Introduction

The Blockforce Labs Global Currency Index (the “Index”) tracks the performance of a basket of securities denominated in 5 widely-circulated global fiat currencies and Bitcoin, a leading cryptocurrency. The fiat currencies included in the Index are US Dollar (USD), British Pound (GBP), Euro (EUR), Japanese Yen (JPY), and Swiss Franc (CHF). The fiat currencies represent an important part of the global financial system. Together they

- Represent nearly half of global GDP.
- Comprise 89% share of international payments.
- Represent 92% of global currency reserves
- Comprise 79% of global forex turnover

Cryptocurrencies have captured global attention in their function as a recognized medium of exchange and store of value, while also in their potential to disrupt traditional financial systems. They allow for digital peer-to-peer transactions without intervention of a central authority or agency. Compared to traditional fiat currencies, cryptocurrencies offer advantages including speed of transaction, transparency, low transaction fees and decentralization. Bitcoin is the largest cryptocurrency with a market cap over USD 63 billion as of Jan 25, 2019.

The Index provides an opportunity to track the performance of 5 widely-circulated global fiat currencies and the largest cryptocurrency by market cap, each a component of the global currency asset class.

Index Methodology

Eligibility Criteria and Index Construction

The Index consists of securities and instruments denominated in the following global currencies:

- US Dollar (USD)
- British Pound (GBP)
- Euro (EUR)
- Japanese Yen (JPY)
- Swiss Franc (CHF)
- Bitcoin

Index Constituent Securities:

The Index gains exposure to the fiat currencies through fixed income securities that are government or government agency issue notes and bonds. To be included in the Index, the securities need to fulfill the following criteria;

Fiat Currencies:
• Sovereign nominal fixed income instruments denominated in local currency and having no embedded options or convertibility, with a minimum outstanding amount of USD 250 million.
• Rated in the top 3 rating categories by Moody’s, S&P, Fitch or any other recognized rating agency.
• The average maturity of the security basket for a currency would be less than 18 months.

The number of constituent securities is limited to a maximum of twelve for each fiat currency. For Euro region, securities from Germany, France, Netherlands, Belgium and Austria are selected. These countries represent the top five within the Euro region based their local currency long term debt ratings. Euro country ratings will be reviewed at each semiannual rebalance. In the case where the rating for a country falls out of the top 3 rating category as classified by the agencies, it is then removed from the list, and potentially replaced by another country with an overall rating satisfying the criteria. The constituent securities will be selected by the Index Committee subject to conditions related to size, maturity, credit quality, etc.

Bitcoin:

For Bitcoin, Index constituents will consist of bitcoin futures traded on CME/CBOE Exchanges. The constituent futures are selected by the Index Committee based on factors like time to maturity, liquidity and amount outstanding. For historical back-test for the period prior to launch of bitcoin futures, we use the daily bitcoin price levels sourced from Bloomberg.

Base Date and Base Value

The Blockforce Labs Global Currency Index was calculated with a base value of 1000 as of Dec 31st, 2015. The Index currency is USD.

Weighting Methodology

The 5 fiat currencies and bitcoin have an equal weight of 15% each, representing a total of 90%, with the remaining 10% of net assets held in cash at the time of rebalance. The weights of individual securities within each currency group will be decided by the Index Committee.

Rebalancing and Reconstitution frequency

Rebalancing

Rebalancing of the Blockforce Labs Global Currency Index is done on a semi-annual basis on the last business day of October and April.

Reconstitution:
In the case of fixed income securities, the bonds are held until maturity and replaced by another fixed income security of same currency. In the case of bitcoin futures, two near term contracts are held. At expiry, the old contract is replaced with the next term contract.

Intra–period rebalance:

In addition to the semi-annual rebalance, additional rebalances will be performed whenever weight thresholds are triggered owing to the price movements of the Index constituents. The threshold weight trigger occurs if the portfolio allocation of any one constituent rises/falls by more than 20% (trigger) to the original equal weighted position. In each case where the drifting weights of any of the fiat currencies/bitcoin move out of the allocation band equal to 12% to 18% of the total portfolio, the weights for all the fiat currencies/bitcoin are reset to the rebalance weight of 15% on the next business day.

Index Calculation

The Index level at any point is the previous day index value multiplied by the current day total return

\[ I_t = I_{t-1} \times (1 + m_t) \]

\( I_t \) = Total return index on day \( t \).

\( I_{t-1} \) = Total return index on day \( t-1 \)

\( m_t \) = Total return on day \( t \)

The Index total return is calculated as follows

\[ m_t = \left\{ w_t^i \sum_{i=1}^n w_{t-1}^i \times (1 + r^i_{t,t} + g^i_{t,t}) \times (1 + f^i_t) \right\} \]

\( w_t^i \) = rebalance weight factor of currency \( j \)

\( r^i_{t,t} \) = local currency price return of security \( i \) of currency \( j \)

\( w_{t-1}^i \) = drifting weight of security \( i \) of currency \( j \)

\( f^i_t \) = currency return of currency \( j \)

For individual securities the local currency price return is calculated as

\[ r^i_{t,t} = \frac{(p^i_{t,t} - p^i_{t,t-1})}{d_{t,t-1}} \]

\( r^i_{t,t} \) = price return of security \( i \) of currency \( j \) for day \( t \)

\( p^i_{t,t} \) = clean price of security \( i \) of currency \( j \) without interest for day \( t \)
For individual securities the currency return is calculated as

$$f_t^j = \left\{ \frac{(fx_t^j - fx_{t-1}^j)}{fx_{t-1}^j} \right\}$$

$f_t^j$ = currency factor adjustment of currency j

$fx_t^j$ = Foreign currency spot rate on date t (units of USD per local currency)

$fx_{t-1}^j$ = Foreign currency spot rate on date t-1 (units of USD per local currency)

For individual securities the local currency interest return is calculated as

$$g_{t,t}^i = \left\{ \frac{(a_{t,t}^i - a_{t-1,t-1}^i + cp_{t,t})}{d_{t-1,t-1}^i} \right\}$$

$g_{t,t}^i$ = local currency interest return of security i of currency j for day t

$a_{t,t}^i$ = accrued interest of security i of currency j on day t

$a_{t-1,t-1}^i$ = accrued interest of security i of currency j day t-1

$d_{t-1,t-1}^i$ = dirty price of security if currency j with interest for day t-1

$cp_{t,t}^i$ = coupon payment of security i of currency j on day t

Index Committee

The Blockforce Labs Global Currency Index are maintained by the Blockforce Labs Index Committee. The committee meets quarterly and as necessary on an ad hoc basis to make all decisions regarding the Index. At each meeting, the Index Committee reviews actions that may affect index constituents and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting underlying securities, treatment of coupons, or other matters, or override selected outcomes of such index policy on a case-by-case basis.