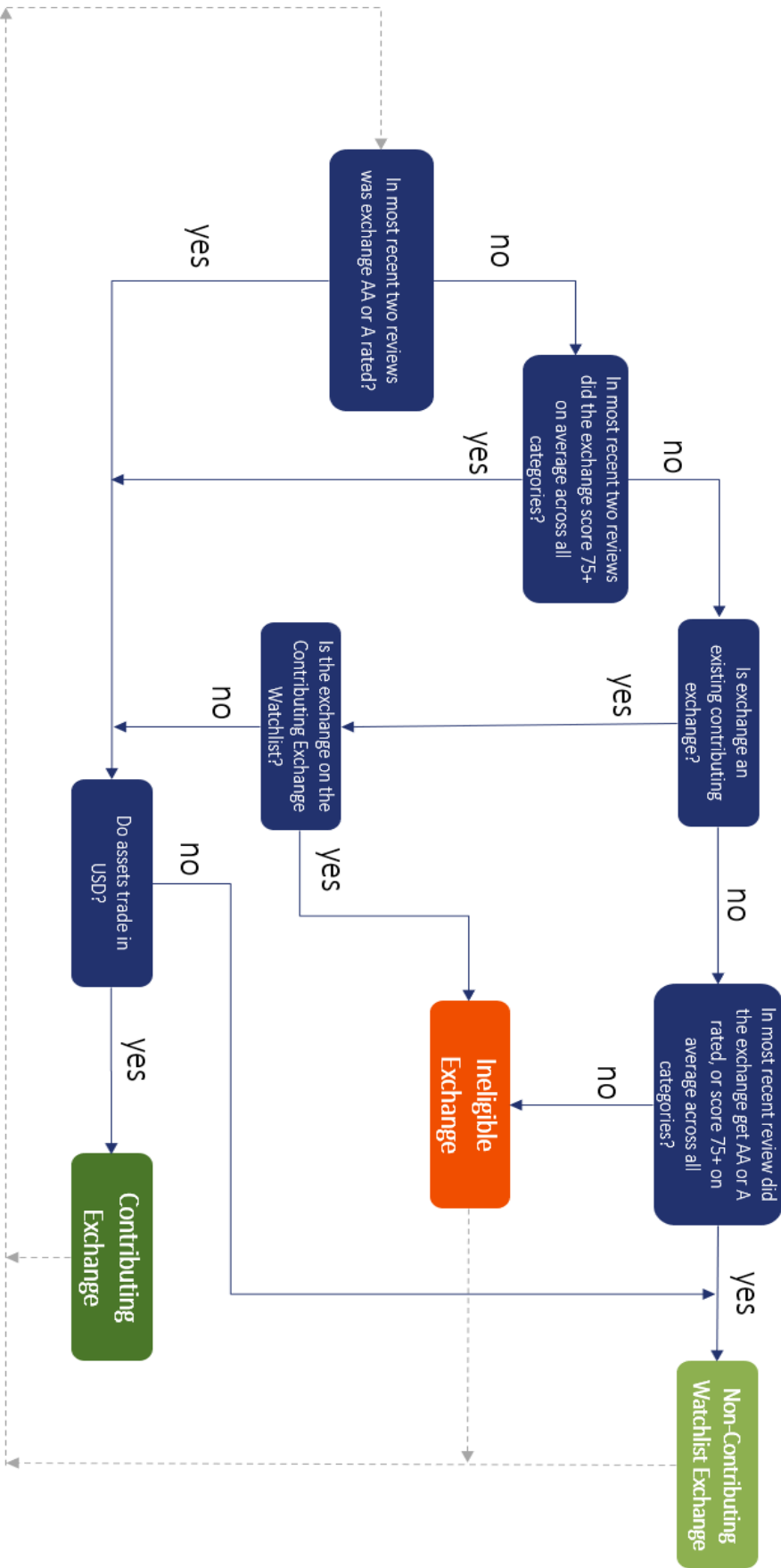
Digital Assets which fail to meet (1) in 1.2 due to the loss of pricing on 1 or 2 contributing exchanges still have a FTWBP calculated and are retained in any multi-coin index. However, pricing fidelity will no longer be considered robust.

The digital asset is placed on review and is reassessed at the next periodic review, where the problem may be rectified by listing on another contributing exchange or the promotion of exchanges. If not, the asset is removed from any multi-coin index.

Assets which trade only on non-contributing exchange watchlist exchanges only are included in the Secondary Asset Watchlist.

Assets which trade on three or more contributing and non-contributing exchange watchlist exchanges but fail to meet (1) in 1.2 are included in the Primary Asset Watchlist. Figure 2 illustrates the Asset pricing eligibility flow chart.

FIGURE 1 : THE WILSHIRE EXCHANGE REVIEW FLOW CHART



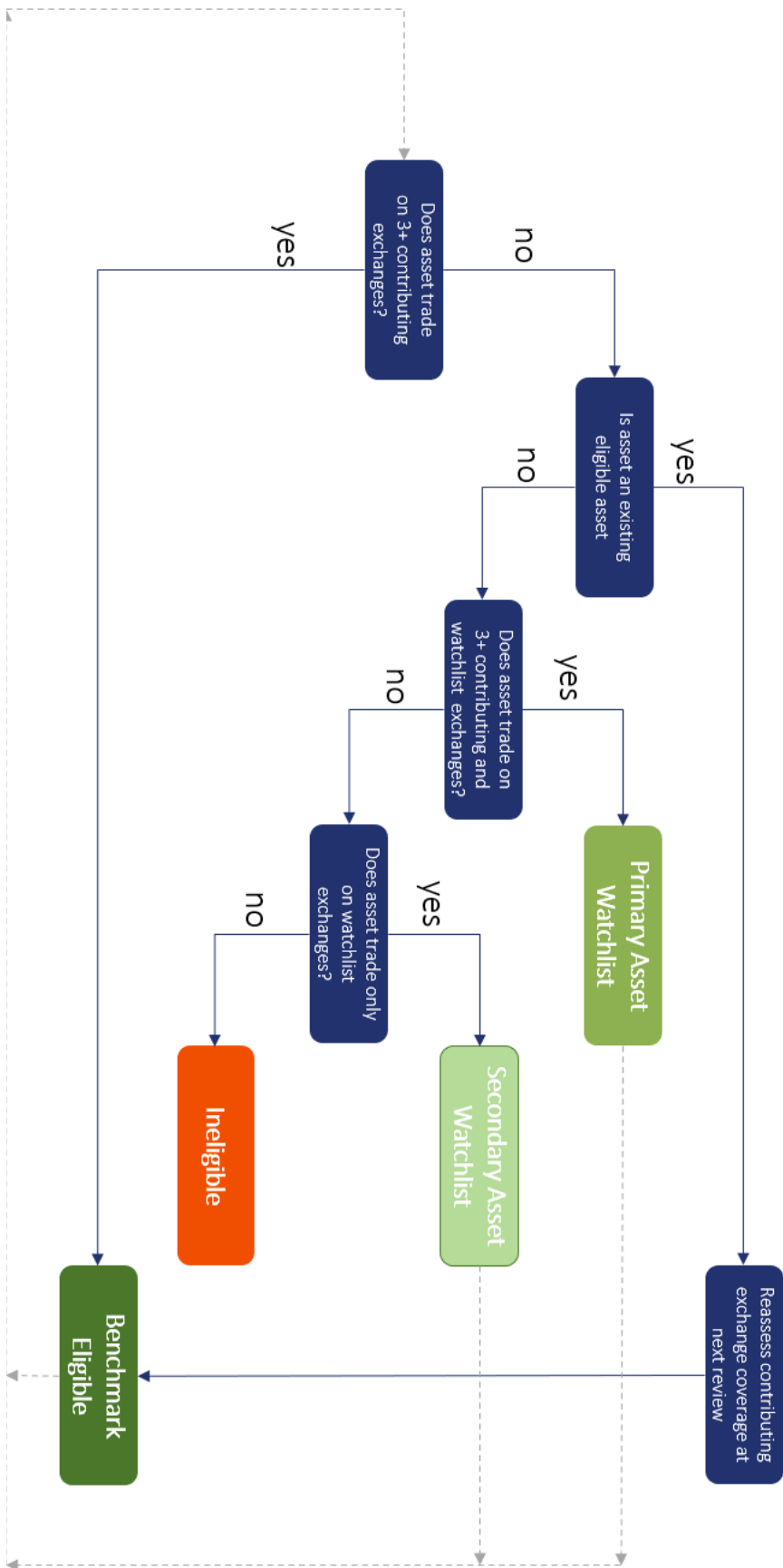


FIGURE 2 : THE WILSHIRE ASSET PRICING ELIGIBILITY FLOW CHART

## 2 Blended Price Benchmarks

### 2.1 FT Wilshire Digital Asset Blended Price Index

The FT Wilshire Digital Asset Blended Price Index (FTWBP) is the underlying input to all FT Wilshire digital asset index products.

The FTWBP is a trimmed volume weighted average price calculated for all digital assets which satisfy the minimum criteria for inclusion in an index (Section 4.1) using price and volume data from the contributing digital asset exchanges. Eligibility of contributing exchanges is detailed in Section 1.

The FTWBP at time  $t$ ,  $P_t$  is calculated as:

$$P_T = \sum w_{t,e} \cdot Q_{t,e}$$

where  $P_T$  is the FTWBP,  $w_{t,e}$  and  $Q_{t,e}$  are the weights and traded price of contributing exchange  $e$  at time  $t$ . Weights determined using an average of traded volumes on their respective exchange and are detailed in subsection 2.1.2. Prices are updated on a trade-by-trade basis (tick frequency), and they are designed to be robust against both market outages/downtime and disruption, incorporating filters for outliers, stale prices and other deleterious data.

The FTWBP represents the index for an individual digital asset. For example, the FTWBP for Bitcoin is the FT Wilshire Bitcoin Blended Price Index.

#### 2.1.1 Input Trade Data

The FTWBP is calculated every time a new trade is executed on a contributing exchange. The necessary data required to update the FTWBP are: Price in USD, traded volume, transaction time, exchange.

Currently, inclusion of traded price and volume data is restricted to trades made directly in USD.

An extension to the methodology to include digital assets which trade in fiat currencies other than USD or in other digital assets such as fiat stable coins may be considered in the future.

#### 2.1.2 Exchange Weighting

The weight (importance) of an exchange in the FTWBP is determined using an exponential weighted average (EWA) of the previous 24 cumulative hourly volume, traded on this exchange. This ensures that those exchanges with high turnover have a greater weight than those exchanges with less traded volume. Additionally, it places an emphasis on more recent traded volume allowing for daily and regional effects on liquidity in the market to be captured.

At hour  $h$  (where  $h \in [1, 24]$ ), the hourly cumulative volume on exchange  $e$  is the sum over the hour up to  $t=T$  of the traded volume in that hour, where the cumulative volume of each separate exchange is updated on a rolling minute-by-minute basis. The volume included is only the volume deemed legitimate during the previous 24 hours, i.e., it excludes outlier volume or stale volume data (see Section 2.1.3). Note, at initiation no filtered data is available, meaning there is a run-in time of approximately 24 hours before the exchange weights are determined using data filtered for outliers.

The cumulative volume in any one hour period,  $CV_{e,h}$  is:

$$CV_{e,h} = \sum \sum V_{e,t,m} ; t \in (T-1, T] 1, m \in [1, 60]$$

where  $V_{e,t,m}$  is the volume associated with the trade at time  $t$  in the one minute interval,  $m$ .

The EWA of the hourly cumulative volume for each exchange  $e$  is then calculated as:

$$EV_e = EWA(CV_e) = \alpha \cdot CV_{e,h} + (1 - \alpha) \cdot EWA(CV_{e,h-1})$$

<sup>1</sup>  $t \in [T-1, T)$  should be read as  $T-1 \leq t < T$ , where  $T$  represents an actual clock minute, e.g. 13:59:00.000,

where  $EV_e$  is the EWA for exchange  $e$ . The variable  $\alpha$  is defined so that  $\sum w_h \approx 0.9999$ , i.e., 99.99% of the weight is captured by the 24 observations:

$$\alpha = 1 - \text{Exp}(\text{Log}(0.0001)/24) \approx 0.31871$$

and the exponential weights are:  $w_{h-i} = \alpha \cdot (1 - \alpha)^i$ ,  $i \in [0, 23]$

The weight each exchange contributes to the FTWBP during the minute to  $t \in [T, T+1)$  is:

$$w_T = \gamma_e \cdot EV_e / \sum \gamma_e \cdot EV_e$$

where  $\gamma_e \in [0, 1]$  is a trust parameter for exchange  $e$  used to include or exclude an exchange depending on the validity of a trade observed at  $t > T$ . The trust parameter is defined in section 2.1.3.1.

### 2.1.3 Data Filtering

In general tick level data requires cleansing of deleterious values. For example, there are stale price and volume data. These are data that have not been updated recently such that they may no longer be representative of the wider market. This is common on low volume or illiquid exchanges. There are also outlier data. These data are the result of exchange disruption, market dislocation, incorrect data entry (“fat-finger” errors) and the like. Such data problems need correctly accounted for if an aggregate price which is robust to such events is to be determined. There are three data cleansing categories considered in this methodology:

1. **Data bounds** – negative prices, zero volumes etc., future time stamps, trade duplicates
2. **Price level** – “fat-finger” errors (e.g., 10x larger/smaller), stale (old) data
3. **Outliers** – change from one tick to the next is outside an expected range

The process of filtering occurs with each new trade on an eligible exchange, before the FTWBP is calculated.

#### 2.1.3.1 Trade Rejection and Trust Parameter

A traded volume and price pair  $(V_t, Q_t)$  is rejected if any of the conditions (a. to d.) outlined below are held. Under such conditions the previous valid traded volume and price pair  $(V_{t-1}, Q_{t-1})$  is retained.

- a. Trades with time stamps in the future. Any new trade should have a time stamp after the previous price stamp time stamp, but before the current clock time, i.e.  $t > T$ , where  $T$  is the current clock minute (see 2.1.2).
- b. Trades with time stamps in the past. These are newly received trades on a given exchange with a time stamp that occurs before the most recent trade on the exchange. Note this is not the same as stale trade data discussed below.
- c. Duplicate trades, i.e., trades with the same trade ID, time stamp, volume, and price
- d. Negative volumes  $V_t \leq 0$  and/or prices  $Q_t \leq 0$
- e. Price data entry errors,  $Q_t > 1.25 \times P_t'$  or  $Q_t < 0.75 \times P_t'$  where  $P_t'$  is the current FTWBP at  $t'$ .

The trust parameter provides a mechanism by which outliers and extreme volatility events can be excluded from the FT Wilshire Blended Price. The trust parameter,  $\gamma_e = 1$  for each exchange  $e$  unless for any traded volume and price pair  $(V_t, Q_t)$ , any of the conditions outlined below are held.

- a. If price  $Q_t$  is either the maximum price or minimum price across all exchanges, that is if  $Q_t = \text{Min}(\mathbf{Q})$  or  $Q_t = \text{Max}(\mathbf{Q})$ , where  $\mathbf{Q}$  is the set of current traded prices across all contributing exchanges, then  $\gamma_e = 0$  the price and volume pair  $(V_t, Q_t)$  is excluded from the FT Wilshire Digital Asset Blended Price
- b. The price is deemed stale data in which case the trust parameter is  $0 \leq \gamma_e < 1$ . If after the application of the stale data filter (see below) the only available contributing exchange is time-penalised, then the maximum and minimum prices are retained in the calculation of the FTWBP (condition (a) does not apply)
- c. In the case of three available exchanges, the maximum or minimum price spans more than one exchange, condition (a) does not apply

#### Stale Price Data

After the application of (a) to (f) the volume and price pair  $(V_t, Q_t)$  can still be excluded if it is deemed to be stale. The importance of price and volume pairs  $(V_t, Q_t)$  on an exchange diminishes with time such that after a specified interval the data is deemed stale and is removed from the calculation of the FTWBP. This is achieved by adjusting the trust parameter such that  $\gamma_e \in [0, 1)$ . The trust parameter is reduced from an initial  $\gamma_e = 1$  to  $\gamma_e = 0$  incrementally depending on the time elapsed since the last valid trade on the exchange used in the calculation of the FTWBP. The scaling of the trust parameter is:

$$\gamma_e = 1.0; 0 \leq \tau_e < 3$$

$$\gamma_e = 0.8; 3 \leq \tau_e < 6$$

$$\gamma_e = 0.6; 6 \leq \tau_e < 9$$

$$\gamma_e = 0.4; 9 \leq \tau_e < 12$$

$$\gamma_e = 0.2; 12 \leq \tau_e < 15$$

$$\gamma_e = 0.0; 15 \leq \tau_e$$

where  $\tau_e$  is the time elapse in minutes since the last valid trade on exchange e.

#### Multiple Price Data

On highly liquid exchanges multiple valid trades can occur with the same time stamp. For exchange e, newly received price and volume pairs  $(V_t, Q_t)$  with time stamp t, only the last received trade is included in the calculations.

Under certain circumstances the conditions may be such that all prices are filtered out. In this instance the FTWBP is not calculated and the previous value is retained.

## 3 Settlement Price Fixings

### 3.1 FT Wilshire Digital Asset Settlement Price Index

Settlement prices are often determined as a volume weighted average of trades over a short period of time (30 seconds to a few minutes) at the end of trading. However, the high volatility and price reversals observed in the digital asset markets mean a wider time frame for the settlement process is important in mitigating against unwanted effects when a stable estimate is desirable.

A FT Wilshire Digital Asset Blended Price Index is updated tick-by-tick and ticks occur at irregular times. For the settlement process a homogeneous time series is created, the Wilshire Digital Asset Blended Average.

#### 3.1.1 Wilshire Digital Asset Blended Average

The Wilshire Digital Asset Blended Average (WBA) is the volume weighted average price (VWAP) calculated over a period of one minute using all valid trades which were used in the calculation of the relevant FT Wilshire Digital Asset Blended Price Index and their associated cumulative volume taken across all contributing exchanges in the given one-minute period.

For all  $t \in [T-1, T)$  calculate the Wilshire Digital Asset Blended Average  $A_T$  using all volume and price pairs  $(V_t, Q_t)$  available in the specified period as:

$$A_T = \sum w_t \cdot Q_t$$

For all  $t \in [T-1, T)$

where  $w_t = V_t / \sum V_t$  is the volume weight, where the volume  $V_t$  is the total volume traded across all contributing exchanges associated with valid trades,  $Q_t$ .

If in any one-minute period  $[T-1, T)$  there are no valid trades, the previous value of  $A_T$  is used.

#### 3.1.2 FT Wilshire Digital Asset Settlement Price Index Calculation

The FT Wilshire Digital Asset Settlement Price Index (FTWSP) is calculated as the exponentially weighted average (EWA) of the Wilshire Digital Asset Blended Average (WBA), where the exponential weights are determined by:

$$w_{t-i} = \alpha \cdot (1 - \alpha)^i, \quad i \in [0, 59]$$

The variable  $\alpha$  is set so approximately 50% of the weight occurs in the last 15 minutes of observations before the settlement time of interest. That is:

$$\alpha = 1 - 0.51/15 \approx 0.04516$$

The weights  $w_{T-i}$  are renormalised to ensure  $\sum w_{T-i} = 1$  and the FT Wilshire Settlement Price Index at time T is:

$$S_T = \sum w_{T-i} \cdot A_{T-i}$$

where  $S_T$  is the FT Wilshire Digital Asset Settlement Price Index at time t,  $A_t$  is the Wilshire Digital Asset Blended Average at time t, where  $t \in [T-60, T)$ .

The EWA can be tuned to lengthen or shorten the period of time in which price observations are important to the average. As the digital asset market matures, where volatility is low or for specific client needs, the variable  $\alpha$  can be increased, such that when  $\alpha=1$ , the FT Wilshire Digital Asset Settlement Price Index  $S_T$  is equal to the most recent Wilshire Digital Asset Blended Average  $A_T$ .

### 3.2 Closing and Fixing Times

There is no concept of a closing time for digital assets. Digital assets trade continuously 24/7/365. However, a single closing time is useful.



Multiple fixings for different regions are useful for mark-to-marketing, derivatives listing and regulatory reasons (NAVs).

At each fixing time the last known index level (“last”) and a formal settlement price are published. This is analogous to the derivatives market where the last price is separate from the official fixing (settlement) price.

### 3.2.1 Official Close

The official closing time for all FT Wilshire Digital Asset products is:

1600 London, adjusted for daylight savings

### 3.2.2 Hourly fixes and settlements

An hourly settlement fixing is provided for all FTWBPs using the outlined methodology is provided as a service analogous to the hourly FX market fixings.

An hourly snap is also provided for both FTWBP and multi-coin indexes.

## 4 Index Products

### 4.2 Indexes

#### 4.2.1 Single Digital Asset Blended Price Indexes

Single digital asset Indexes are represented by the FT Wilshire Digital Asset Blended Price Index. Details of the available list of coins and tokens for which a FTWBP is provided can be found on the Wilshire Digital Asset web page <https://www.wilshire.com/digital-assets>

#### 4.2.2 Review Dates

The cut-off date for the inclusion of information in a periodic index review is midnight UTC on the 1<sup>st</sup> day of the review month.

Reviews are implemented (implementation date) five business days after the cut-off date at 4pm London.

Reviews are conducted quarterly in March, June, September, and December

#### 4.2.3 Eligible Universe

The eligible universe of digital assets multi-coin indexes is the available universe of digital assets at the cut-off date for which a FT Wilshire Blended Price Index is calculated, excluding stablecoins.

#### 4.2.4 Themes

Themes are defined by DATS. For a given theme, eligible constituents are those in the eligible universe which are classified as members of the theme at the implementation date.

#### 4.2.4 Liquidity

Liquidity of eligible digital assets is determined using the 30-day median traded value as at the cut-off date across all contributing exchanges.

#### 4.2.5 Custody and Clearing

All constituents of digital asset indexes should have institutional grade custody available clearing facilities. In some jurisdictions, index products are cleared at the constituent level, not at the index level. However, not all digital assets are cleared by TradFi entities and enforcing constituent level clearing may mean there are insufficient digital assets eligible for selection. Consequently, digital asset indexes will only contain TradFi cleared digital assets where practicable and feasible, meaning in some instances a digital asset index may contain assets that are not individually cleared by TradFi facilities.

#### 4.2.6 Multi-coin Digital Asset Indexes

##### 4.2.6.1 FT Wilshire Top 5 Digital Asset Index

The largest five digital assets by circulating market value in the eligible universe (Rules 4.2.3 and 4.2.5).

A 10% market value buffer is included to prevent unnecessary turnover. The smallest existing constituent is removed only if its circulating market value is 10% smaller than the smallest eligible constituent of the index.

Digital assets are equally weighted.

##### 4.2.6.2 FT Wilshire ex Bitcoin Digital Asset Index

The largest five digital assets excluding Bitcoin by circulating market value in the eligible universe (Rules 4.2.3 and 4.2.5).

A 10% market value buffer is included to prevent unnecessary turnover. The smallest existing constituent is removed only if its circulating market value is 10% smaller than the smallest eligible constituent of the index.

Digital assets are equally weighted.

#### 4.2.6.3 FT Wilshire Bitcoin & Ethereum Digital Asset Index

Bitcoin and Ethereum only, equally weighted

#### 4.2.6.4 FT Wilshire Broad Market Digital Asset Index

Consists of the largest 25% of the eligible universe (Rules 4.2.3 and 4.2.5) by circulating market value.

A 10% market value buffer is included to prevent unnecessary turnover. The smallest existing constituent is removed only if its circulating market value is 10% smaller than the smallest eligible constituent of the index.

Constituents are weighted by the circulating market value using the estimate of circulating coins/tokens as at the cut-off date. The number of coins/tokens is fixed between index reviews.

#### 4.2.6.5 Thematic Indexes

The following thematic indexes are available in both liquidity adjusted equally weighted and market circulation weighted forms.

**FT Wilshire Environmentally Focused Index** – largest 10 digital asset by circulating value in the Environmentally Focused Digital Asset Taxonomy theme

**FT Wilshire Decentralised Finance Index** - largest 10 digital asset by circulating value in the Decentralised Finance Digital Asset Taxonomy theme

**FT Wilshire Smart Contract Platform Index** - largest 10 digital asset by circulating value in the Smart Contract Platform Digital Asset Taxonomy theme

**FT Wilshire Layer 1 Index** - largest 10 digital asset by circulating value in the Layer 1 Digital Asset Taxonomy theme

Constituents are selected in the following way:

- 1) Remove all digital assets within the theme with a liquidity (4.2.5) in the bottom decile
- 2) Rank the remaining digital assets by their circulating market value as at the cut-off date and select the largest 10, subject to Rule 4.2.6
- 3) If there are fewer than 10 available assets select all available assets subject to a minimum of 5

#### Liquidity Adjusted Weighting

Constituents' initial weights are adjusted to ensure the average constituent liquidity can be traded in a single day using at most 20% of the median traded value.

- 1) Equally weight the selected digital assets
- 2) For each constituent determine the maximum weight and days-to-trade liquidity (DTL) as:
  - Maximum Weight =  $0.2 \times \text{Constituent Liquidity} / \text{Average Constituent Liquidity}$
  - $\text{DTL} = \text{Weight} \times \text{Average Constituent Liquidity} / (0.2 \times \text{Constituent Liquidity})$
- 3) Set the weight for each constituent with  $\text{DTL} > 1$  equal to the Maximum Weight.
  - Redistribute the excess weight equally across remaining constituents with  $\text{DTL} < 1$ , such that sum of weights = 1, repeating the capping process if necessary.
  - In the case when all constituents have  $\text{DTL} \geq 1$  and there is available weight, redistribute across all constituents equally.

#### Market Value Weighting

Constituents are weighted by the circulating market value using the estimate of circulating coins/tokens as at the cut-off date. The number of coins/tokens is fixed between index reviews.

#### 4.2.7 Intra-review additions and deletions

In the event a constituent becomes ineligible for inclusion in an index it should be removed from any index for which it is a member. Deletion should be two business days after the announcement to remove the asset is made. Deletion is made at the index close at the closing price, last known available price or zero.

## 4.3 Network Events

Network events occur in several forms.

### 4.3.1 Hard Forks

Where a material change to a digital asset's operation occurs such that the blockchain separates at a given block (e.g., perhaps due to a change in consensus mechanism). This can result in an entirely new coin being created. E.g., Ethereum -> Ethereum Classic (the original version) and Ethereum (the hard forked version). New digital assets that are a result of hard forks are eligible for inclusion in an index at the next periodic review if they satisfy the eligibility criteria.

### 4.3.2 Soft Forks

A change in the software/network that (typically) does not result in the generation of a new digital asset. Soft Forks are included automatically without any operational overhead provided the digital asset continues to satisfy the criteria in Section 2.3 & Section 3.1.

### 4.3.3 Capital Distributions

There are several mechanisms whereby capital distributions can occur.

- **Air drops** – rewards to holders of digital assets. Usually on an ad hoc basis. Infrequent, irregular and generally small in value. Airdrops are not included.
- **Mining rewards** – transaction verification via “mining” resulting in a payment. In the case of Proof-of-Work rewards are related to computer hardware and are not included.
- **Emissions** – holders are rewarded for maintaining a node/active balance on the network
- **Staking Rewards** – holders who stake digital assets for transaction verification are rewarded for doing so.

Whilst emissions and Staking rewards can provide a regular yield, are directly related to a digital asset balance and therefore an index weight, they are not currently considered.

## Appendix 1

### FT Wilshire Digital Asset Index Series

FT Wilshire 0x Blended Price Index  
FT Wilshire 0x Settlement Price Index  
FT Wilshire 1inch Blended Price Index  
FT Wilshire 1inch Settlement Price Index  
FT Wilshire Aave Blended Price Index  
FT Wilshire Aave Settlement Price Index  
FT Wilshire Algorand Blended Price Index  
FT Wilshire Algorand Settlement Price Index  
FT Wilshire Amp Blended Price Index  
FT Wilshire Amp Settlement Price Index  
FT Wilshire Ankr Blended Price Index  
FT Wilshire Ankr Settlement Price Index  
FT Wilshire Augur Blended Price Index  
FT Wilshire Augur Settlement Price Index  
FT Wilshire Avalanche Blended Price Index  
FT Wilshire Avalanche Settlement Price Index  
FT Wilshire Axie Infinity Blended Price Index  
FT Wilshire Axie Infinity Settlement Price Index  
FT Wilshire Balancer Blended Price Index  
FT Wilshire Balancer Settlement Price Index  
FT Wilshire Bancor Blended Price Index  
FT Wilshire Bancor Settlement Price Index  
FT Wilshire Band Protocol Blended Price Index  
FT Wilshire Band Protocol Settlement Price Index  
FT Wilshire Basic Attention Token Blended Price Index  
FT Wilshire Basic Attention Token Settlement Price Index  
FT Wilshire Bitcoin & Ethereum Digital Asset Index  
FT Wilshire Bitcoin Blended Price Index  
FT Wilshire Bitcoin Cash Blended Price Index  
FT Wilshire Bitcoin Cash Settlement Price Index  
FT Wilshire Bitcoin Settlement Price Index  
FT Wilshire Broad Market Digital Asset Index  
FT Wilshire Cardano Blended Price Index  
FT Wilshire Cardano Settlement Price Index  
FT Wilshire Chainlink Blended Price Index  
FT Wilshire Chainlink Settlement Price Index  
FT Wilshire Chiliz Blended Price Index  
FT Wilshire Chiliz Settlement Price Index  
FT Wilshire Compound Governance Token Blended Price Index  
FT Wilshire Compound Governance Token Settlement Price Index

FT Wilshire Cosmos Blended Price Index  
FT Wilshire Cosmos Settlement Price Index  
FT Wilshire Curve DAO Token Blended Price Index  
FT Wilshire Curve DAO Token Settlement Price Index  
FT Wilshire Dash Blended Price Index  
FT Wilshire Dash Settlement Price Index  
FT Wilshire Decentraland Blended Price Index  
FT Wilshire Decentraland Settlement Price Index  
FT Wilshire Decentralised Finance Digital Asset Index  
FT Wilshire Decentralised Finance Market Value Weighted Digital Asset Index  
FT Wilshire Dogecoin Blended Price Index  
FT Wilshire Dogecoin Settlement Price Index  
FT Wilshire Elrond Blended Price Index  
FT Wilshire Elrond Settlement Price Index  
FT Wilshire Enjin Coin Blended Price Index  
FT Wilshire Enjin Coin Settlement Price Index  
FT Wilshire Environmentally Focused Digital Asset Index  
FT Wilshire Environmentally Focused Market Value Weighted Digital Asset Index  
FT Wilshire Enzyme Blended Price Index  
FT Wilshire Enzyme Settlement Price Index  
FT Wilshire EOS Blended Price Index  
FT Wilshire EOS Settlement Price Index  
FT Wilshire Ethereum Blended Price Index  
FT Wilshire Ethereum Classic Blended Price Index  
FT Wilshire Ethereum Classic Settlement Price Index  
FT Wilshire Ethereum Name Service Blended Price Index  
FT Wilshire Ethereum Name Service Settlement Price Index  
FT Wilshire Ethereum Settlement Price Index  
FT Wilshire Fantom Blended Price Index  
FT Wilshire Fantom Settlement Price Index  
FT Wilshire Fetch.AI Blended Price Index  
FT Wilshire Fetch.AI Settlement Price Index  
FT Wilshire Filecoin Blended Price Index  
FT Wilshire Filecoin Settlement Price Index  
FT Wilshire Gala Games Blended Price Index  
FT Wilshire Gala Games Settlement Price Index  
FT Wilshire Hedera Hashgraph Blended Price Index  
FT Wilshire Hedera Hashgraph Settlement Price Index  
FT Wilshire Internet Computer Blended Price Index  
FT Wilshire Internet Computer Settlement Price Index  
FT Wilshire Kyber Network Blended Price Index  
FT Wilshire Kyber Network Settlement Price Index  
FT Wilshire Layer 1 Digital Asset Index

FT Wilshire Layer 1 Market Value Weighted Digital Asset Index  
FT Wilshire Litecoin Blended Price Index  
FT Wilshire Litecoin Settlement Price Index  
FT Wilshire Livepeer Blended Price Index  
FT Wilshire Livepeer Settlement Price Index  
FT Wilshire Loopring Blended Price Index  
FT Wilshire Loopring Settlement Price Index  
FT Wilshire Maker Blended Price Index  
FT Wilshire Maker Settlement Price Index  
FT Wilshire Mirror Protocol Blended Price Index  
FT Wilshire Mirror Protocol Settlement Price Index  
FT Wilshire NEAR Protocol Blended Price Index  
FT Wilshire NEAR Protocol Settlement Price Index  
FT Wilshire OMG Network Blended Price Index  
FT Wilshire OMG Network Settlement Price Index  
FT Wilshire Orchid Protocol Blended Price Index  
FT Wilshire Orchid Protocol Settlement Price Index  
FT Wilshire PAX Gold Blended Price Index  
FT Wilshire PAX Gold Settlement Price Index  
FT Wilshire Perpetual Protocol Blended Price Index  
FT Wilshire Perpetual Protocol Settlement Price Index  
FT Wilshire Polkadot Blended Price Index  
FT Wilshire Polkadot Settlement Price Index  
FT Wilshire Polygon Blended Price Index  
FT Wilshire Polygon Settlement Price Index  
FT Wilshire Ren Blended Price Index  
FT Wilshire Ren Settlement Price Index  
FT Wilshire Ripple Blended Price Index  
FT Wilshire Shiba Inu Blended Price Index  
FT Wilshire Shiba Inu Settlement Price Index  
FT Wilshire SKALE Network Blended Price Index  
FT Wilshire SKALE Network Settlement Price Index  
FT Wilshire Smart Contract Platforms Digital Asset Index  
FT Wilshire Smart Contract Platforms Market Value Weighted Digital Asset Index  
FT Wilshire Solana Blended Price Index  
FT Wilshire Solana Settlement Price Index  
FT Wilshire Spell Token Blended Price Index  
FT Wilshire Spell Token Settlement Price Index  
FT Wilshire Stellar Blended Price Index  
FT Wilshire Stellar Settlement Price Index  
FT Wilshire STORJ Blended Price Index  
FT Wilshire STORJ Settlement Price Index  
FT Wilshire Sushi Blended Price Index

FT Wilshire Sushi Settlement Price Index  
FT Wilshire Synthetix Network Blended Price Index  
FT Wilshire Synthetix Network Settlement Price Index  
FT Wilshire Terra Classic Blended Price Index  
FT Wilshire Terra Classic Settlement Price Index  
FT Wilshire Tezos Blended Price Index  
FT Wilshire Tezos Settlement Price Index  
FT Wilshire The Graph Blended Price Index  
FT Wilshire The Graph Settlement Price Index  
FT Wilshire The Sandbox Blended Price Index  
FT Wilshire The Sandbox Settlement Price Index  
FT Wilshire Top 5 Digital Asset Index  
FT Wilshire Top 5 ex Bitcoin Digital Asset Index  
FT Wilshire TRON Blended Price Index  
FT Wilshire TRON Settlement Price Index  
FT Wilshire UMA Blended Price Index  
FT Wilshire UMA Settlement Price Index  
FT Wilshire Uniswap Blended Price Index  
FT Wilshire Uniswap Settlement Price Index  
FT Wilshire USD Coin Blended Price Index  
FT Wilshire USD Coin Settlement Price Index  
FT Wilshire XRP Settlement Price Index  
FT Wilshire yearn.finance Blended Price Index  
FT Wilshire yearn.finance Settlement Price Index  
FT Wilshire Zcash Blended Price Index  
FT Wilshire Zcash Settlement Price Index



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