

Birnbaum Robert J
 Form 4
 June 17, 2010

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549**

OMB APPROVAL

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Birnbaum Robert J

2. Issuer Name and Ticker or Trading Symbol
 CBOE Holdings, Inc. [CBOE]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

C/O CBOE HOLDINGS, INC., 400
 SOUTH LASALLE STREET

3. Date of Earliest Transaction
 (Month/Day/Year)

06/15/2010

Director 10% Owner
 Officer (give title below) Other (specify below)

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)

Form filed by One Reporting Person
 Form filed by More than One Reporting Person

CHICAGO, IL 60605

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
| | | | Code | V Amount (A) or (D) Price | | | |
| Unrestricted Common Stock | 06/15/2010 | | A | 7,547 (1) A \$ 0 7,547 | | D | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

SEC 1474 (9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of Derivative Securities Owned Following Transaction (Instr. 6) |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|---|
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|---|

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|-------------------------------------|-----------|---------|-------|
| | Director | 10% Owner | Officer | Other |
| Birnbaum Robert J C/O CBOE HOLDINGS, INC. 400 SOUTH LASALLE STREET CHICAGO, IL 60605 | <input checked="" type="checkbox"/> | | | |

Signatures

/s/ Patrick Sexton,
attorney-in-fact

06/17/2010

**Signature of Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Represents a restricted stock award granted under the Company's Long-Term Incentive Plan, which meets the requirements of Rule 16b-3.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.