SUMMARY

[0007] Example embodiments may describe calculating a tradable value, such as an SOQ and/or spot index, for one or more financial products. In particular, in one example, a computer-implemented method is disclosed that involves receiving, by a computing device, a data feed. The data feed may include numerous data fields (e.g., a product symbol, an opening price, a strike price, an expiration date, etc.) that correspond to messages, orders, quotes, and other financial exchange specific data points. The computing device may be configured to select one or more input sets from the received data feed and determine a score for one or more of the selected input sets. The process of determining a score for the one or more of the selected input sets may be performed in a variety of ways. Once one or more input sets are selected, the computing device may calculate an SOQ and/or spot index based on the selected input set(s) and disseminate the calculated SOQ and/or spot index to one or more market entities, such as a clearing corporation.

[0008] In ~~another embodiment~~ an aspect of the present invention, a system may be configured to determine settlement values of derivative investment instruments representative of a state of market volatility. The system may include a communication interface configured for communication with at least external one data source remotely located from the system via a network. The at least one data storage device can store data received via the communication interface, wherein the received data may correspond to price and expiration information for a plurality of financial instruments pre-determined as suitable as underlying assets for derivative investment instruments representative of the state of market volatility. The plurality of financial instruments may define one or more input sets, wherein each input set comprises options contracts having a same underlying asset, different

expiration dates, and/~~or~~ different expiration intervals. The system may also include an order matching engine having a processor configured to receive a plurality of contra-position bids and offers and pair up the received contra-position bids and offers to complete trades between the paired received contra-position bids and offers.

[0009] The system may further include a settlement value processor in communication with the at least one data storage device and the order matching engine and a program logic memory in communication with the settlement value processor and storing program instructions, the settlement value processor may be operative to execute the program instructions to: receive a plurality of input sets from the at least one data storage device or the order matching engine; select a portion of the plurality of input sets based on a plurality of selection criteria, wherein one of the plurality of selection criteria comprises option contracts having expiration dates less than 30 days from a current day; and generate a settlement value for the derivative investment instrument representative of the state of market volatility according to the settlement calculation, and transmit a settlement value calculated according to the settlement calculation relation to a remote server. In embodiments, the settlement calculation may be:

$$\sigma^2 = \frac{2}{T}\sum_i \frac{\Delta K_i}{K_i^2} e^{RT} Q(K_i) - \frac{1}{T}\left[\frac{F}{K_0} - 1\right]^2$$

Where:

T is a time to expiration;

F is a forward index level;

K_i is a strike price of i^{th} out-of-the-money option--a call if $K_i>F$ and a put if $K_i<F$;

ΔK_i is an interval between strike prices: ΔK_i is the interval between strike prices--half the distance between the strike on either side of K_i: