CLAIMS

1. A financial instrument trading system, said system including:

a cryptographic difficulty-based financial instrument based on an underlying cryptocurrency, wherein said cryptographic difficulty-based financial instrument has an expected market value determined as:

$$R = \frac{B * H * S}{D * N}$$

where R is the current expected value,

B is the predetermined reward per block of cryptocurrency, which is defined by the blockchain protocol for the block interval of said underlying cryptocurrency,

H is a given hashrate,

S is the length in seconds of a predetermined calculation period,

D is the current difficulty level defined by the blockchain protocol for said underlying cryptocurrency, and

N is the range of the nonce value as defined by the blockchain protocol for said underlying cryptocurrency;

an electronic clearinghouse, wherein said electronic clearinghouse includes a computerized settlement system that includes a settlement database storing an expected value of said cryptographic difficulty-based financial instrument as determined above, wherein said computerized settlement system recalculates said expected value of said cryptographic difficulty-based financial instrument to determine a current expected value of said cryptographic difficulty-based financial instrument, wherein the difference between the previous expected value and said current expected value comprises a variation margin, and

an electronic clearinghouse, wherein said clearinghouse includes a position database including a customer account including customer trading data relating to said cryptographic difficulty-based financial instrument,

wherein, when said customer trading data indicates that said customer account is short said cryptographic difficulty-based financial instrument, and said margin variation is positive, said electronic clearinghouse requires said customer account to physically deliver said underlying cryptocurrency in an amount equal to said variation margin.

2. The system of claim 1 wherein said underlying cryptocurrency is Bitcoin.

3. The system of claim 1 wherein the value of H is 100 TH/s.

4. The system of claim 1 wherein the value of S is 1,209,600.

5. The system of claim 1 wherein the value of N is 4,294,967,296.

6. The system of claim 1 wherein said previous expected value is determined using a previous difficulty level different from said current difficulty level.

7. The system of claim 1 wherein said computerized settlement system recalculates said expected value of said cryptographic difficulty-based financial instrument on a predetermined frequency.