
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 11-K

Annual Report Pursuant to Section 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2009

or

Transition Report Pursuant to Section 15(d) of the Securities Exchange Act of 1934

For the transition period from _____ to _____.

Commission file number (of issuer): 1-5667

A. **Full title of the plan and the address of the plan, if different from that of the issuer named below:**

Cabot Retirement Savings Plan

B. **Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:**

Cabot Corporation
Two Seaport Lane, Suite 1300
Boston, Massachusetts 02210-2019

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* All other supplemental schedules required by Section 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA have been omitted because they are not applicable.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Trustees and Participants of the Cabot Retirement Savings Plan:

We have audited the accompanying statements of net assets available for benefits of the Cabot Retirement Savings Plan (the "Plan") as of December 31, 2009 and 2008, and the related statement of changes in net assets available for benefits for the year ended December 31, 2009. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2009 and 2008, and the changes in net assets available for benefits for the year ended December 31, 2009 in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule of assets (held at end of year) as of December 31, 2009 is presented for the purpose of additional analysis and is not a required part of the basic financial statements, but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This schedule is the responsibility of the Plan's management. Such schedule has been subjected to the auditing procedures applied in our audit of the basic 2009 financial statements and, in our opinion, is fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

June 28, 2010

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Statement of Net Assets Available for Benefits
As of December 31, 2009**

	<u>Allocated</u>	<u>Unallocated</u>	<u>Total</u>
Assets			
Investments	\$ 344,147,965	\$ 45,617,900	\$ 389,765,865
Employer contribution receivable	1,512,634	—	1,512,634
Total assets	<u>345,660,599</u>	<u>45,617,900</u>	<u>391,278,499</u>
Liabilities			
Current portion of notes payable	—	5,228,653	5,228,653
Long-term portion of notes payable	—	18,524,872	18,524,872
Total liabilities	<u>—</u>	<u>23,753,525</u>	<u>23,753,525</u>
Net assets available for benefits	<u>\$ 345,660,599</u>	<u>\$ 21,864,375</u>	<u>\$ 367,524,974</u>

See notes to financial statements.

[Table of Contents](#)**Cabot Retirement Savings Plan
Statement of Net Assets Available for Benefits
As of December 31, 2008**

	<u>Allocated</u>	<u>Unallocated</u>	<u>Total</u>
Assets			
Investments	\$ 255,018,310	\$ 33,261,604	\$ 288,279,914
Participant contribution receivable	362,251	—	362,251
Employer contribution receivable	1,544,595	—	1,544,595
Total assets	<u>256,925,156</u>	<u>33,261,604</u>	<u>290,186,760</u>
Liabilities			
Current portion of notes payable	—	4,816,758	4,816,758
Long-term portion of notes payable	—	23,753,526	23,753,526
Total liabilities	<u>—</u>	<u>28,570,284</u>	<u>28,570,284</u>
Net assets available for benefits	<u>\$ 256,925,156</u>	<u>\$ 4,691,320</u>	<u>\$ 261,616,476</u>

See notes to financial statements.

[Table of Contents](#)**Cabot Retirement Savings Plan
Statement of Changes in Net Assets Available for Benefits
For the Year Ended December 31, 2009**

	<u>Allocated</u>	<u>Unallocated</u>	<u>Total</u>
Additions			
Interest and dividend income ⁽¹⁾	\$ 7,459,230	\$ 2,858,556	\$ 10,317,786
Net appreciation in fair value of investments	74,053,700	20,229,581	94,283,281
Share allocation of Cabot Corporation common stock, at fair value	6,462,642	—	6,462,642
Transfer of forfeitures from allocated	—	520,000	520,000
Employer contributions	5,485,354	3,659,111	9,144,465
Employee contributions	10,579,829	—	10,579,829
Total additions	<u>104,040,755</u>	<u>27,267,248</u>	<u>131,308,003</u>
Deductions			
Benefits paid to participants	14,730,127	—	14,730,127
Interest expense	—	2,221,295	2,221,295
Redemption/Managed Account fees	55,185	—	55,185
Transfer of forfeitures to unallocated	520,000	—	520,000
Share allocation of Cabot Corporation common stock, at fair value	—	6,462,642	6,462,642
Share allocation of Cabot Corporation common stock at fair value for dividend payment	—	1,410,256	1,410,256
Total deductions	<u>15,305,312</u>	<u>10,094,193</u>	<u>25,399,505</u>
Net increase	88,735,443	17,173,055	105,908,498
Net assets available for benefits			
Beginning of year	256,925,156	4,691,320	261,616,476
End of year	<u>\$ 345,660,599</u>	<u>\$ 21,864,375</u>	<u>\$ 367,524,974</u>

See notes to financial statements.

⁽¹⁾ Allocated dividend income includes \$1,410,256 attributable to share allocation of Cabot Corporation common stock at fair value for dividend payment.

**Cabot Retirement Savings Plan
Notes to Financial Statements**

1. Description of the Plan

General

Cabot Corporation (“Cabot” or the “Company”) initially adopted the Cabot Corporation Employee Stock Ownership Plan (the “ESOP”) in 1988, the Cabot Retirement Incentive Savings Plan in 1994 (previously the Cabot Profit-Sharing and Savings Plan, adopted in 1952) (the “CRISP”), and the Cabot Employee Savings Plan in 1987 (the “CESP”). As of December 31, 2000, the CRISP and the CESP were merged with and into the ESOP. The combined amended and restated plan, overall considered to be a defined contribution plan, was renamed the Cabot Retirement Savings Plan (the “Plan”). The Plan has two components, a 401(k) plan and an Employee Stock Ownership Plan (“ESOP”). The Plan is subject to provisions of the Employee Retirement Income Security Act of 1974 (“ERISA”).

The following brief description of the Plan is provided for general information purposes only. Participants should refer to the Plan document for more complete information.

Eligibility

All U.S. employees of the Company and its participating subsidiaries (except certain temporary and leased employees) are eligible to participate in the Plan beginning on the later of the first day of employment or the date the employee is included in an employee group which participates.

Employee Contributions

By means of a salary reduction arrangement, a participant may make contributions to his or her account. Participants may elect to contribute up to 50% of their U.S. eligible compensation on a before-tax basis (includes catch-up contributions), an after-tax basis, or a combination thereof, subject to certain limitations under the Internal Revenue Code (the “Code”). Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans.

Company Contributions

The Company’s contributions are primarily in the form of (i) a Cabot common stock allocation (the “ESOP allocation”) and (ii) a matching contribution in shares of Cabot common stock. Matching contributions and ESOP allocations are made with shares of the Company’s common stock. These contributions are calculated and recorded as of the last business day of a calendar quarter. In addition, the Company may make discretionary contributions to participants under the terms of the Plan. No such discretionary contributions were made during the year ended December 31, 2009.

For employees not subject to a collective bargaining agreement, Cabot makes a matching contribution of 75% of a participant’s before-tax, after-tax contribution and catch-up contributions on up to 7.5% of the participant’s eligible compensation, making the maximum matching contribution an amount equal to 5.625% of a participant’s eligible compensation.

For the ESOP allocation each quarter, a total of 108,696.645 shares of common stock are allocated among eligible participants. The number of shares allocated to each participant each quarter depends in part on the fair market value of Cabot common stock at the time of the allocation, the number of shares allocated to the payment of dividends and total eligible compensation. The ESOP allocation each quarter is generally between 4% and 8% of a participant’s eligible compensation. In instances where a participant’s allocation is less than 4% of eligible compensation, the Company is required to make a contribution to provide a minimum allocation of 4% of eligible compensation. If there are unallocated shares after participants receive an ESOP allocation equal to 8% of eligible compensation, the additional shares are used to fund the Company matching contribution. In the event not all shares have been allocated to participants after the ESOP allocation and Company matching contributions have been made, the remaining shares are contributed to participants based on total eligible compensation. An allocation is made to the accounts of participants who are employed on the last business day of the calendar quarter or who have retired, died, or become totally and permanently disabled during the quarter.

**Cabot Retirement Savings Plan
Notes to Financial Statements**

Common stock held by the Plan to be allocated in future periods is reflected as unallocated assets in the statements of net assets available for benefits. As discussed in Note 6, the Company also remits debt service contributions to the Plan.

Participant Accounts

Individual accounts are maintained for each Plan participant. Each participant account is credited with the participant's contribution, the Company's matching contribution, and allocations of the Company common stock and Plan earnings, and charged with withdrawals and an allocation of Plan losses. Allocations are based on participant earnings or account balances, as defined, with the exception of the ESOP allocation, which is based on a participant's eligible earnings. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Funding Policy

In calendar year 2009, the total addition to each participant's account could not exceed the lesser of either 100% of the participant's U.S. compensation (as defined by the Code) or \$49,000.

Investments

Participants direct the investment of their contributions into various investment options offered by the Plan. The Plan offers several mutual funds and the Cabot Common Stock Fund as investment options for participants.

The quarterly ESOP allocations are recorded in the Cabot Common ESOP Stock Fund, which invests primarily in Cabot common stock. The quarterly Company matching contribution is recorded in the Cabot Common ESOP Stock Fund, the Cabot Common Stock Fund or a combination of both. Subject to any restrictions on trading set forth in Cabot's Policy on Transactions in Securities, participants are able to redirect at any time their portion of the Cabot Common ESOP Stock Fund and the Cabot Common Stock Fund into any of the investment options offered by the Plan. Accordingly, amounts being allocated to the Cabot Common ESOP Stock Fund and the Cabot Common Stock Fund are considered to be participant directed investments.

Vesting

Each participant is at all times 100% vested in his or her contributions. Effective January 1, 2002, all salaried participants are vested in all Company contributions and earnings thereon according to the following five-year vesting schedule: 20% upon completion of two years of service, 40% upon completion of three years of service, 60% upon completion of four years of service, and 100% upon completion of five years of service. In addition, a participant's entire account balance becomes 100% vested and payable upon the participant's attainment of age 65, or upon the participant's early retirement (defined as age 55 with 10 years of service to the Company), disability or death.

Benefits

For employees not subject to certain collective bargaining agreements, effective April 30, 2001, the Plan requires all new benefits to be paid in the form of a lump sum distribution.

A participant may withdraw up to 100% of his or her before-tax contributions upon showing a financial hardship exists, but only after the participant has withdrawn all other vested benefits from the Plan and the maximum loan has been made from the participant's account. Participants may withdraw at any time any after-tax contributions made.

**Cabot Retirement Savings Plan
Notes to Financial Statements**

A participant may make withdrawals from his or her entire vested account balance once the participant reaches age 59 1/2.

If a participant leaves the Company before retirement for any reason other than death or total and permanent disability, and his or her account balance is \$5,000 or less, upon such termination he or she will receive the vested portion of his or her account balance in a lump sum distribution.

A participant may elect to defer payment of a benefit until April 1 following the year that the participant reaches age 70 1/2.

Participant Loans

Participants may obtain loans from the Plan in an amount not to exceed, in the aggregate, the lesser of \$50,000 or 50% of the total vested amount in the participant's account. Each loan must be paid in full within five years through payroll deductions and is secured by the participant's remaining account balance. The Plan provides that loans may bear interest at reasonable rates as determined by the Benefits Committee of the Company. The interest rate is currently the prime rate plus 2%, and is adjusted quarterly for new loans to reflect changes in the prime rate. Interest rates on outstanding loans as of December 31, 2009 ranged from 5.25% to 10.25% per annum.

2. Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (generally accepted accounting principles).

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual amounts could differ from those estimates.

Risk and Uncertainties

The Plan allows for various investment options (as selected by the Plan administrator) in any combination of stocks, bonds, fixed income securities, mutual funds and other investment securities. Investment securities are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the financial statements.

Investment Valuation

The Plan's investments are stated at fair value. Fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Investments in common stock traded on a national securities exchange are valued at the last reported sale price on the last business day of the year. Investments in mutual funds are valued at quoted market prices, which represent the net asset value of shares held by the Plan at year-end.

Participant loans are valued at the outstanding loan balance which also approximates fair value.

**Cabot Retirement Savings Plan
Notes to Financial Statements****Income Recognition**

Purchases and sales of securities are reflected on a trade date basis. Gains or losses on sales of securities are based on average cost.

Dividend income is reported on the ex-dividend date. Interest income is recorded as earned on the accrual basis.

The Plan presents in the statement of changes in net assets the net realized and unrealized appreciation (depreciation) in the fair value of its investments which consists of (i) realized gains or losses, and (ii) unrealized appreciation (depreciation) on those investments.

Management fees and operating expenses charged to the Plan for investments in the mutual funds are deducted from income earned on a daily basis and are not separately reflected. Consequently, management fees and operating expenses are reflected as a reduction of investment return for such investments.

Benefit Payments

Benefit payments to participants are recorded upon distribution.

3. Fair Value Measurements

In accordance with generally accepted accounting principles, the Plan classifies its investments into Level 1, which refers to securities valued using quoted prices from active markets for identical assets; Level 2, which refers to securities not traded on an active market but for which observable market inputs are readily available; and Level 3, which refers to securities valued based on significant unobservable inputs. Assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

The following tables set forth by level and major categorization within the fair value hierarchy, a summary of the Plan's investments measured at fair value on a recurring basis.

	Fair Value Measurements at December 31, 2009, Using			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
<i>Common Stock:</i>				
Cabot Common Stock	\$ 124,678,754	\$ —	\$ —	\$124,678,754
Total Common Stock	124,678,754	—	—	124,678,754
<i>Mutual Funds:</i>				
Money Market Funds	22,629,137	—	—	22,629,137
Domestic Equity Funds	123,809,593	—	—	123,809,593
International Funds	30,440,319	—	—	30,440,319
Balanced Funds	48,344,137	—	—	48,344,137
Bond Funds	37,482,943	—	—	37,482,943
Total Mutual Funds	262,706,129	—	—	262,706,129
Participant Loans	—	—	2,380,982	2,380,982
Total	\$ 387,384,883	\$ —	\$ 2,380,982	\$389,765,865

**Cabot Retirement Savings Plan
Notes to Financial Statements**

	Fair Value Measurements at December 31, 2008, Using			Total
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
<i>Common Stock:</i>				
Cabot Common Stock	\$ 72,661,795	\$ —	\$ —	\$ 72,661,795
Total Common Stock	72,661,795	—	—	72,661,795
<i>Mutual Funds:</i>				
Money Market Funds	26,604,762	—	—	26,604,762
Domestic Equity Funds	95,340,959	—	—	95,340,960
International Funds	20,630,565	—	—	20,630,565
Balanced Funds	37,593,258	—	—	37,593,257
Bond Funds	33,255,848	—	—	33,255,848
Total Mutual Funds	213,425,392	—	—	213,425,392
Participant Loans	—	—	2,192,727	2,192,727
Total	\$ 286,087,187	\$ —	\$ 2,192,727	\$288,279,914

The following table sets forth information summarizing the changes in fair value of the Plan's Level 3 assets for the year ended December 31, 2009.

	Loans to Participants
Beginning balance	\$2,192,727
Issuances and settlements (net)	188,255
Ending balance	\$2,380,982

The valuation methods as described in Note 2 relative to level 3 investments may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Plan believes its valuation methods are appropriate and consistent with the valuation practices of other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

4. Investments

The fair value of investments held by the Plan that exceed 5% or more of the Plan's net assets available for benefits as of December 31, 2009 and 2008 are as follows:

	December 31,			
	2009		2008	
	Allocated	Unallocated	Allocated	Unallocated
Vanguard Windsor II Fund	\$27,413,595	\$ —	\$22,575,736	\$ —
Vanguard Wellington Fund	37,157,892	—	31,065,744	—
Cabot Common Stock Fund	79,060,854	45,617,900	39,400,191	33,261,604
Vanguard Federal Money Market Fund	19,648,828	—	26,604,762	—
Vanguard 500 Index Fund	41,074,450	—	31,460,883	—
Vanguard Total Bond Market Index Fund	26,029,532	—	21,882,346	—
Vanguard International Growth Fund	22,731,830	—	16,097,194	—
Vanguard PRIMECAP Fund	31,764,639	—	24,568,605	—

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Notes to Financial Statements**

During the year ended December 31, 2009, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated (depreciated) in value as follows:

<i>Common Stock:</i>	
Cabot Common Stock	\$53,057,909
Total Common Stock	<u>53,057,909</u>
<i>Mutual Funds:</i>	
Domestic Equity Funds	26,552,493
International Funds	7,432,159
Balanced Funds	7,037,943
Bond Funds	202,777
Total Mutual Funds	<u>41,225,372</u>
Total	<u>\$94,283,281</u>

5. Notes Payable

Notes payable consisted of the following:

	December 31,	
	2009	2008
Note due 2013, 8.29%	<u>\$23,753,525</u>	<u>\$28,570,284</u>

In November 1988, the Plan borrowed \$75,000,000 from an institutional lender in order to finance its purchase of 75,000 shares of Cabot Series B preferred stock ("ESOP note"). This debt accrues interest at a rate of 8.29% per annum, and is being repaid in equal quarterly installments, with the final payment due on December 31, 2013. This debt is collateralized by the assets in the unallocated fund and is guaranteed by the Company. On July 20, 2007, all of the Company's outstanding shares of preferred stock were converted into shares of the Company's common stock.

The aggregate principal amounts of notes due and payable in each of the remaining four plan years are as follows:

<u>Year ending December 31,</u>	
2010	\$ 5,228,653
2011	5,675,772
2012	6,161,122
2013	6,687,978
	<u>\$23,753,525</u>

6. Debt Service Contributions

The Company contributes to the Plan on a quarterly basis the deficiency between dividends earned on the leveraged common stock and the payment due by the Plan to the lender described in Note 5. These debt service contributions are recorded as unallocated employer contributions.

**Cabot Retirement Savings Plan
Notes to Financial Statements**

7. Forfeitures

Upon termination of a participant from the Plan before his or her benefits are fully vested, the nonvested portion of the Company contributions is forfeited. The Plan allows the Company to apply participant forfeitures toward the payment of the ESOP debt obligation. During 2009, the Company used \$520,000 of participant forfeitures toward the payment of the ESOP note. As of December 31, 2009 and 2008, available participant forfeitures totaled \$11,136 and \$11,882, respectively.

8. Administrative Expenses

Other than certain redemption and special managed account fees, all administrative expenses associated with the operation of the Plan were paid by the Company during the year ended December 31, 2009. These costs totaled approximately \$127,394. Under the terms of the Plan, such costs may be charged to the Plan.

9. Federal Income Tax Status

In a letter dated May 4, 2009, the Internal Revenue Service advised the Company of its favorable determination with respect to the qualified status of the Plan, as amended and restated, under the Code. The Plan is intended to qualify as a profit sharing plan under section 401(a) of the Code that contains a stock bonus feature constituting an employee stock ownership plan under section 4975(e) of the Code. The Company and Plan management believe that the Plan has been designed and is being operated in compliance with the applicable requirements of the Code. Therefore, no provision for income tax has been accrued.

10. Plan Termination

The Plan was established with the intention that it will continue indefinitely. However, the Company reserves the right to suspend its contributions or to terminate the Plan at any time. In the event the Plan is terminated, all participants become 100% vested and the assets of the Plan, after payment of any expenses, taxes or proper charges of the trustee, will be allocated in accordance with the provisions of ERISA.

11. Party-In-Interest

The Plan's investment options include certain mutual funds of The Vanguard Group. Vanguard Fiduciary Trust Company is the recordkeeper and trustee of certain of the Plan's assets and, therefore, participant investments in mutual funds within The Vanguard Group qualify as party-in-interest transactions. Fees paid by the Plan for investment management services were included as a reduction of the return earned on each mutual fund.

In addition, the Plan is invested in common stock of the Company and these transactions qualify as party-in-interest transactions.

At December 31, 2009 and 2008, the Plan held common stock of the Company, the sponsoring employer. During the year ended December 31, 2009, the Plan earned dividend income of \$3,462,753 related to the common stock of the Company.

Cabot Retirement Savings Plan
Notes to Financial Statements

12. Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits as reported in the financial statements to the Form 5500 as of December 31, 2009 and 2008:

	<u>2009</u>	<u>2008</u>
Net assets available for benefits per the financial statements	\$367,524,974	\$261,616,476
Deemed distributed - reduction of loans	—	(14,208)
	<u>\$367,524,974</u>	<u>\$261,602,268</u>

The following is a reconciliation of the net increase in net assets available for benefits per the financial statements to net income per the Form 5500 for 2009:

Net increase in net assets available for benefits per the financial statements	\$105,908,498
Add change in deemed distributions	14,208
	<u>\$105,922,706</u>

* * * * *

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Schedule H, Line 4i – Schedule of Assets (Held At End of Year)
As of December 31, 2009**

<u>(a)(b) Identity of Issuer</u>	<u>(c) Description of Investment</u>	<u>(d) Cost**</u>	<u>(e) Current Value</u>
* Cabot Corporation	Common stock of Cabot Corporation	\$ 78,033,029	\$ 124,678,754
* The Vanguard Group	Vanguard 500 Index Fund		41,074,450
* The Vanguard Group	Vanguard Explorer Fund		14,828,353
* The Vanguard Group	Vanguard Extended Market Index Fund		8,728,556
* The Vanguard Group	Vanguard Federal Money Market Fund		19,648,828
* The Vanguard Group	Vanguard International Growth Fund		22,731,830
* The Vanguard Group	Vanguard International Value Fund		7,708,489
* The Vanguard Group	Vanguard PRIMECAP Fund		31,764,639
* The Vanguard Group	Vanguard Prime Money Market Fund		2,980,309
* The Vanguard Group	Vanguard Short-term Federal Fund		11,453,411
* The Vanguard Group	Vanguard Target Retirement Fund 2005		1,114,607
* The Vanguard Group	Vanguard Target Retirement Fund 2010		1,599,119
* The Vanguard Group	Vanguard Target Retirement Fund 2015		1,404,511
* The Vanguard Group	Vanguard Target Retirement Fund 2020		1,974,187
* The Vanguard Group	Vanguard Target Retirement Fund 2025		1,034,010
* The Vanguard Group	Vanguard Target Retirement Fund 2030		1,151,134
* The Vanguard Group	Vanguard Target Retirement Fund 2035		1,011,122
* The Vanguard Group	Vanguard Target Retirement Fund 2040		703,054
* The Vanguard Group	Vanguard Target Retirement Fund 2045		401,054
* The Vanguard Group	Vanguard Target Retirement Fund 2050		161,098
* The Vanguard Group	Vanguard Target Retirement Income Fund		632,349
* The Vanguard Group	Vanguard Total Bond Market Index Fund		26,029,532
* The Vanguard Group	Vanguard Wellington Fund		37,157,892
* The Vanguard Group	Vanguard Windsor II Fund		27,413,595
* Participants	Participant Loans - stated interest rates ranging from 5.25% - 10.25% maturing at various dates through 2014.		2,380,982
	Total investments		<u>\$ 389,765,865</u>

* Party-in-interest

** Cost information is not required for participant directed investments, and therefore is not included for the mutual funds. However, as Cabot common stock includes both participant directed and non-participant directed investments, cost information has been included.

SIGNATURES

The Plan. Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Cabot Retirement Savings Plan
(Name of Plan)

Date: June 28, 2010

/s/ Robby D. Sisco

Robby D. Sisco

Vice President

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Exhibit Index

Exhibit Number

Exhibit 23.1 — Consent of Independent Registered Public Accounting Firm

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements Nos. 333-19103, 333-19099 and 333-161253 of Cabot Corporation on Form S-8 of our report dated June 28, 2010 relating to the financial statements and financial statement schedule of the Cabot Retirement Savings Plan appearing in this Annual Report on Form 11-K of the Cabot Retirement Savings Plan for the year ended December 31, 2009.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

June 28, 2010