

ARCH CAPITAL GROUP LTD.  
Form 10-K  
March 01, 2007

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2006

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF  
THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to-----

Commission File No. 0-26456

**ARCH CAPITAL GROUP LTD.**

(Exact name of registrant as specified in its charter)

**Bermuda**  
(State or other jurisdiction of  
incorporation or organization)

**Not applicable**  
(I.R.S. Employer  
Identification No.)

**Wessex House, 45 Reid Street**  
**Hamilton HM 12, Bermuda**  
(Address of principal executive offices)

**(441) 278-9250**  
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Exchange Act:

**Title of Each Class**  
Common Shares, \$0.01 par value per share  
8.000% Non-Cumulative Preferred Shares, Series A,  
\$0.01 par value per share  
7.875% Non-Cumulative Preferred Shares, Series B,  
\$0.01 par value per share

**Name of each Exchange on which Registered**  
NASDAQ Stock Market (Common Shares)  
New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Exchange Act:

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

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Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer  Accelerated Filer  Non-accelerated Filer

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes  No

The aggregate market value of the voting and non-voting common equity held by non-affiliates, computed by reference to the closing price as reported by the NASDAQ Stock Market as of the last business day of the Registrant's most recently completed second fiscal quarter, was approximately \$2.92 billion.

As of February 21, 2007, there were 74,360,307 of the registrant's common shares outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of Part III and Part IV incorporate by reference our definitive proxy statement for the 2007 annual meeting of shareholders to be filed with the Securities and Exchange Commission before April 30, 2007.

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## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements. This report or any other written or oral statements made by or on behalf of us may include forward-looking statements, which reflect our current views with respect to future events and financial performance. All statements other than statements of historical fact included in or incorporated by reference in this report are forward-looking statements. Forward-looking statements can generally be identified by the use of forward-looking terminology such as may, will, expect, intend, estimate, anticipate, believe or continue or their negative or variations or similar terminology.

Forward-looking statements involve our current assessment of risks and uncertainties. Actual events and results may differ materially from those expressed or implied in these statements. Important factors that could cause actual events or results to differ materially from those indicated in such statements are discussed below, elsewhere in this report and in our periodic reports filed with the Securities and Exchange Commission (SEC), and include:

- our ability to successfully implement our business strategy during soft as well as hard markets;
- acceptance of our business strategy, security and financial condition by rating agencies and regulators, as well as by brokers and our insureds and reinsureds;
- our ability to maintain or improve our ratings, which may be affected by our ability to raise additional equity or debt financings, by ratings agencies existing or new policies and practices, as well as other factors described herein;
- general economic and market conditions (including inflation, interest rates and foreign currency exchange rates) and conditions specific to the reinsurance and insurance markets in which we operate;
- competition, including increased competition, on the basis of pricing, capacity, coverage terms or other factors;
- our ability to successfully integrate, establish and maintain operating procedures (including the implementation of improved computerized systems and programs to replace and support manual systems) to effectively support our underwriting initiatives and to develop accurate actuarial data, especially in light of the rapid growth of our business;
- the loss of key personnel;
- the integration of businesses we have acquired or may acquire into our existing operations;
- accuracy of those estimates and judgments utilized in the preparation of our financial statements, including those related to revenue recognition, insurance and other reserves, reinsurance recoverables, investment valuations, intangible assets, bad debts, income taxes, contingencies and litigation, and any determination to use the deposit method of accounting, which for a relatively new insurance and reinsurance company, like our company, are even more difficult to make than those made in a mature company since limited historical information has been reported to us through December 31, 2006;
- greater than expected loss ratios on business written by us and adverse development on claim and/or claim expense liabilities related to business written by our insurance and reinsurance subsidiaries;
- severity and/or frequency of losses;

- claims for natural or man-made catastrophic events in our insurance or reinsurance business could cause large losses and substantial volatility in our results of operations;
- acts of terrorism, political unrest and other hostilities or other unforecasted and unpredictable events;
- losses relating to aviation business and business produced by a certain managing underwriting agency for which we may be liable to the purchaser of our prior reinsurance business or to others in connection with the May 5, 2000 asset sale described in our periodic reports filed with the SEC;
- availability to us of reinsurance to manage our gross and net exposures and the cost of such reinsurance;
- the failure of reinsurers, managing general agents, third party administrators or others to meet their obligations to us;
- the timing of loss payments being faster or the receipt of reinsurance recoverables being slower than anticipated by us;
- material differences between actual and expected assessments for guaranty funds and mandatory pooling arrangements;
- changes in accounting principles or policies or in our application of such accounting principles or policies; and
- statutory or regulatory developments, including as to tax policy and matters and insurance and other regulatory matters such as the adoption of proposed legislation that would affect Bermuda-headquartered companies and/or Bermuda-based insurers or reinsurers and/or changes in regulations or tax laws applicable to us, our subsidiaries, brokers or customers.

In addition, other general factors could affect our results, including developments in the world's financial and capital markets and our access to such markets.

All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with other cautionary statements that are included herein or elsewhere. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

**PART I**

**ITEM 1. BUSINESS**

*We refer you to Item 1A Risk Factors for a discussion of risk factors relating to our business.*

**OUR COMPANY**

**General**

Arch Capital Group Ltd. (ACGL and, together with its subsidiaries, the Company, we, or us) is a Bermuda public limited liability company with approximately \$3.9 billion in capital at December 31, 2006 and, through operations in Bermuda, the United States, Europe and Canada, writes insurance and reinsurance on a worldwide basis. While we are positioned to provide a full range of property and casualty insurance and reinsurance lines, we focus on writing specialty lines of insurance and reinsurance.

We launched an underwriting initiative in October 2001 to meet current and future demand in the global insurance and reinsurance markets. Since that time, we have attracted a proven management team with extensive industry experience and enhanced our existing global underwriting platform for our insurance and reinsurance businesses. It is our belief that our underwriting platform, our experienced management team and our strong capital base that is unencumbered by significant pre-2002 risks have enabled us to establish a strong presence in the insurance and reinsurance markets. For the year ended December 31, 2006, our fifth full year of operation, we wrote \$3.02 billion of net premiums, reported net income available to common shareholders of \$692.6 million and earned a return on average equity of 24.1%. Diluted book value per share increased by 30% to \$43.97 at December 31, 2006 from \$33.82 per share at December 31, 2005.

Since late 2001, we have raised additional capital in support of the underwriting activities of our insurance and reinsurance operations. In October 2001, the commencement of our underwriting initiatives included an equity capital infusion of \$763.2 million led by funds affiliated with Warburg Pincus LLC (Warburg Pincus funds) and Hellman & Friedman LLC (Hellman & Friedman funds). In April 2002, we completed a public offering of 7,475,000 of our common shares and received net proceeds of \$179.2 million and, in September 2002, we received net proceeds of \$74.3 million from the exercise of class A warrants by our principal shareholders and other investors. In March 2004, we completed a public offering of 4,688,750 of our common shares and received net proceeds of \$179.3 million. In May 2004, we completed the public offering of \$300 million principal amount of our 7.35% senior notes due May 2034 and received net proceeds of \$296.4 million, of which \$200 million of the net proceeds was used to repay all amounts outstanding under our existing credit facility. In February 2006, we issued in a public offering \$200.0 million of our 8.00% series A non-cumulative preferred shares with a liquidation preference of \$25.00 per share and received net proceeds of \$193.5 million. In May 2006, we issued in a public offering \$125.0 million of our 7.875% series B non-cumulative preferred shares with a liquidation preference of \$25.00 per share and received net proceeds of \$120.9 million. The net proceeds of the offerings were used to support the underwriting activities of our insurance and reinsurance subsidiaries.

ACGL's registered office is located at Clarendon House, 2 Church Street, Hamilton HM 11, Bermuda (telephone number: (441) 295-1422), and its principal executive offices are located at Wessex House, 45 Reid Street, Hamilton HM 12, Bermuda (telephone number: (441) 278-9250). ACGL makes available free of charge through its website, located at <http://www.archcapgroup.bm>, its annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). The public may read and copy any materials ACGL files with the SEC at the SEC's Public Reference Room at 450 Fifth Street, NW, Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling 1-800-SEC-0330. The

SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC (such as ACGL) and the address of that site is <http://www.sec.gov>.

## Our History

ACGL was formed in September 2000 and became the sole shareholder of Arch Capital Group (U.S.) Inc. ( Arch-U.S. ) pursuant to an internal reorganization transaction completed in November 2000, as described below. Arch-U.S. is a Delaware company formed in March 1995 under the original name of Risk Capital Holdings, Inc., which commenced operations in September 1995 following the completion of an initial public offering. From that time until May 2000, Arch-U.S. provided reinsurance and other forms of capital for insurance companies through its wholly owned subsidiary, Arch Reinsurance Company ( Arch Re U.S. ), a Nebraska corporation formed in 1995 under the original name of Risk Capital Reinsurance Company.

On May 5, 2000, Arch-U.S. sold the prior reinsurance operations of Arch Re U.S. to Folksamerica Reinsurance Company ( Folksamerica ) in an asset sale, but retained its surplus and U.S.-licensed reinsurance platform. The sale was precipitated by, among other things, losses on the reinsurance business of Arch Re U.S. and increasing competition, which had been adversely affecting the results of operations and financial condition of Arch Re U.S. The Folksamerica transaction, which resulted from extensive arm's length negotiation, was structured as a transfer and assumption agreement (and not as reinsurance) and, accordingly, the loss reserves (and any related reinsurance recoverables) related to the transferred business are not included in the balance sheet of Arch Re U.S. However, in the event that Folksamerica refuses or is unable to make payment of claims on the reinsurance business assumed by it in the May 2000 sale and the notice given to reinsureds is found not to be an effective release by such reinsureds, Arch Re U.S. would be liable for such claims. In addition, Arch Re U.S. retained all liabilities not assumed by Folksamerica, including all liabilities not arising under reinsurance agreements transferred to Folksamerica in the asset sale. On November 8, 2000, following the approval by Arch-U.S.'s shareholders, Arch-U.S. completed an internal reorganization that resulted in Arch-U.S. becoming a wholly owned subsidiary of ACGL.

During the period from May 2000 through the announcement of our underwriting initiative in October 2001, we built and acquired insurance businesses that were intended to enable us to generate both fee-based revenue (e.g., commissions and advisory and management fees) and risk-based revenue (i.e., insurance premium). As part of this strategy, we built an underwriting platform that was intended to enable us to maximize risk-based revenue during periods in the underwriting cycle when we believed it was more favorable to assume underwriting risk. In October 2001, we concluded that underwriting conditions favored dedicating our attention exclusively to building our insurance and reinsurance business.

The development of our underwriting platform included the following steps: (1) after the completion of the Folksamerica asset sale, we retained our U.S.-licensed reinsurer, Arch Re U.S., and Arch Excess & Surplus Insurance Company ( Arch E&S ), currently an approved excess and surplus lines insurer in 46 states and the District of Columbia and an admitted insurer in one state; (2) in May 2001, we formed Arch Reinsurance Ltd. ( Arch Re Bermuda ), our Bermuda-based reinsurance and insurance subsidiary; (3) in June 2001, we acquired Arch Risk Transfer Services Ltd., which included Arch Insurance Company ( Arch Insurance ), currently an admitted insurer in 50 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands and rent-a-captive and other facilities that provide insurance and alternative risk transfer services; (4) in February 2002, we acquired Arch Specialty Insurance Company ( Arch Specialty ), currently an approved excess and surplus lines insurer in 49 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands and an admitted insurer in one state; (5) in June 2003, we acquired Western Diversified Casualty Insurance Company ( Western Diversified ), an admitted insurer in 48 states and the District of Columbia; (6) in May 2004, our London-based subsidiary, Arch Insurance Company (Europe)

Limited ( Arch-Europe ), was approved by the Financial Services Authority in the U.K. to commence insurance underwriting activities and began writing a range of specialty commercial lines in Europe and the U.K. during the 2004 third quarter; (7) in January 2005, Arch Insurance received its federal license to commence underwriting in Canada and began writing business in the first quarter of 2005; and (8) in November 2006, Arch Reinsurance Ltd., Hamilton (Bermuda), European Branch Zurich ( Arch Re Swiss Branch ), the Swiss branch of Arch Re Bermuda, was registered with the commercial register of the Canton of Zurich to commence reinsurance underwriting activities in Switzerland. All liabilities arising out of the business of Arch Specialty and Western Diversified prior to the closing of our acquisitions of such companies were reinsured and guaranteed by the respective sellers, Sentry Insurance a Mutual Company ( Sentry ) and Protective Life Corporation and certain of its affiliates.

In addition, during the 2004 fourth quarter, we completed the sale of two operating units which were not part of our core insurance and reinsurance operations. In October 2004, we sold Hales & Company Inc., our merchant banking operations. In December 2004, we sold American Independent Insurance Holding Company, Inc. ( American Independent ), The Personal Service Insurance Co. ( PSIC ) and affiliated entities, which conducted our non-standard automobile insurance operations. During specified periods, our reinsurance group will continue to provide reinsurance to American Independent and PSIC.

In the 2005 fourth quarter, the holders of 37,327,502 series A convertible preference shares converted all of such shares into an equal number of common shares pursuant to the certificate of designations relating to the preference shares. Following such conversion, there are no remaining outstanding series A convertible preference shares. Since the preference shares were treated as common share equivalents in our reported financial results, the conversion had no impact on diluted net income per share or diluted book value per share.

## Operations

We classify our businesses into two underwriting segments, insurance and reinsurance. For an analysis of our underwriting results by segment, see note 3, Segment Information, of the notes accompanying our consolidated financial statements and Management's Discussion and Analysis of Financial Condition and Results of Operations.

### *Our Insurance Operations*

Our insurance operations are conducted in Bermuda, the United States, Europe and Canada. Our insurance operations in Bermuda are conducted through Arch Insurance (Bermuda), a division of Arch Re Bermuda, which has an office in Hamilton, Bermuda. In the U.S., our insurance group's principal insurance subsidiaries are Arch Insurance, Arch E&S and Arch Specialty. The headquarters for our insurance group's U.S. operations is located in New York City. There are additional offices throughout the U.S., including principal offices located in: Atlanta, Georgia; Chicago, Illinois; New York, New York; San Francisco, California; and St. Paul, Minnesota. Arch Insurance has a branch office in Toronto, Canada, which began writing business in the first quarter of 2005. Our insurance group's European operations are conducted through Arch-Europe, based in London, which became operational during the 2004 third quarter. Arch-Europe also has offices in Germany. As of February 15, 2007, our insurance group had approximately 950 employees.

*Strategy.* Our insurance group's strategy is to operate in lines of business in which underwriting expertise can make a meaningful difference in operating results. They focus on talent rather than labor intensive business and seek to operate profitably (on both a gross and net basis) across all of their product lines. To achieve these objectives, our insurance group's operating principles are to:

- *Capitalize on Profitable Underwriting Opportunities.* Our insurance group believes that its experienced management and underwriting teams are positioned to locate and identify types of



business with attractive risk/reward characteristics. As profitable underwriting opportunities are identified, our insurance group will continue to seek to make additions to their product portfolio in order to take advantage of market trends. This could include adding underwriting and other professionals with specific expertise in specialty lines of insurance.

- *Centralize Responsibility for Underwriting.* Our insurance group consists of eight product lines. The underwriting executive in charge of each product line oversees the underwriting within such product line. Our insurance group believes that such centralized control allows for close control of underwriting and creates clear accountability for results. Our U.S. insurance group has four regional offices, and the executives in charge of these regions are primarily responsible for managing the distribution of our insurance group's products through its brokerage appointments.
- *Maintain a Disciplined Underwriting Philosophy.* Our insurance group's underwriting philosophy is to generate an underwriting profit through prudent risk selection and proper pricing. Our insurance group believes that the key to this approach is adherence to uniform underwriting standards across all types of business. Our insurance group's senior management closely monitors the underwriting process.
- *Focus on Providing Superior Claims Management.* Our insurance group believes that claims handling is an integral component of credibility in the market for insurance products. Therefore, our insurance group believes that its ability to handle claims expeditiously and satisfactorily is a key to its success. Our insurance group employs experienced claims professionals and also utilizes nationally recognized external claims managers (third party administrators).
- *Utilize a Brokerage Distribution System.* Our insurance group believes that by utilizing a brokerage distribution system, consisting of select regional and wholesale brokers, it can efficiently access a broad customer base while maintaining underwriting control and discipline.

Our insurance group writes business on both an admitted and non-admitted basis. Our insurance group focuses on the following areas:

- *Casualty.* Our insurance group's casualty unit writes casualty business on both a primary and excess basis for commercial clients including primary residential contractors insurance and railroad insurance.
- *Professional Liability.* Our insurance group's professional liability unit has the following principal areas of focus: (1) large law and accounting firms and professional programs; (2) miscellaneous professional liability, including coverages for consultants, systems integrations, wholesalers, captive agents and managing general agents; and (3) travel and accident insurance.
- *Programs.* Our insurance group's programs unit targets program managers with unique expertise and niche products offering general liability, commercial automobile, inland marine and non-catastrophe-exposed property business. This unit offers primarily package policies, underwriting workers' compensation and umbrella liability business in support of desirable package programs.
- *Property, Marine and Aviation.* Our insurance group's property unit provides property, technical risk, energy, aviation and marine insurance coverages for commercial clients, including catastrophe-exposed property coverage.
- *Construction and Surety.* Our insurance group's construction and surety unit provides primary and excess casualty coverages to middle and large accounts in the construction industry and contract surety coverages, including contract bonds (payment and performance bonds) for mid-size and large contractors and specialty contract bonds for homebuilders and developers. This unit also provides coverage for environmental and design professionals, including policies for architectural and



engineering firms and construction projects, pollution legal liability coverage for fixed sites, and alternative markets business, including corporate risk programs.

- *Executive Assurance.* Our insurance group's executive assurance unit focuses on directors' and officers' liability insurance coverages for corporate and financial institution clients. This unit also writes financial institution errors and omissions coverages, employment practices liability insurance, pension trust errors and omissions insurance and fidelity bonds.
- *Healthcare.* Our insurance group's healthcare unit provides medical professional and general liability insurance for the healthcare industry including excess professional liability programs for large, integrated hospital systems, outpatient facilities, clinics and long-term care facilities.
- *Other.* The other category is primarily comprised of collateral protection business. The other category also included our insurance group's non-standard automobile insurance operations until such operations were sold in the 2004 fourth quarter.

*Underwriting Philosophy.* Our insurance group's underwriting philosophy is to generate an underwriting profit (on both a gross and net basis) through prudent risk selection and proper pricing across all types of business. One key to this philosophy is the adherence to uniform underwriting standards across each product line that focuses on the following:

- risk selection;
- desired attachment point;
- limits and retention management;
- due diligence, including financial condition, claims history, management, and product, class and territorial exposure;
- underwriting authority and appropriate approvals; and
- collaborative decision-making.

*Premiums Written and Geographic Distribution.* Set forth below is summary information regarding net premiums written for our insurance group:

	Years Ended December 31, 2006		2005		2004	
	Amount (U.S. dollars in thousands)	% of Total	Amount	% of Total	Amount	% of Total
<b>Net premiums written</b>						
Property, marine and aviation	\$ 320,928	19.4	\$ 228,642	15.4	\$ 178,654	12.8
Professional liability	289,328	17.5	227,828	15.4	176,788	12.7
Construction and surety Programs	274,460	16.6	233,133	15.7	199,659	14.3
Casualty	225,653	13.7	232,156	15.7	284,911	20.5
Executive assurance	220,244	13.3	271,788	18.4	289,816	20.9
Healthcare	193,694	11.8	169,430	11.4	128,224	9.2
Other	68,026	4.1	70,928	4.8	62,885	4.5
Total	59,723	3.6	47,395	3.2	71,047	5.1
Total	\$ 1,652,056	100.0	\$ 1,481,300	100.0	\$ 1,391,984	100.0
<b>Net premiums written by client location</b>						
United States	\$ 1,340,792	81.2	\$ 1,293,938	87.4	\$ 1,330,165	95.6
Europe	182,815	11.0	107,283	7.2	29,397	2.1
Other	128,449	7.8	80,079	5.4	32,422	2.3
Total	\$ 1,652,056	100.0	\$ 1,481,300	100.0	\$ 1,391,984	100.0

*Marketing.* Our insurance group's products are marketed principally through a group of licensed independent brokers and wholesalers. Clients (insureds) are referred to our insurance group through a large number of international, national and regional brokers, acting as their agents, and captive managers who receive from the insured or ceding company a set fee or brokerage commission usually equal to a percentage of gross premiums. In the past, our insurance group had also entered into contingent commission arrangements with some intermediaries that provide for the payment of additional commissions based on volume or profitability of business. In general, our insurance group has no implied or explicit commitments to accept business from any particular broker and, neither brokers nor any other third party has the authority to bind our insurance group, except in the case where underwriting authority may be delegated contractually to selected program administrators. Such administrators are subject to a due diligence financial and operational review prior to any such delegation of authority and ongoing reviews and audits are carried out as deemed necessary by our insurance group to assure the continuing integrity of underwriting and related business operations. See Risk Factors Risks Relating to Our Company We could be materially adversely affected to the extent that managing general agents, general agents and other producers in our program business exceed their underwriting authorities or otherwise breach obligations owed to us. For information on major brokers, see note 11, Commitments and Contingencies Concentrations of Credit Risk, of the notes accompanying our consolidated financial statements.

*Risk Management and Reinsurance.* In the normal course of business, our insurance group may cede a portion of its premium through quota share, surplus share, excess of loss and facultative reinsurance agreements. Reinsurance arrangements do not relieve our insurance group from its obligations to insureds. Reinsurance recoverables are recorded as assets, predicated on the reinsurers' ability to meet their obligations under the reinsurance agreements. If the reinsurers are unable to satisfy their obligations under the agreements, our insurance subsidiaries would be liable for such defaulted amounts. Our insurance subsidiaries, through reinsurance security committees ( RSC ), are selective with regard to reinsurers,

seeking to place reinsurance with only those reinsurers which meet and maintain specific standards of established criteria for financial strength. Each RSC evaluates the financial viability of its reinsurers through financial analysis, research and review of rating agencies' reports and also monitors reinsurance recoverables and letters of credit with unauthorized reinsurers and conducts ongoing assessments of reinsurers, including financial stability, appropriate licensing, reputation, claims paying ability and underwriting philosophy. Our insurance group will continue to evaluate its reinsurance requirements. See note 4, "Reinsurance," of the notes accompanying our consolidated financial statements.

For catastrophe exposed insurance business, our insurance group seeks to limit the amount of exposure it assumes to catastrophic losses through a combination of managing aggregate limits, underwriting guidelines and reinsurance. For a discussion of our risk management policies, see Management's Discussion and Analysis of Financial Condition and Results of Operations "Ceded Reinsurance" and "Risk Factors - Risks Relating to Our Industry." The failure of any of the loss limitation methods we employ could have a material adverse effect on our financial condition or results of operations.

*Claims Management.* Our insurance group's claims personnel provide underwriting and loss service support to the group. Members of our insurance group's claims departments work with underwriting professionals as functional teams in order to develop products and services that the group's customers desire and, in certain cases, use independent national claims firms (third party administrators) for investigations and field adjustments.

#### ***Our Reinsurance Operations***

Our reinsurance operations are conducted on a worldwide basis through our reinsurance subsidiaries, Arch Re Bermuda and Arch Re U.S. Arch Re Bermuda has offices in Bermuda, as well as a branch office in Zurich, Switzerland. Arch Re U.S. operates out of its office in Morristown, New Jersey. As of February 15, 2007, our reinsurance group had approximately 110 employees.

*Strategy.* Our reinsurance group's strategy is to capitalize on our financial capacity, experienced management and operational flexibility to offer multiple products through our Bermuda-, U.S.- and Switzerland-based operations. The reinsurance group's operating principles are to:

- *Actively Select and Manage Risks.* Our reinsurance group only underwrites business that meets certain profitability criteria, and it emphasizes disciplined underwriting over premium growth. To this end, our reinsurance group maintains centralized control over reinsurance underwriting guidelines and authorities.
- *Maintain Flexibility and Respond to Changing Market Conditions.* Our reinsurance group's organizational structure and philosophy allows it to take advantage of increases or changes in demand or favorable pricing trends. Our reinsurance group believes that its existing Bermuda-, U.S.- and Switzerland-based platform, broad underwriting expertise and substantial capital facilitates adjustments to its mix of business geographically and by line and type of coverage. Our reinsurance group believes that this flexibility allows it to participate in those market opportunities that provide the greatest potential for underwriting profitability.
- *Maintain a Low Cost Structure.* Our reinsurance group believes that maintaining tight control over its staffing level and operating as a broker market reinsurer permits it to maintain low operating costs relative to its capital and premiums.

Our reinsurance group writes business on both a proportional and non-proportional basis. In a proportional reinsurance arrangement (also known as pro rata reinsurance, quota share reinsurance or participating reinsurance), the reinsurer shares a proportional part of the original premiums and losses of the reinsured. The reinsurer pays the cedent a commission which is generally based on the cedent's cost of

acquiring the business being reinsured (including commissions, premium taxes, assessments and miscellaneous administrative expenses) and may also include a profit factor. Non-proportional (or excess of loss) reinsurance indemnifies the reinsured against all or a specified portion of losses on underlying insurance policies in excess of a specified amount, which is called a retention. Non-proportional business is written in layers and a reinsurer or group of reinsurers accepts a band of coverage up to a specified amount. The total coverage purchased by the cedent is referred to as a program. Any liability exceeding the upper limit of the program reverts to the cedent.

Our reinsurance group generally seeks to write significant lines on less commoditized classes of coverage, such as specialty property and casualty reinsurance treaties. However, with respect to other classes of coverage, such as property catastrophe and casualty clash, our reinsurance group participates in a relatively large number of treaties and assumes smaller lines where it believes that it can underwrite and process the business efficiently.

Our reinsurance group focuses on the following areas:

- *Casualty.* Our reinsurance group reinsures third party liability and workers compensation exposures from ceding company clients primarily on a treaty basis. The exposures that it reinsures include, among others, directors and officers liability, professional liability, automobile liability, workers compensation and excess and umbrella liability. Our reinsurance group writes this business on a proportional and non-proportional basis. On proportional and non-proportional working casualty business, which is treated separately from casualty clash business, our reinsurance group prefers to write treaties where there is a meaningful amount of actuarial data and where loss activity is more predictable.
- *Property Excluding Property Catastrophe.* Our reinsurance group reinsures individual property risks of ceding company clients on a treaty basis. Property per risk treaty and pro rata reinsurance contracts written by our reinsurance group cover claims from individual insurance policies issued by reinsureds and include both personal lines and commercial property exposures (principally covering buildings, structures, equipment and contents). The primary perils in this business include fire, explosion, collapse, riot, vandalism, wind, tornado, flood and earthquake.
- *Other Specialty.* Our reinsurance group writes other specialty lines, including non-standard automobile, surety, accident and health, trade credit and political risk.
- *Property Catastrophe.* Our reinsurance group reinsures catastrophic perils for our reinsureds on a treaty basis. Treaties in this type of business provide protection for most catastrophic losses that are covered in the underlying policies written by our reinsureds. The primary perils in our reinsurance group's portfolio include hurricane, earthquake, flood, tornado, hail and fire. Our reinsurance group may also provide coverage for other perils on a case-by-case basis. Property catastrophe reinsurance provides coverage on an excess of loss basis when aggregate losses and loss adjustment expense from a single occurrence of covered peril exceed the retention specified in the contract. The multiple claimant nature of property catastrophe reinsurance requires careful monitoring and control of cumulative aggregate exposure.
- *Marine and Aviation.* Our reinsurance group writes marine business, which includes coverages for hull, cargo, transit and offshore oil and gas operations, and aviation business, which includes coverages for airline and general aviation risks. Business written may also include space business, which includes coverages for satellite assembly, launch and operation for commercial space programs.
- *Other.* Our reinsurance group also writes non-traditional business, which is intended to provide insurers with risk management solutions that complement traditional reinsurance, and casualty clash business.

*Underwriting Philosophy.* Our reinsurance group employs a disciplined, analytical approach to underwriting reinsurance risks that is designed to specify an adequate premium for a given exposure commensurate with the amount of capital it anticipates placing at risk. A number of our reinsurance group's underwriters are also actuaries. It is our reinsurance group's belief that employing actuaries on the front-end of the underwriting process gives it an advantage in evaluating risks and constructing a high quality book of business.

As part of the underwriting process, our reinsurance group typically assesses a variety of factors, including:

- adequacy of underlying rates for a specific class of business and territory;
- the reputation of the proposed cedent and the likelihood of establishing a long-term relationship with the cedent, the geographic area in which the cedent does business, together with its catastrophe exposures, and our aggregate exposures in that area;
- historical loss data for the cedent and, where available, for the industry as a whole in the relevant regions, in order to compare the cedent's historical loss experience to industry averages;
- projections of future loss frequency and severity; and
- the perceived financial strength of the cedent.

*Premiums Written and Geographic Distribution.* Set forth below is summary information regarding net premiums written for our reinsurance group:

	Years Ended December 31, 2006		2005		2004	
	Amount (U.S. dollars in thousands)	% of Total	Amount	% of Total	Amount	% of Total
<b>Net premiums written</b>						
Casualty <sup>(1)</sup>	\$ 591,219	43.3	\$ 753,829	45.5	\$ 828,672	52.2
Property excluding property catastrophe	297,080	21.8	339,643	20.5	281,317	17.7
Other specialty	218,157	16.0	251,519	15.2	243,474	15.3
Property catastrophe	146,751	10.7	162,519	9.8	103,372	6.5
Marine and aviation	109,865	8.0	108,981	6.6	89,156	5.6
Other	2,290	0.2	40,981	2.4	42,057	2.7
Total	\$ 1,365,362	100.0	\$ 1,657,472	100.0	\$ 1,588,048	100.0
<b>Net premiums written by client location</b>						
United States	\$ 770,309	56.4	\$ 898,980	54.2	\$ 943,972	59.4
Europe	368,332	27.0	437,663	26.4	350,263	22.1
Bermuda	132,618	9.7	188,321	11.4	136,566	8.6
Other	94,103	6.9	132,508	8.0	157,247	9.9
Total	\$ 1,365,362	100.0	\$ 1,657,472	100.0	\$ 1,588,048	100.0

(1) Includes professional liability and executive assurance business.

*Marketing.* Our reinsurance group markets its reinsurance products through brokers. Brokers do not have the authority to bind our reinsurance group with respect to reinsurance agreements, nor does our reinsurance group commit in advance to accept any portion of the business that brokers submit to them. Our reinsurance group generally pays brokerage fees to brokers based on negotiated percentages of the





premiums written through such brokers. For information on major brokers, see note 11, Commitments and Contingencies Concentrations of Credit Risk, of the notes accompanying our consolidated financial statements.

*Risk Management and Retrocession.* Our reinsurance group currently purchases retrocessional coverage as part of their risk management program. They also participate in common account retrocessional arrangements for certain treaties. Such arrangements reduce the effect of individual or aggregate losses to all companies participating in such treaties, including the reinsurers. Arch Re Bermuda, our Bermuda-based reinsurer, entered into a quota share reinsurance treaty ( Flatiron Treaty ) with Flatiron Re Ltd., a newly-formed Bermuda reinsurance company, pursuant to which Flatiron Re Ltd. is assuming a 45% quota share of certain lines of property and marine business underwritten by Arch Re Bermuda for unaffiliated third parties for the 2006 and 2007 underwriting years (January 1, 2006 to December 31, 2007). Effective June 28, 2006, the parties amended the Flatiron Treaty to increase the percentage ceded to Flatiron Re Ltd. from 45% to 70% of all covered business bound by Arch Re Bermuda from (and including) June 28, 2006 until (and including) August 15, 2006 provided such business did not incept beyond September 30, 2006. The ceding percentage for all business bound outside of this period will continue to be 45%, subject to adjustment as provided under the Treaty. For the year ended December 31, 2006, Arch Re Bermuda ceded \$273.2 million of premiums written to Flatiron Re Ltd. (\$157.4 million on an earned basis) under the Flatiron Treaty. Our reinsurance group will continue to evaluate its retrocessional requirements. See note 4, Reinsurance, of the notes accompanying our consolidated financial statements.

For catastrophe exposed reinsurance business, our reinsurance group seeks to limit the amount of exposure it assumes from any one reinsured and the amount of the aggregate exposure to catastrophe losses in any one geographic zone. For a discussion of our risk management policies, see Management's Discussion and Analysis of Financial Condition and Results of Operations Ceded Reinsurance and Risk Factors Risks Relating to Our Industry The failure of any of the loss limitation methods we employ could have a material adverse effect on our financial condition or results of operations.

*Claims Management.* Claims management includes the receipt of initial loss reports, creation of claim files, determination of whether further investigation is required, establishment and adjustment of case reserves and payment of claims. Additionally, audits are conducted for both specific claims and overall claims procedures at the offices of selected ceding companies. Our reinsurance group makes use of outside consultants for claims work from time to time.

#### **Employees**

As of February 15, 2007, ACGL and its subsidiaries employed approximately 1,100 full-time employees.

#### **Reserves**

We believe we apply a conservative reserving philosophy for both our insurance and reinsurance operations. Reserve estimates are derived after extensive consultation with individual underwriters, actuarial analysis of the loss reserve development and comparison with market benchmarks. We continue to build our actuarial staff and utilize both internal and external actuaries. Generally, reserves are established without regard to whether we may subsequently contest the claim. We do not currently discount our loss reserves.

Loss reserves represent estimates of what the insurer or reinsurer ultimately expects to pay on claims at a given time, based on facts and circumstances then known, and it is probable that the ultimate liability may exceed or be less than such estimates. Even actuarially sound methods can lead to subsequent adjustments to reserves that are both significant and irregular due to the nature of the risks written. Loss reserves are inherently subject to uncertainty. In establishing the reserves for losses and loss adjustment expenses, we have made various assumptions relating to the pricing of our reinsurance contracts and insurance policies and have also considered available historical industry experience and current industry conditions. The timing and amounts of actual claim payments related to recorded reserves vary based on many factors including large individual losses, changes in the legal environment, as well as general market conditions. The ultimate amount of the claim payments could differ materially from our estimated amounts. Certain lines of business written by us, such as excess casualty, have loss experience characterized as low frequency and high severity. This may result in significant variability in loss payment patterns and, therefore, may impact the related asset/liability investment management process in order to be in a position, if necessary, to make these payments. See Management's Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies, Estimates and Recent Accounting Pronouncements Reserves for Losses and Loss Adjustment Expenses.

The following table represents the development of loss reserves as determined under accounting principles generally accepted in the United States of America ( GAAP ) for the years ended December 31, 1996 through 2006. This table does not present accident or policy year development data. Results for the years ended December 31, 1996 to 2000 relate to our prior reinsurance operations, which were sold on May 5, 2000 to Folksamerica. With respect to the year ended December 31, 2000, no reserves are reported in the table below because all reserves for business written through May 5, 2000 were assumed by Folksamerica in the May 5, 2000 asset sale, and we did not write or assume any business during 2000 subsequent to the asset sale. Activity subsequent to 2000 relates to acquisitions made by us and our underwriting initiatives that commenced in October 2001.

The top line of the table shows the reserves, net of reinsurance recoverables, at the balance sheet date for each of the indicated years. This represents the estimated amounts of net losses and loss adjustment expenses arising in all prior years that are unpaid at the balance sheet date, including incurred but not reported ( IBNR ) reserves. The table also shows the re-estimated amount of the previously recorded reserves based on experience as of the end of each succeeding year. The estimate changes as more information becomes known about the frequency and severity of claims for individual years. The cumulative redundancy (deficiency) represents the aggregate change in the estimates over all prior years. The table also shows the cumulative amounts paid as of successive years with respect to that reserve liability. In addition, the table reflects the claim development of the gross balance sheet reserves for the years ended December 31, 1996 through 2006. With respect to the information in the table, it should be noted that each amount includes the effects of all changes in amounts for prior periods.

**Development of GAAP Reserves  
Cumulative Redundancy (Deficiency)**

	Years Ended December 31,										
	1996	1997	1998	1999	2000	2001	2002	2003 (a)	2004	2005	2006
(U.S. dollars in millions)											
Reserve for losses and loss adjustment expenses, net of reinsurance recoverables	\$ 20	\$ 71	\$ 186	\$ 309		\$ 21	\$ 381	\$ 1,543	\$ 2,875	\$ 4,063	\$ 4,911
Cumulative net paid losses as of:											
One year later	9	19	88	311		15	82	278	449	745	
Two years later	10	33	216	311		19	141	437	811		
Three years later	12	64	216	311		24	172	596			
Four years later	18	64	216	311		26	204				
Five years later	18	64	216	311		26					
Six years later	18	64	216	311							
Seven years later	18	64	216	311							
Eight years later	18	64	216								
Nine years later	18	64									
Ten years later	18										
Net re-estimated reserve as of:											
One year later	20	68	216	311		25	340	1,444	2,756	3,986	
Two years later	19	65	216	311		25	335	1,353	2,614		
Three years later	18	64	216	311		27	335	1,259			
Four years later	18	64	216	311		27	312				
Five years later	18	64	216	311		28					
Six years later	18	64	216	311							
Seven years later	18	64	216	311							
Eight years later	18	64	216								
Nine years later	18	64									
Ten years later	18										
Cumulative net redundancy (deficiency)	\$ 2	\$ 7	(\$30 )	(\$2 )		(\$7 )	\$ 69	\$ 283	\$ 261	\$ 77	
Cumulative net redundancy (deficiency) as a percentage of net reserves	10.0	8.5	(16.1 )	(1.0 )		(31.6 )	18.0	18.4	9.1	1.9	
Gross reserve for losses and loss adjustment expenses	\$ 20	\$ 71	\$ 216	\$ 365		\$ 111	\$ 592	\$ 1,912	\$ 3,493	\$ 5,453	\$ 6,463
Reinsurance recoverable			(30 )	(56 )		(90 )	(211 )	(369 )	(618 )	(1,390 )	(1,552 )
Net reserve for losses and loss adjustment expenses	20	71	186	309		21	381	1,543	2,875	4,063	\$ 4,911
Gross re-estimated reserve	18	64	246	367		187	563	1,590	3,198	5,481	
Re-estimated reinsurance recoverable			(30 )	(56 )		(159 )	(250 )	(330 )	(584 )	(1,495 )	
Net re-estimated reserve	18	64	216	311		28	313	1,260	2,614	3,986	
Gross re-estimated redundancy (deficiency)	\$ 2	\$ 7	(\$30 )	(\$2 )		(\$76 )	\$ 29	\$ 322	\$ 295	(\$28 )	

(a) Paid amounts include \$21.9 million of reserves related to our non-standard automobile business that was sold in 2004 (see Our History ).

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The following table represents an analysis of losses and loss adjustment expenses and a reconciliation of the beginning and ending reserve for losses and loss adjustment expenses.

	<b>Years Ended December 31,</b>		
	<b>2006</b>	<b>2005</b>	<b>2004</b>
	<b>(U.S. dollars in thousands)</b>		
Reserve for losses and loss adjustment expenses at beginning of year	\$ 5,452,826		