

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 Exchange Act.

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

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Amended and Restated Arch Capital Group Ltd. 2007 Employee Share Purchase Plan, Arch Capital Group Ltd. 2007 UK Employee Share Purchase Plan, and Arch Europe Employees Save as You Earn Scheme, Common shares, \$0.0033 par value	1,563,259 shares	\$70.345	\$109,967,454.36	\$11,073.73

(1) Plus such additional number of common shares as may be issued under the Company's Amended and Restated Arch Capital Group Ltd. 2007 Employee Share Purchase Plan in the event of a share dividend, recapitalization, share split, reverse split, reorganization, merger, amalgamation, consolidation or other similar dilutive event.

(2) Estimated pursuant to Rules 457(c) and (h) under the Securities Act of 1933, as amended, solely for purposes of determining the registration fee and is based on the average of the reported high and low sales prices of the common shares on the Nasdaq Global Select Market on May 4, 2016.

PART I.

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

ITEM 1. Plan Information.*

ITEM 2. Registrant Information and Employee Plan Annual Information.*

* Information required by Part I to be contained in the Section 10(a) prospectus is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act of 1933, as amended (the “Securities Act”) and the Note to Part I of Form S-8.

PART II.

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. Incorporation of Documents by Reference.

The SEC allows us to “incorporate by reference” the information we file with them, which means we can disclose important information to you by referring you to those documents. The information included in the following documents is incorporated by reference and is considered to be a part of this prospectus. The most recent information that we file with the SEC automatically updates and supersedes more dated information. We have previously filed the following documents with the SEC and are incorporating them by reference into this Registration Statement:

- our annual report on Form 10-K for the fiscal year ended December 31, 2015;
- our quarterly report on Form 10-Q for the quarter ended March 31, 2016;
- to the extent incorporated by reference into our annual report on Form 10-K, our proxy statement for our 2016 Annual Meeting of Shareholders filed on March 23, 2016; and
- the description of our common stock contained in our registration statement on Form S-3 filed on March 2, 2015.

We are also incorporating into this prospectus all documents subsequently filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the filing of a post-effective amendment that indicates all common shares offered have been sold, or that deregisters all common shares then remaining unsold. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

II-1

ITEM 4. Description of Securities.

Not applicable.

ITEM 5. Interests of Named Experts and Counsel.

None.

ITEM 6. Indemnification of Directors and Officers.

Under Bermuda law, a company is permitted to indemnify any officer or director, out of the funds of the company, against (a) any liability incurred by him or her in defending any proceedings, whether civil or criminal, in which judgment is given in his or her favor, or in which he or she is acquitted, or in connection with any application under relevant Bermuda legislation in which relief from liability is granted to him or her by the court and (b) any loss or liability resulting from negligence, default, breach of duty or breach of trust, save for his or her fraud and dishonesty.

Our bye-laws provide for our indemnity of our officers, directors and employees to the fullest extent permitted by law.

Our bye-laws also provide that expenses (including attorneys' fees) incurred by one of our officers or directors in defending any civil, criminal, administrative or investigative action, suit or proceeding will be paid by us in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that he or she is not entitled to be indemnified by us pursuant to Bermuda law.

Our bye-laws also provide that our officers and directors will not be personally liable to us or our shareholders for monetary damages for any breach of fiduciary duty as a director or officer, except to the extent that such limitation is prohibited by Bermuda Law.

ITEM 7. Exemption From Registration Claimed.

Not applicable.

ITEM 8. Exhibits.

See Exhibit Index immediately preceding the Exhibits.

ITEM 9. Undertakings.

We hereby undertake:

- (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;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of this 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 this registration statement. Notwithstanding the

foregoing, any increase or decrease in volume of securities offered (if the total dollar value of 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 SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent

II-2

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 this registration statement or any material change to such information in this registration statement;

provided, however, that paragraphs (1)(i) and (1)(ii) shall not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by us pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, 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.

(4) That, for purposes of determining any liability under the Securities Act, each filing of our annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan’s annual report pursuant to Section 15(d) of the Exchange Act) 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.

(5) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and persons controlling us pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by us of expenses incurred or paid by a director, officer or person controlling us 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, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

II-3

SIGNATURES

Pursuant to the requirements of the Securities Act, 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 Hamilton, Bermuda on May 6, 2016.

ARCH CAPITAL GROUP LTD.

By: /s/ CONSTANTINE IORDANOU

Constantine Iordanou

Chairman of the Board of Directors and Chief

Executive Officer

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

Signature	Title	Date
/s/ CONSTANTINE IORDANOU		May 6, 2016
Constantine Iordanou	Chairman of the Board of Directors and Chief Executive Officer (Principal Executive Officer)	
/s/ MARK D. LYONS		May 6, 2016
Mark D. Lyons	Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial and Principal Accounting Officer)	
*		May 6, 2016
John L. Bunce, Jr.	Director	
*		May 6, 2016
Eric W. Doppstadt	Director	
*		May 6, 2016
Kewsong Lee	Director	
*		May 6, 2016
Yiorgos Lillikas	Director	
*		May 6, 2016
Deanna M. Mulligan	Director	
*		May 6, 2016
Louis J. Paglia	Director	
*		May 6, 2016
John M. Pasquesi	Director	
*		May 6, 2016
Brian S. Posner	Director	

*

Eugene S. Sunshine Director

May 6,
2016

*

John D. Vollaro Director

May 6,
2016

* By Mark D. Lyons, as attorney-in-fact and agent, pursuant to a power of attorney, a copy of which has been filed with the Securities and Exchange Commission as Exhibit 24 to this report.

/s/ MARK D. LYONS
Name: Mark D. Lyons
Attorney-in-Fact

Authorized Representative

Pursuant to the requirements of the Securities Act of 1933, the undersigned, the duly authorized representative in the United States of Arch Capital Group Ltd., has signed this Registration Statement on Form S-8 in the United States, in the City of Newark, State of Delaware, on May 6, 2016.

PUGLISI & ASSOCIATES

By: /S/ GREGORY F. LAVELLE
Name: Gregory F. Lavelle
Title: Managing Director

EXHIBIT INDEX

Exhibit Number	Description
4.1	Specimen Common Share Certificate (a)
4.2	Certificate of Designations of Series C Non-Cumulative Preferred Shares (b)
5	Opinion of Conyers Dill & Pearman Limited regarding the legality of the securities
23.1	Consent of Conyers Dill & Pearman Limited (included in Exhibit 5)
23.2	Consent of PricewaterhouseCoopers LLP
24	Power of Attorney
99.1	Amended and Restated Arch Capital Group Ltd. 2007 Employee Share Purchase Plan adopted on May 6, 2016 (c)

(a) Incorporated by reference to the Annual Report on Form 10-K of ACGL for the year ended December 31, 2000, as filed with the SEC on April 2, 2001.

(b) Incorporated by reference to the Report on Form 8-K of ACGL as filed with the SEC on April 2, 2012.

(c) Incorporated by reference to Appendix A to the Definitive Proxy Statement on Schedule 14A of the Registrant filed with the SEC on March 23, 2016.