

Birnbaum Robert J  
 Form 3  
 June 14, 2010

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF 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 *         |   | 2. Date of Event Requiring Statement | 3. Issuer Name and Ticker or Trading Symbol                            |  |
| Â Birnbaum Robert J                               |   | (Month/Day/Year)                     | CBOE Holdings, Inc. [CBOE]   |  |
| (Last)  | (First)   | (Middle)                             | 06/14/2010   |  |
| C/O CBOE HOLDINGS, INC., 400 SOUTH LASALLE STREET |   |                                      | 4. Relationship of Reporting Person(s) to Issuer                       | 5. If Amendment, Date Original Filed(Month/Day/Year) |
| (Street)  | (Check all applicable)  |                                      |  |  |
|   | <input checked="" type="checkbox"/> Director                          | <input type="checkbox"/> 10% Owner   |  |  |
|   | <input type="checkbox"/> Officer                                      | <input type="checkbox"/> Other       | 6. Individual or Joint/Group Filing(Check Applicable Line)             |  |
|   | (give title below) (specify below)                                    |                                      | <input checked="" type="checkbox"/> Form filed by One Reporting Person |  |
| CHICAGO, IL 60605                                 | <input type="checkbox"/> Form filed by More than One Reporting Person |                                      |  |  |
| (City)  | (State)   | (Zip)                                |  |  |

**Table I - Non-Derivative Securities Beneficially Owned**

|                                    |  |   |  |
|------------------------------------|--|---|--|
| 1. Title of Security<br>(Instr. 4) | 2. Amount of Securities Beneficially Owned<br>(Instr. 4) | 3. Ownership Form:<br>Direct (D)<br>or Indirect (I)<br>(Instr. 5) | 4. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|------------------------------------|--|---|--|

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

SEC 1473 (7-02)

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**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

|   |   |  |  |   |  |
|---|---|--|--|---|--|
| 1. Title of Derivative Security<br>(Instr. 4) | 2. Date Exercisable and Expiration Date<br>(Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security<br>(Instr. 4) | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form of Derivative Security:<br>Direct (D) | 6. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|   | Date Exercisable  | Expiration Date  | Title  | Amount or Number of                                     |  |

Shares or Indirect  
(I)  
(Instr. 5)

## Reporting Owners

| Reporting Owner Name / Address  | Relationships |           |         |       |
|---|---------------|-----------|---------|-------|
|   | Director      | 10% Owner | Officer | Other |
| Birnbaum Robert J<br>C/O CBOE HOLDINGS, INC.<br>400 SOUTH LASALLE STREET<br>CHICAGO, IL 60605 | X             | A         | A       | A     |

## Signatures

/s/ Patrick Sexton,  
attorney-in-fact

06/14/2010

\_\_Signature of Reporting Person Date

## Explanation of Responses:

### No securities are beneficially owned

- \* If the form is filed by more than one reporting person, *see* Instruction 5(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).

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### Remarks:

Exhibit List: Exhibit 24 - Power of Attorney

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *See* Instruction 6 for procedure.  
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