

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

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

APPLIED MATERIALS, INC.

(Exact name of registrant as specified in its charter)

Delaware
 (State or other jurisdiction
 of incorporation or organization)

94-1655526
 (I.R.S. Employer
 Identification No.)

3050 Bowers Avenue, P.O. Box 58039,
 Santa Clara, California 95052-8039
 (Address of Principal Executive Offices) (Zip Code)

APPLIED MATERIALS, INC. 2005 EXECUTIVE DEFERRED COMPENSATION PLAN
 (Full titles of the plans)

Joseph J. Sweeney
 Senior Vice President, General Counsel and Corporate Secretary
 Applied Materials, Inc.
 3050 Bowers Avenue, P.O. Box 58039, Santa Clara, California 95052-8039
 (Name and address of agent for service)

Telephone number, including area code, of agent for service: (408) 727-5555

Copy to:

John E. Aguirre, Esq.
 Wilson Sonsini Goodrich & Rosati, PC
 650 Page Mill Road
 Palo Alto, California 94304

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Securities Exchange Act of 1934:

Large accelerated filer Accelerated filer
 Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Deferred Compensation Obligations (1)	\$40,000,000.00	100%	\$40,000,000.00	\$4,584.00

(1) The Deferred Compensation Obligations are unsecured obligations of the registrant to pay deferred compensation in the future in accordance with the terms of the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, as amended.

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

The following documents are incorporated by reference in this registration statement: (i) the latest annual report of Applied Materials, Inc. (the “Registrant”) filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”); and (ii) all other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the annual report referred to in clause (i) above (other than the portions of these documents not deemed to be filed). All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold (other than the portions of these documents not deemed to be filed), shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents.

ITEM 4. DESCRIPTION OF SECURITIES

The securities being registered pursuant to this Registration Statement represent obligations (the “Obligations”) of the Registrant to pay deferred compensation in the future in accordance with the terms of the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, as amended (the “Plan”).

The Obligations are general unsecured obligations of the Registrant to pay deferred compensation in the future according to the terms of the Plan from the general assets of the Registrant, and rank equally with other unsecured and unsubordinated indebtedness of the Registrant.

The amount of eligible compensation to be deferred by each Plan participant is determined in accordance with the terms of the Plan based on elections by the participant. A participant’s compensation deferrals are credited to the participant’s account under the Plan as of the payday on which the compensation otherwise would have been paid to the participant. Deemed interest is accrued daily and credited to each participant’s Plan account on the last day of each calendar month, with the applicable daily rate being calculated by dividing the “deemed interest rate” for the calendar year by the number of days in the year. The “deemed interest rate” for a particular calendar year is the sum of the yield-to-maturity of five-year U.S. Treasury notes as of the first business day of the December immediately preceding such year, plus 1.5%.

The Obligations generally are payable upon the date(s) elected by the participant in accordance with the terms of the Plan, subject to certain exceptions as provided in the Plan, such as death, disability, a separation from service, a change in control event, or in-service withdrawals due to unforeseeable emergencies. The Obligations generally are payable in the form of a lump sum cash payment or a fixed number of annual cash installment payments (not to exceed ten), at the election of the participant made in accordance with the terms of the Plan.

A Plan participant may designate one or more beneficiaries to receive any portion of any Obligations payable in the event of the participant’s death, in accordance with the Plan’s procedures. Participants or their beneficiaries generally may not sell, transfer, anticipate, assign, hypothecate or otherwise dispose of any right or interest in the Plan.

The Registrant has reserved the right to amend or terminate the Plan at any time and for any reason.

The Obligations are not convertible into any other security of the Registrant. The Obligations will not have the benefit of a negative pledge or any other affirmative or negative covenant on the part of the Registrant. No trustee has been appointed to take action with respect to the Obligations and each Plan participant or beneficiary will be responsible for enforcing his or her own rights, if any, with respect to the Obligations.

The foregoing is not a complete description of the Obligations, and is qualified in its entirety by reference to the terms of the Plan document.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

Inapplicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law (the "Delaware Law") authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933, as amended. The Registrant's Certificate of Incorporation provides for indemnification of the Registrant's directors, officers, employees and other agents to the maximum extent permitted by Delaware Law. In addition, the Registrant has entered into indemnification agreements with its directors and certain of its officers.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Inapplicable.

ITEM 8. EXHIBITS

- 4.1 Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, as amended, incorporated by reference to Exhibit 10.49 to the Registrant's Form 8-K (file no. 000- 06920) filed July 13, 2007.
- 4.2 Amendment No. 1 to the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, incorporated by reference to Exhibit 10.51 to the Registrant's Form 10-K for fiscal year 2008 (file no. 000-06920) filed December 12, 2008.
- 4.3 Amendment No. 2 to the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, incorporated by reference to Exhibit 10.60 to the Registrant's Form 10-Q for the quarter ended January 25, 2009 (file no. 000-06920) filed March 3, 2009.
- 4.4 Amendment No. 3 to the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, incorporated by reference to Exhibit 10.68 to the Registrant's Form 10-Q for the quarter ended May 2, 2010 (file no. 000-06920) filed June 9, 2010.
- 4.5 Amendment No. 4 to the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, incorporated by reference to Exhibit 10.61 to the Registrant's Form 10-Q for the quarter ended January 30, 2011 (file no. 000-06920) filed February 28, 2011.
- 5.1 Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.
- 23.1 Consent of Independent Registered Public Accounting Firm.
- 23.2 Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation, is included in Exhibit 5.1 to this Registration Statement.
- 24.1 Power of Attorney of Directors.

ITEM 9. UNDERTAKINGS

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of the securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated

maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the Registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

THE REGISTRANT

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Santa Clara, State of California on the 24th day of May, 2012.

APPLIED MATERIALS, INC.
(Registrant)

/s/ Michael R. Splinter

Michael R. Splinter
President,
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
Principal Executive Officer:		
<u>/s/ Michael R. Splinter</u> Michael R. Splinter	President, Chief Executive Officer	May 24, 2012
Principal Financial Officer:		
<u>/s/ George S. Davis</u> George S. Davis	Executive Vice President, Chief Financial Officer	May 24, 2012
Principal Accounting Officer:		
<u>/s/ Thomas S. Timko</u> Thomas S. Timko	Corporate Vice President, Corporate Controller and Chief Accounting Officer	May 24, 2012

Directors:

* _____ Michael R. Splinter	Chairman of the Board	May 24, 2012
* _____ Aart J. de Geus	Director	May 24, 2012
* _____ Stephen R. Forrest	Director	May 24, 2012
* _____ Thomas J. Iannotti	Director	May 24, 2012
* _____ Susan M. James	Director	May 24, 2012
* _____ Alexander A. Karsner	Director	May 24, 2012
* _____ Gerhard H. Parker	Director	May 24, 2012
* _____ Dennis D. Powell	Director	May 24, 2012
* _____ Willem P. Roelandts	Director	May 24, 2012
* _____ James E. Rogers	Director	May 24, 2012
* _____ Robert H. Swan	Director	May 24, 2012

* By _____ /s/ Joseph J. Sweeney
Joseph J. Sweeney
Attorney-in-Fact**

** By authority of the Power of Attorney of Directors filed as Exhibit 24.1 to this Registration Statement.

EXHIBIT INDEX

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- 24.1 Power of Attorney of Directors.

May 24, 2012

Applied Materials, Inc.
3050 Bowers Avenue
P.O. Box 58039
Santa Clara, California 95052-8039

Re: Form S-8 Registration Statement

Ladies and Gentlemen:

At your request, we are rendering this opinion in connection with the proposed issuance of \$40,000,000 in aggregate amount of deferred compensation obligations (the "Obligations") of Applied Materials, Inc., a Delaware corporation (the "Company"), pursuant to the Applied Materials, Inc. 2005 Executive Deferred Compensation Plan, as amended (the "Plan"). The Obligations are unsecured obligations of the Company to pay deferred compensation in the future in accordance with the terms of the Plan.

We have examined instruments, documents, and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the following: (a) the authenticity of original documents and the genuineness of all signatures; (b) the conformity to the originals of all documents submitted to us as copies; and (c) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed.

Based on such examination, we are of the opinion that the \$40,000,000 of Obligations to be issued by the Company pursuant to the Plan are binding obligations of the Company, and, when issued and paid for in accordance with the provisions of the Plan, will be legally issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as an exhibit to this Registration Statement on Form S-8 (the "Registration Statement") and to the use of our name wherever it appears in the Registration Statement. In giving such consent, we do not consider that we are "experts" within the meaning of such term as used in the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission issued thereunder, with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

Very truly yours,

/s/ Wilson Sonsini Goodrich & Rosati, PC

WILSON SONSINI GOODRICH & ROSATI,
Professional Corporation

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Applied Materials, Inc.:

We consent to the incorporation by reference in the registration statement on Form S-8 of Applied Materials, Inc. (the Company) of our reports dated December 6, 2011, with respect to the consolidated balance sheets of the Company as of October 30, 2011 and October 31, 2010, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the years in the three-year period ended October 30, 2011, and the related financial statement schedule, and the effectiveness of internal control over financial reporting as of October 30, 2011, which reports appear in the October 30, 2011 annual report on Form 10-K of the Company.

Our report dated December 6, 2011 refers to an accounting change upon adoption of Accounting Standards Codification Topic 805, *Business Combinations*, during the year ended October 31, 2010.

/s/ KPMG LLP

Santa Clara, California
May 24, 2012

POWER OF ATTORNEY OF DIRECTORS

KNOW ALL PERSONS BY THESE PRESENTS:

Each of the undersigned directors of Applied Materials, Inc., a Delaware corporation (the "Company"), hereby constitutes and appoints Michael R. Splinter, George S. Davis and Joseph J. Sweeney and each of them with power to act alone, his or her true and lawful attorney-in-fact, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to execute a Registration Statement or Registration Statements on Form S-8 or other appropriate form, under the Securities Act of 1933, as amended, relating up to \$40 million of general unsecured obligations of the Company to pay deferred compensation pursuant to the Company's 2005 Executive Deferred Compensation Plan, as amended, and any and all amendments (including post-effective amendments) to such Registration Statement(s), and to file such Registration Statement(s) and any and all amendments thereto, with exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact full power and authority to do and perform each and every act and thing necessary or desirable to be done in and about the premises, as fully to all intents and purposes, as he or she might or could do in person, thereby ratifying and confirming all that said attorney-in-fact or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, we have hereunto set our hands this 6th day of March, 2012.

/s/ Michael R. Splinter

Michael R. Splinter

/s/ Gerhard H. Parker

Gerhard H. Parker

/s/ Aart J. de Geus

Aart J. de Geus

/s/ Dennis D. Powell

Dennis D. Powell

/s/ Stephen R. Forrest

Stephen R. Forrest

/s/ Willem P. Roelandts

Willem P. Roelandts

/s/ Thomas J. Iannotti

Thomas J. Iannotti

/s/ James E. Rogers

James E. Rogers

/s/ Susan M. James

Susan M. James

/s/ Robert H. Swan

Robert H. Swan

/s/ Alexander A. Karsner

Alexander A. Karsner