UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 11-K

FOR ANNUAL REPORTS OF EMPLOYEE STOCK PURCHASE, SAVINGS AND SIMILAR PLANS PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(mark one)
[X] Annual Report Pursuant to Section 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year Ended December 31, 2009

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

Commission File Number 1-8002

THERMO FISHER SCIENTIFIC INC. 401(K) RETIREMENT PLAN

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

Thermo Fisher Scientific Inc. 401(k) Retirement Plan

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

Thermo Fisher Scientific Inc.
81 Wyman Street
Waltham, Massachusetts 02451

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 by the undersigned hereunto duly authorized.

THERMO FISHER SCIENTIFIC INC. 401(k) RETIREMENT PLAN

By: Thermo Fisher Scientific Inc., Pension Committee

By: /s/ Peter M. Wilver
Peter M. Wilver
Senior Vice President, Chief Financial Officer and
Member of the Pension Committee

Date: June 18, 2010

Thermo Fisher Scientific Inc. 401(k) Retirement Plan

Financial Statements and Supplemental Schedule
December 31, 2009 and 2008

*Other supplemental schedules required by Section 2520.103.10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 have been omitted because they are not applicable.

Report of Independent Registered Public Accounting Firm

To the Participants and Administrator of Thermo Fisher Scientific Inc. 401(k) Retirement Plan
and the Pension Committee of Thermo Fisher Scientific Inc.

In our opinion, the accompanying statements of net assets available for benefits and the related statement of changes in net assets available for benefits present fairly, in all material respects, the net assets available for benefits of Thermo Fisher Scientific Inc. 401(k) Retirement Plan (the “Plan”) at 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. 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 of these statements in accordance with the 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. An audit 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, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule of Schedule H, Line 4i – Schedule of Assets (Held at End of Year) 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 supplemental schedule is the responsibility of the Plan’s management. The supplemental schedule has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

PricewaterhouseCoopers LLP

Boston, Massachusetts
June 16, 2010

Thermo Fisher Scientific Inc. 401(k) Retirement Plan
Statements of Net Assets Available for Benefits
December 31, 2009 and 2008

(In thousands)	2009	2008
Assets		
Investments, at fair value	$1,156,151	$ 811,647
Loans to participants, at fair value	22,458	19,489
	1,178,609	831,136
Receivables		
Employer contributions	2,666	1,647
Participant contributions	2,381	117
	5,047	1,764
Liabilities		
Corrective distributions payable	1,129	191
Net assets available for benefits at fair value	1,182,527	832,709
Adjustment from fair value to contract value for collective trust investments in fully benefit-responsive investment contracts	(2,922)	765
Net assets available for benefits	$1,179,605	$ 833,474

The accompanying notes are an integral part of these financial statements.

Thermo Fisher Scientific Inc. 401(k) Retirement Plan
Statement of Changes in Net Assets Available for Benefits
For the Year Ended December 31, 2009

(In thousands)	2009
Additions	
Investment income	
Dividends and interest income	$ 24,656
Net appreciation in fair value of investments	249,056
Total investment income, net	273,712
Contributions	
Employer	52,681
Participants	76,321
Participant rollover	5,007
Total contributions	134,009
Total additions, net	407,721
Deductions	
Benefits paid to participants	61,415
Administrative expenses	175
Total deductions	61,590
Net increase in net assets available for benefits	346,131
Net Assets Available for Benefits	
Beginning of year	833,474
End of year	$1,179,605

The accompanying notes are an integral part of these financial statements.

Note 1. Plan Description

The following description of the Thermo Fisher Scientific Inc. 401(k) Retirement Plan (the "Plan") provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

General

The Plan is a defined contribution plan for the benefit of certain employees of Thermo Fisher Scientific Inc. (the "Plan Sponsor", the "Company"). T. Rowe Price Trust Company is the trustee of the Plan. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA").

Eligibility

Eligible employees of the Company become participants on their date of hire.

Contributions

Each year participants may contribute on a pre-tax basis up to 50% of their eligible compensation, not to exceed the limits of the Internal Revenue Code. Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans. Effective January 1, 2008, the Company's non-discretionary matching contribution is equal to 100% of the first 6% of eligible compensation that a participant contributes to the Plan. Participants direct the investment of their contributions and the Company match into various investment options offered by the Plan. The Plan offers the Company's common stock and twenty investment funds. Contributions are subject to certain limitations. Employee contributions and Company match are recorded on a bi-weekly basis or weekly for those employees on a weekly payroll.

Participant Accounts

Each participant's account is credited with the participant's contributions, the Company match, income or losses on those balances, as well as withdrawals, loan fees and loan repayments, as applicable.

Administrative Expenses

The Company pays certain administrative expenses associated with the management of and professional services provided to the Plan. Administrative fees for hardship withdrawals and loan transactions are paid by the participants, and are included in the Statement of Changes in Net Assets Available for Benefits.

Vesting

Participants are immediately vested in both their voluntary contributions and the Company contributions plus actual income or losses on those balances.

Participant Loans

Participants may borrow from both the employee and employer portions of their accounts. Loans must be for a minimum of $1,000 and have a maximum equal to $50,000 or 50% of the vested account balance, whichever is less. The term of the loan is generally five years except when use of the proceeds is for the purchase of a primary residence, for which the term can be up to 30 years. The loans are secured by the balance in the participant's account and bear interest set at the prime rate as established in the Wall Street Journal, plus 1%. The prime rate and rate of interest on new Plan loans are determined as of the beginning of each calendar month. The interest rates on existing loans range from 4.0% to 11.5% at December 31, 2009 and 2008. Principal and interest are repaid through payroll deductions.

Benefit Payments and Plan Withdrawals

Upon termination of service, a participant (or beneficiary) may elect to receive either a lump-sum amount equal to the value of the participant's vested interest in his or her account or periodic installments. Withdrawals may be made under certain other circumstances in accordance with the Plan document.

Forfeitures

Forfeitures that exist in the Plan were either introduced into the Plan as a result of plan mergers or were created in previous years before vesting in Company contributions was immediate. All participant accounts in the Plan were 100% vested as of January 1, 2008.

Forfeitures are used to pay Plan expenses. In 2009, expenses of $18,000 were paid from forfeited nonvested accounts. Changes in accumulated forfeitures include investment gains and losses. At December 31, 2009 and 2008, there was $796,000 and $774,000, respectively, in accumulated forfeitures available to pay Plan expenses in the future.

Note 2. Summary of Significant Accounting Policies

Use of Estimates

The financial statements of the Plan are prepared on the accrual basis of accounting. The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and changes therein, and the disclosures of contingent assets and liabilities. Actual results could differ from those estimates.

Investment Valuation and Income Recognition

Investments are stated at fair value. Shares of mutual funds are valued at quoted market prices, which represent the net asset value at year-end. The Plan's interests in collective trusts are valued based on the fair value and contract value of the underlying investments of those funds or trusts. The Company's common stock is valued based on quoted market prices. Participant loans are valued at cost plus accrued interest, which approximates fair value. Refer to Note 5 for more information on valuation of the Plan's investments.

Purchases and sales of investments are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

In the Statement of Changes in Net Assets Available for Benefits, the Plan presents the net appreciation in the fair value of its investments, which consists of realized gains or losses and unrealized appreciation on investments. The cost of investments is determined using the average-cost basis for calculating realized gains or losses.

Investment contracts held by a defined-contribution plan are required to be reported at fair value, however, contract value is the relevant measurement attribute for that portion of the net assets available for benefits of a defined-contribution plan attributable to fully benefit-responsive investment contracts because contract value is the amount participants would receive if they were to initiate permitted transactions under the terms of the Plan. The Plan invests in investment contracts through certain collective trusts. The Statements of Net Assets Available for Benefits presents the fair value of the investments in the collective trusts as well as the adjustments of the investments in certain collective trusts from fair value to contract value relating to the investment contracts. The Statement of Changes in Net Assets Available for Benefits is prepared on a contract value basis.

Payment of Benefits

Benefits are recorded when paid.

Risks and Uncertainties

The Plan invests in various investment securities, including mutual funds and investment contracts, which are exposed to various risks, such as interest rate, credit and overall market volatility. Due to the level of risk associated with certain investment securities and the level of uncertainty related to changes in the value of investment securities, it is at least reasonably possible that changes in values of investment securities will occur in the near term and that such changes could materially affect the participants' account balances and the amounts reported in the Statement of Net Assets Available for Benefits.

Subsequent Events

The Company has evaluated events and transactions occurring after the Statements of Net Assets Available for Benefits date through the date of issuance for recognition or disclosure in the financial statements and notes.

Note 3. Tax Status

The Plan has received a favorable determination letter dated February 4, 2009, from the Internal Revenue Service. The Plan has been amended since applying for the determination letter; however, the Plan administrator, management and the Plan's tax counsel believe that the Plan has been designed and operated in compliance with the applicable requirements of the Internal Revenue Code.

Note 4. Investments

Investments of the Plan's net assets are as follows:

(In thousands, except shares)	December 31, 2009	December 31, 2008
Cash	$ 13	$ —
Mutual Funds – Asset Allocation		
T. Rowe Price Retirement 2020 Fund (1)(2)	161,351	115,876
T. Rowe Price Retirement 2025 Fund (1)(2)	138,164	97,103
T. Rowe Price Retirement 2015 Fund (1)(2)	124,818	95,113
T. Rowe Price Retirement 2030 Fund (1)(2)	118,230	78,286
T. Rowe Price Retirement 2035 Fund (1)(2)	69,435	42,916
T. Rowe Price Retirement 2010 Fund (1)(2)	66,978	59,429
T. Rowe Price Retirement 2040 Fund	47,441	28,162
T. Rowe Price Retirement 2005 Fund	19,935	18,257
T. Rowe Price Retirement 2045 Fund	19,216	9,867
T. Rowe Price Retirement Income Fund	15,424	13,112
T. Rowe Price Retirement 2050 Fund	5,417	2,215
T. Rowe Price Retirement 2055 Fund	2,042	1,181
Mutual Funds – Equity		
Dodge & Cox International Stock Fund (1)	69,137	39,544
Dodge & Cox Stock Fund	48,315	31,188
Vanguard Mid Capitalization Index Fund, Instl.	34,164	20,084
Mutual Funds – Fixed Income		
Western Asset Core Plus Bond Fund, Instl.	29,210	19,128
Common Collective Trust – Guaranteed Investment Contract		
T. Rowe Price Stable Value Fund (1)(2)	97,650	81,667
Common Collective Trusts – Equity		
SSGA S&P 500 Index Fund	26,674	18,174
T. Rowe Price Growth Stock Trust	20,119	12,563
Jennison Institutional U.S. Small-Cap Equity Fund	17,589	11,352
Common Stock		
Thermo Fisher Scientific Inc., 520,628 and 482,250 shares, respectively	24,829	16,430
Total Investments, at Fair Value	$1,156,151	$ 811,647

(1) Investment represents five percent or more of the Plan's net assets at December 31, 2009.
(2) Investment represents five percent or more of the Plan's net assets at December 31, 2008.

During 2009, the Plan's investments (including investments bought, sold and held during the year) appreciated in value by $249,056,000, as follows:

(In thousands)	Year Ended December 31, 2009
Mutual Funds	$ 225,991
Common Collective Trusts	16,136
Common Stock	6,929
Net Increase in Fair Value	$ 249,056

Dividends and interest income of $24,656,000 consisted of the following for the year ended December 31, 2009:

(In thousands)	Year Ended December 31, 2009
Mutual Funds	$ 19,609
Common Collective Trusts	3,828
Participant Loans	1,219
Dividends and Interest Income	$ 24,656

Note 5. Fair Value Measurements

The fair value accounting guidance requires that assets and liabilities carried at fair value be classified and disclosed in one of the following three categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities that the Company has the ability to access.

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data such as quoted prices, interest rates and yield curves.

Level 3: Inputs are unobservable data points that are not corroborated by market data.

The asset's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The following table presents information about the Plan's financial assets measured at fair value on a recurring basis as of December 31, 2009:

(In thousands)	December 31, 2009	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Cash	$ 13	$ 13	$ —	$ —
Asset allocation funds	788,451	788,451	—	—
Equity funds	215,998	151,616	64,382	—
Guaranteed investment contract funds	97,650	—	97,650	—
Fixed income funds	29,210	29,210	—	—
Common stock	24,829	24,829	—	—
Participant loans	22,458	—	—	22,458
Total assets at fair value	$1,178,609	$ 994,119	$ 162,032	$ 22,458

The following table presents information about the Plan's financial assets measured at fair value on a recurring basis as of December 31, 2008:

(In thousands)	December 31, 2008	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Asset allocation funds	$ 561,517	$ 561,517	$ —	$ —
Equity funds	132,905	90,816	42,089	—
Guaranteed investment contract funds	81,667	—	81,667	—
Fixed income funds	19,128	19,128	—	—
Common stock	16,430	16,430	—	—
Participant loans	19,489	—	—	19,489
Total assets at fair value	$ 831,136	$ 687,891	$ 123,756	$ 19,489

The following table is a rollforward of the fair value, as determined by Level 3 inputs of the participant loans for the years ended December 31, 2009 and 2008:

(In thousands)	2009	2008
Beginning Balance	$19,489	$16,520
Issuances, repayments and settlements, net	2,969	2,551
Loans transferred in from plan merger	—	418
Ending Balance	$22,458	$19,489

The table below presents the fair value measurements of Plan assets that calculate and provide the company with a net asset value per share (or its equivalent). These Plan assets are all classified as Level 2 according to the fair value hierarchy:

(In thousands)	Fair Value	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Asset Category				
Guaranteed investment contract funds	$ 97,650	$ —	Daily	Daily
Equity funds	64,382	—	Daily	No more than 2 days
	$162,032	$ —		

Note 6. Related-party Transactions

Certain Plan investments are shares of mutual funds or interests in common collective trusts managed by T. Rowe Price Retirement Services, an affiliate of T. Rowe Price Trust Company, the trustee of the Plan. Therefore, transactions in these investments, including dividend and interest earned of $19,725,000, 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 fund. Participant loans also qualify as party-in-interest transactions. Interest on participant loans, which is included in interest and dividends on the Statement of Changes in Net Assets Available for Benefits, was $1,219,000 in 2009.

The Plan invests in common stock of the Company and transactions in this common stock are related-party transactions. In 2009 and 2008, the Plan purchased shares of Company common stock on the open market having a value of $4,324,000 and $8,207,000, respectively. In 2009 and 2008, the Plan sold shares of Company common stock on the open market having a value of $2,854,000 and $4,121,000, respectively.

Note 7. Plan Termination

Although it has not expressed an intention to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan, subject to the provisions of ERISA. In such event, the assets of the Plan would be distributed to participants in accordance with plan provisions.

Thermo Fisher Scientific Inc. 401(k) Retirement Plan
Schedule H, Line 4i
Schedule of Assets (Held at End of Year)
December 31, 2009 **Supplemental Schedule**

Identity of Issue/Borrower, Lessor or Similar Party	Description of investments including maturity date, rate of interest, collateral, par or maturity value	Cost	Current Value (In thousands)
Cash			$ 13
Mutual Funds			
T. Rowe Price	T. Rowe Price Retirement 2020 Fund (1)	(2)	161,351
T. Rowe Price	T. Rowe Price Retirement 2025 Fund (1)	(2)	138,164
T. Rowe Price	T. Rowe Price Retirement 2015 Fund (1)	(2)	124,818
T. Rowe Price	T. Rowe Price Retirement 2030 Fund (1)	(2)	118,230
T. Rowe Price	T. Rowe Price Retirement 2035 Fund (1)	(2)	69,435
Dodge & Cox	Dodge & Cox International Stock Fund	(2)	69,137
T. Rowe Price	T. Rowe Price Retirement 2010 Fund (1)	(2)	66,978
Dodge & Cox	Dodge & Cox Stock Fund	(2)	48,315
T. Rowe Price	T. Rowe Price Retirement 2040 Fund (1)	(2)	47,441
Vanguard	Vanguard Mid Capitalization Index Fund, Instl. (1)	(2)	34,164
Western Asset Management Company	Western Asset Core Plus Bond Fund, Instl.	(2)	29,210
T. Rowe Price	T. Rowe Price Retirement 2005 Fund (1)	(2)	19,935
T. Rowe Price	T. Rowe Price Retirement 2045 Fund (1)	(2)	19,216
T. Rowe Price	T. Rowe Price Retirement Income Fund (1)	(2)	15,424
T. Rowe Price	T. Rowe Price Retirement 2050 Fund (1)	(2)	5,417
T. Rowe Price	T. Rowe Price Retirement 2055 Fund (1)	(2)	2,042
			969,277
Common Collective Trusts			
T. Rowe Price	T. Rowe Price Stable Value Fund (1)	(2)	94,728
State Street Global Advisors	SSGA S&P 500 Index Fund	(2)	26,674
T. Rowe Price	T. Rowe Price Growth Stock Trust (1)	(2)	20,119
Jennison Associates	Jennison Institutional U.S. Small-Cap Equity Fund	(2)	17,589
			159,110
Common Stock			
Thermo Fisher Scientific Inc.	Common Stock (1)	(2)	24,829
Participant Loans	Participant Loans (for a term not exceeding 30 years at interest rates ranging from 4.0% to 11.5%) (1)	(2)	22,458
Total			$1,175,687

(1) Investments are a party-in-interest to the Plan.
(2) Cost information is not required for participant-directed investments and, therefore, is not included.

Exhibit Number	Description of Exhibit
23.1	Consent of PricewaterhouseCoopers LLP.