

AVEO PHARMACEUTICALS INC  
Form 10-Q  
May 10, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2016

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 number 001-34655

AVEO PHARMACEUTICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware 04-3581650  
(State or Other Jurisdiction of (I.R.S. Employer

Incorporation or Organization) Identification No.)

One Broadway, 14th Floor, Cambridge, Massachusetts 02142

(Address of Principal Executive Offices) (Zip Code)

(617) 588-1960

(Registrant's Telephone Number, Including Area Code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 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 whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

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. (Check one):

Large accelerated filer  Accelerated filer

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

Number of shares of the registrant's Common Stock, \$0.001 par value, outstanding on May 5, 2016: 58,181,715

AVEO PHARMACEUTICALS, INC.

FORM 10-Q

FOR THE QUARTER ENDED MARCH 31, 2016

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## PART I. FINANCIAL INFORMATION

## Item 1. Financial Statements.

## AVEO PHARMACEUTICALS, INC.

## Condensed Consolidated Balance Sheets

(In thousands, except par value amounts)

(Unaudited)

	March 31, 2016	December 31, 2015
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$18,056	\$26,634
Marketable securities	5,749	7,501
Restricted cash	4,000	—
Accounts receivable	1,736	4,641
Prepaid expenses and other current assets	1,123	1,600
Total current assets	30,664	40,376
Property and equipment, net	18	23
Other assets	124	143
Total assets	\$30,806	\$40,542
<b>Liabilities and stockholders' equity</b>		
Current liabilities:		
Accounts payable	\$340	\$1,425
Accrued expenses	2,843	4,106
Loans payable, net of discount	3,019	2,053
Deferred revenue	660	814
Settlement liability (Note 11)	4,000	4,000
Total current liabilities	10,862	12,398
Loans payable, net of current portion and discount	6,537	7,418
Deferred revenue	2,832	2,881
Other liabilities	660	618
<b>Stockholders' equity:</b>		
Preferred stock, \$.001 par value: 5,000 shares authorized; no shares issued and outstanding	—	—
Common stock, \$.001 par value: 200,000 shares authorized; 58,182 and 58,182 shares issued and outstanding at March 31, 2016 and December 31, 2015, respectively	58	58
Additional paid-in capital	512,594	512,201
Accumulated other comprehensive income (loss)	2	(3)
Accumulated deficit	(502,739)	(495,029)
Total stockholders' equity	9,915	17,227

Total liabilities and stockholders' equity	\$30,806	\$40,542
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The accompanying notes are an integral part of these unaudited, condensed consolidated financial statements.

## AVEO PHARMACEUTICALS, INC.

## Condensed Consolidated Statements of Operations

(In thousands, except per share amounts)

(Unaudited)

	Three Months Ended	
	March 31,	
	2016	2015
Collaboration and licensing revenue	\$1,203	\$134
Operating expenses:		
Research and development	5,972	2,695
General and administrative	2,463	3,255
Restructuring and lease exit	—	4,333
	8,435	10,283
Loss from operations	(7,232 )	(10,149 )
Other income and expense:		
Other expense, net	(9 )	(14 )
Interest expense	(386 )	(716 )
Interest income	17	5
Other expense, net	(378 )	(725 )
Loss before provision for income taxes	(7,610 )	(10,874 )
Provision for income taxes	(100 )	
Net loss	\$(7,710 )	\$(10,874 )
Net loss per share basic and diluted	\$(0.13 )	\$(0.21 )
Weighted average number of common shares outstanding	58,166	52,638

The accompanying notes are an integral part of these unaudited, condensed consolidated financial statements.

AVEO PHARMACEUTICALS, INC.

Condensed Consolidated Statements of Comprehensive Loss

(In thousands)

(Unaudited)

	Three Months Ended	
	March 31, 2016	2015
Net loss	\$ (7,710)	\$ (10,874)
Other comprehensive income (loss):		
Unrealized gain (loss) on available-for-sale securities	5	
Comprehensive loss	\$ (7,705)	\$ (10,874)

The accompanying notes are an integral part of these unaudited, condensed consolidated financial statements.



## AVEO PHARMACEUTICALS, INC.

## Condensed Consolidated Statements of Cash Flows

(In thousands)

(Unaudited)

	Three Months Ended	
	March 31, 2016	2015
Operating activities		
Net loss	\$ (7,710 )	\$ (10,874 )
Adjustments to reconcile net loss to net cash used in operating activities:		
Impairment of property and equipment	—	232
Depreciation and amortization	5	4,488
Accretion	—	199
Loss on disposal of fixed assets	—	(20 )
Stock-based compensation	390	427
Non-cash interest expense	86	125
Amortization of premium and discount on investments	3	14
Changes in operating assets and liabilities:		
Restricted cash	(4,000 )	37
Accounts receivable	2,905	1,394
Prepaid expenses and other current assets	492	337
Other noncurrent assets	19	26
Accounts payable	(1,085 )	(626 )
Accrued expenses	(1,263 )	(2,900 )
Deferred revenue	(203 )	(76 )
Lease exit obligation	—	(3,345 )
Deferred rent	—	(5,200 )
Other liabilities	42	(58 )
Net cash used in operating activities	(10,319 )	(15,820 )

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<b>Investing activities</b>			
Purchases of marketable securities	(5,746	)	(6,048
Proceeds from maturities and sales of marketable securities	7,500		1,500
Proceeds from sale of property and equipment	—		928
Net cash provided by (used in) investing activities	1,754		(3,620
<b>Financing activities</b>			
Proceeds from issuance of common stock, net of issuance costs	—		4,353
Proceeds from exercise of stock options and issuance of common and restricted stock	2		73
Debt issuance costs	(15	)	—
Principal payments on loans payable	—		(2,757
Net cash (used by) provided by financing activities	(13	)	1,669
Net decrease in cash and cash equivalents	(8,578	)	(17,771
Cash and cash equivalents at beginning of period	26,634		52,306
Cash and cash equivalents at end of period	\$	18,056	\$
Supplemental cash flow information			34,535
Cash paid for interest	\$	301	\$
			617

The accompanying notes are an integral part of these unaudited, condensed consolidated financial statements.



AVEO Pharmaceuticals, Inc.

Notes to Condensed Consolidated Financial Statements

(Unaudited)

### (1) Organization

AVEO Pharmaceuticals, Inc. (the “Company”) is a biopharmaceutical company dedicated to advancing a broad portfolio of targeted therapeutics for oncology and other areas of unmet medical need. The Company’s proprietary platform has delivered unique insights into cancer and related disease. The Company’s strategy is to leverage these biomarker insights and partner resources to advance the development of its clinical pipeline.

The Company’s pipeline of product candidates includes tivozanib, a potent, selective, long half-life vascular endothelial growth factor tyrosine kinase inhibitor of all three vascular endothelial growth factors. In June 2013, the U.S. Food and Drug Administration issued a complete response letter denying the Company’s application for approval of the use of tivozanib in first-line treatment of advanced renal cell carcinoma (“RCC”), citing concerns regarding the negative trend in overall survival in the Company’s pivotal phase 3 trial. Subject to the availability of sufficient financial resources, the Company is planning to conduct a second phase 3 trial of tivozanib in the third-line treatment of patients with refractory RCC in order to address the overall survival concerns presented in the June 2013 complete response letter from the FDA and to support a request for regulatory approval of tivozanib in the United States as a third-line treatment and as a first-line treatment. The Company is also planning to conduct a phase 1/2 trial of tivozanib in combination with an immune checkpoint (PD-1) inhibitor for the treatment of RCC. The Company is evaluating all options for funding, including partnerships, for the clinical and regulatory advancement of tivozanib as a single agent and in combination. In February 2016, a strategic partner submitted a Marketing Authorization Application for tivozanib with the European Medicines Agency (“EMA”) for the treatment of RCC. The application was validated in March 2016, confirming that the submission was complete and that the EMA would initiate its review process. Another strategic partner has submitted a registration dossier for tivozanib with the Ministry of Health of the Russian Federation for the treatment of RCC in December 2015 that was accepted for review in February 2016.

The Company also has a pipeline of monoclonal antibodies, including:

- (i) Ficlatusumab, a potent anti-HFG antibody that inhibits the activity of the HGF/c-Met pathway and for which the Company has completed a phase 2 clinical trial and has entered into a partnership with Biodesix, Inc. (“Biodesix”) to advance clinical development;
- (ii) AV-203, a potent, high affinity inhibitor of ErbB3 function that has demonstrated anti-tumor activity in multiple preclinical models and for which the Company has completed a phase 1 dose escalation trial and has entered into a partnership with CANbridge Life Sciences Ltd. (“CANbridge”) to advance clinical development;
- (iii) AV-380, a potent humanized IgG1 inhibitory monoclonal antibody targeting growth differentiating factor-15, or GDF15, a divergent member of the TGF- $\beta$  family, for the potential treatment or prevention of cachexia, which the Company has licensed to Novartis International Pharmaceutical Ltd. (“Novartis”); and
- (iv) AV-353, a potent inhibitory antibody specific to Notch 3, which has demonstrated an ability in preclinical models to potentially reverse disease phenotype for pulmonary arterial hypertension (“PAH”), and for which the Company is currently seeking a partner to advance development in PAH.

As used throughout these condensed consolidated financial statements, the terms “AVEO,” and the “Company” refer to the business of AVEO Pharmaceuticals, Inc. and its two wholly-owned subsidiaries, AVEO Pharma Limited and AVEO Securities Corporation.

The Company has devoted substantially all of its resources to its drug discovery efforts, comprising research and development, conducting clinical trials for its product candidates, protecting its intellectual property and general and administrative functions relating to these operations.

The Company has an accumulated deficit as of March 31, 2016 of approximately \$502.7 million, and is subject to a number of risks including the need for substantial additional capital for research and product development. The Company will need additional funding to support its planned operating activities, and the timing and nature of activities contemplated for 2016 and thereafter will be conducted subject to the availability of sufficient financial resources.

## (2) Basis of Presentation

These condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, AVEO Pharma Limited and AVEO Securities Corporation. The Company has eliminated all significant intercompany accounts and transactions in consolidation.

The accompanying condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments, consisting of normal recurring accruals and revisions of estimates, considered necessary for a fair presentation of the condensed consolidated financial statements have been included. Interim results for the three months ended March 31, 2016 are not necessarily indicative of the results that may be expected for the fiscal year ending December 31, 2016 or any other future period.

The information presented in the condensed consolidated financial statements and related footnotes at March 31, 2016, and for the three months ended March 31, 2016 and 2015, is unaudited, and the condensed consolidated balance sheet amounts and related footnotes as of December 31, 2015 have been derived from the Company's audited financial statements. For further information, refer to the consolidated financial statements and accompanying footnotes included in the Company's annual report on Form 10-K for the fiscal year ended December 31, 2015, which was filed with the U.S. Securities and Exchange Commission ("SEC") on March 15, 2016.

## (3) Significant Accounting Policies

### Revenue Recognition

The Company's revenues are generated primarily through collaborative research, development and commercialization agreements. The terms of these agreements generally contain multiple elements, or deliverables, which may include (i) licenses, or options to obtain licenses, to the Company's technology, (ii) research and development activities to be performed on behalf of the collaborative partner, and (iii) in certain cases, services in connection with the manufacturing of pre-clinical and clinical material. Payments to the Company under these arrangements typically include one or more of the following: non-refundable, up-front license fees; option exercise fees; funding of research and/or development efforts; milestone payments; and royalties on future product sales.

When evaluating multiple element arrangements, the Company considers whether the deliverables under the arrangement represent separate units of accounting. This evaluation requires subjective determinations and requires management to make judgments about the individual deliverables and whether such deliverables are separable from the other aspects of the contractual relationship. In determining the units of accounting, management evaluates certain criteria, including whether the deliverables have standalone value, based on the relevant facts and circumstances for each arrangement. The consideration received is allocated among the separate units of accounting using the relative selling price method, and the applicable revenue recognition criteria are applied to each of the separate units.

The Company determines the estimated selling price for deliverables within each agreement using vendor-specific objective evidence ("VSOE") of selling price, if available, third-party evidence ("TPE") of selling price if VSOE is not available, or best estimate of selling price if neither VSOE nor TPE is available. Determining the best estimate of selling price for a deliverable requires significant judgment. The Company typically uses best estimate of selling price to estimate the selling price for licenses to the Company's proprietary technology, since the Company often does not have VSOE or TPE of selling price for these deliverables. In those circumstances where the Company utilizes best estimate of selling price to determine the estimated selling price of a license to the Company's proprietary technology,

the Company considers market conditions as well as entity-specific factors, including those factors contemplated in negotiating the agreements and internally developed models that include assumptions related to the market opportunity, estimated development costs, probability of success and the time needed to commercialize a product candidate pursuant to the license. In validating the Company's best estimate of selling price, the Company evaluates whether changes in the key assumptions used to determine the best estimate of selling price will have a significant effect on the allocation of arrangement consideration among multiple deliverables.

The Company typically receives non-refundable, up-front payments when licensing its intellectual property in conjunction with a research and development agreement. When management believes the license to its intellectual property does not have stand-alone value from the other deliverables to be provided in the arrangement, the Company generally recognizes revenue attributed to the license on a straight-line basis over the Company's contractual or estimated performance period, which is typically the term of the Company's research and development obligations. If management cannot reasonably estimate when the Company's performance obligation ends, then revenue is deferred until management can reasonably estimate when the performance obligation ends. When management believes the license to its intellectual property has stand-alone value, the Company generally recognizes revenue attributed to the license upon delivery. The periods over which revenue should be recognized are subject to estimates by management

and may change over the course of the research and development agreement. Such a change could have a material impact on the amount of revenue the Company records in future periods.

Payments or reimbursements resulting from the Company's research and development efforts for those arrangements where such efforts are considered as deliverables are recognized as the services are performed and are presented on a gross basis so long as there is persuasive evidence of an arrangement, the fee is fixed or determinable, and collection of the related receivable is reasonably assured. Amounts received prior to satisfying the above revenue recognition criteria are recorded as deferred revenue in the accompanying balance sheets.

At the inception of each agreement that includes milestone payments, the Company evaluates whether each milestone is substantive and at risk to both parties on the basis of the contingent nature of the milestone. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance, and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. The Company evaluates factors such as the scientific, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required to achieve the respective milestone and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment.

The Company aggregates its milestones into four categories: (i) clinical and development milestones, (ii) regulatory milestones, (iii) commercial milestones, and (iv) patent-related milestones. Clinical and development milestones are typically achieved when a product candidate advances into a defined phase of clinical research or completes such phase. For example, a milestone payment may be due to the Company upon the initiation of a phase 3 clinical trial for a new indication, which is the last phase of clinical development and could eventually contribute to marketing approval by the U.S. Food and Drug Administration ("FDA") or other global regulatory authorities. Regulatory milestones are typically achieved upon acceptance of the submission for marketing approval of a product candidate or upon approval to market the product candidate by the FDA or other global regulatory authorities. For example, a milestone payment may be due to the Company upon the FDA's acceptance of a New Drug Application ("NDA"). Commercial milestones are typically achieved when an approved pharmaceutical product reaches certain defined levels of net sales by the licensee, such as when a product first achieves global sales or annual sales of a specified amount. Patent-related milestones are typically achieved when a patent application is filed or a patent is issued with respect to certain intellectual property related to the applicable collaboration.

Revenues from clinical and development, regulatory, and patent-related milestone payments, if the milestones are deemed substantive and the milestone payments are nonrefundable, are recognized upon successful accomplishment of the milestones. The Company has concluded that the clinical and development, regulatory and patent-related milestones pursuant to its current research and development arrangements are substantive. Milestones that are not considered substantive are accounted for as license payments and recognized on a straight-line basis over the remaining period of performance. Revenues from commercial milestone payments are accounted for as royalties and are recorded as revenue upon achievement of the milestone, assuming all other revenue recognition criteria are met.

#### Research and Development Expenses

Research and development expenses are charged to expense as incurred. Research and development expenses consist of costs incurred in performing research and development activities, including personnel-related costs such as salaries and stock-based compensation, facilities, research-related overhead, clinical trial costs, manufacturing costs and costs of other contracted services, license fees, and other external costs. Nonrefundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received.



### Cash and Cash Equivalents

The Company considers highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash equivalents at March 31, 2016 consisted of money market funds and corporate debt securities maintained by an investment manager totaling \$9.1 million. Cash equivalents at December 31, 2015 consisted of money market funds, U.S. government agency securities and corporate debt securities, including commercial paper, maintained by an investment manager totaling \$16.3 million. The carrying values of the Company's cash equivalent securities approximate fair value due to their short term maturities.

### Marketable Securities

Marketable securities at March 31, 2016 consisted of U.S. government agency securities and corporate debt securities, including commercial paper, maintained by an investment manager. Marketable securities at December 31, 2015 consisted of government

agency and corporate debt securities, including commercial paper, maintained by an investment manager. Credit risk is reduced as a result of the Company's policy to limit the amount invested in any one issuance. Marketable securities consist primarily of investments which have expected average maturity dates in excess of three months, but not longer than 24 months. The Company classifies these investments as available-for-sale. Unrealized gains and losses are included in other comprehensive loss until realized. The cost of securities sold is based on the specific identification method. There were no realized gains or losses recognized on the sale or maturity of marketable securities during the three months ended March 31, 2016 and 2015.

Available-for-sale securities at March 31, 2016 and December 31, 2015 consisted of the following:

	Amortized Cost (in thousands)	Unrealized Gains	Unrealized Losses	Fair Value
March 31, 2016:				
Corporate debt securities (Due within 1 year)	\$4,748	\$ 2	\$ —	\$4,750
Government agency securities (Due within 1 year)	999	—	—	999
	\$5,747	\$ 2	\$ —	\$5,749
December 31, 2015:				
Corporate debt securities (Due within 1 year)	\$6,504	\$ —	\$ (3 )	\$6,501
Government agency securities (Due within 1 year)	1,000	—	—	1,000
	\$7,504	\$ —	\$ (3 )	\$7,501

The aggregate unrealized loss for the Company's corporate debt securities was less than \$1,000 as of March 31, 2016.

Marketable securities in an unrealized loss position at December 31, 2015 consisted of the following:

	Aggregate Fair Value	Unrealized Losses
	(in thousands)	
Corporate debt securities (Due within 1 year)	\$ 4,100	\$ (3 )
Government agency securities (Due within 1 year)	1,000	—
	\$ 5,100	\$ (3 )

#### Concentrations of Credit Risk

Financial instruments that potentially subject the Company to credit risk primarily consist of cash and cash equivalents, marketable securities and accounts receivable. The Company maintains deposits in federally insured financial institutions in excess of federally insured limits.

Management believes that the Company is not exposed to significant credit risk related to cash deposits due to the financial position of the depository institutions in which those deposits are held. The Company's credit risk related to

marketable securities is reduced as a result of the Company's policy to limit the amount invested in any one issuance.

The Company's accounts receivable primarily consist of amounts due to the Company from licensees and collaborators. As of March 31, 2016, the Company had \$1.7 million of receivables outstanding, including \$0.9 million due from CANbridge pursuant to the Company's licensing arrangement for AV-203 (refer to Note 7), \$0.7 million due from Biodesix pursuant to the Company's collaboration arrangement for AV-299 (refer to Note 7) and \$0.2 million due from Astellas pursuant to the Company's former collaboration arrangement for tivozanib. The Company has not experienced any material losses related to receivables from individual licensees or collaborators.

## Fair Value Measurements

The Company records cash equivalents and marketable securities at fair value. The accounting standards for fair value measurements establish a hierarchy that distinguishes between fair value measurements based on market data (observable inputs) and those based on the Company's own assumptions (unobservable inputs). The hierarchy consists of three levels:

- Level 1—Quoted market prices in active markets for identical assets or liabilities. Assets that are valued utilizing only Level 1 inputs include money market funds.
- Level 2—Inputs other than Level 1 inputs that are either directly or indirectly observable, such as quoted market prices, interest rates and yield curves. Assets that are valued utilizing Level 2 inputs include U.S. government agency securities and corporate bonds, including commercial paper. These investments have been initially valued at the transaction price and are subsequently valued, at the end of each reporting period, utilizing third party pricing services or other observable market data. The pricing services utilize industry standard valuation models, including both income and market based approaches and observable market inputs to determine value. These observable market inputs include reportable trades, benchmark yields, credit spreads, broker/dealer quotes, bids, offers, current spot rates, and other industry and economic events. The Company validates the prices provided by third party pricing services by reviewing their pricing methods and matrices, obtaining market values from other pricing sources, analyzing pricing data in certain instances and confirming that the relevant markets are active. After completing its validation procedures, the Company did not adjust or override any fair value measurements provided by pricing services as of March 31, 2016.
- Level 3—Unobservable inputs developed using estimates and assumptions developed by the Company, which reflect those that a market participant would use. The Company currently has no assets or liabilities measured at fair value on a recurring basis that utilize Level 3 inputs.

The following tables summarize the cash equivalents and marketable securities measured at fair value on a recurring basis in the accompanying condensed consolidated balance sheets as of March 31, 2016 and December 31, 2015.

Fair Value Measurements of  
Cash Equivalents andMarketable Securities as of  
March 31, 2016

	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	\$6,907	\$2,143	\$ —	\$9,050
Marketable securities	—	5,749	—	5,749
	\$6,907	\$7,892	\$ —	\$14,799

Fair Value Measurements of Cash  
Equivalents and

	Marketable Securities as of December 31, 2015			
	Level			
	Level 1	Level 2	3	Total
	(in thousands)			
Cash equivalents	\$ 11,462	\$ 4,812	\$ —	\$ 16,274
Marketable securities	—	7,501	—	7,501
	\$ 11,462	\$ 12,313	\$ —	\$ 23,775

The fair value of the Company's loans payable at March 31, 2016, computed pursuant to a discounted cash flow technique using a market interest rate, was \$10.1 million and is considered a Level 3 fair value measurement. The effective interest rate, which reflects the current market rate, considers the fair value of the warrant issued in connection with the loan, loan issuance costs and the deferred financing charge.

#### Property and Equipment

Property and equipment are stated at cost and are depreciated using the straight-line method over the estimated useful lives of the respective assets. Maintenance and repair costs are charged to expense as incurred.

## Long-lived Assets

The Company reviews long-lived assets, including property and equipment, for impairment whenever changes in business circumstances indicate that the carrying amount of the asset may not be fully recoverable. No impairment charges were recognized during the three months ended March 31, 2016. The Company recognized \$0.2 million of impairment losses for the three months ended March 31, 2015 related to leasehold improvements.

## Basic and Diluted Loss per Common Share

Basic loss per share is computed by dividing net loss available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted loss per share is computed by dividing net loss available to common stockholders by the weighted-average number of common shares and dilutive common share equivalents then outstanding which excludes unvested restricted stock. Potential common share equivalents consist of the incremental common shares issuable upon the exercise of stock options and warrants. Since the Company had a net loss for all periods presented, the effect of all potentially dilutive securities is anti-dilutive. Accordingly, basic and diluted net loss per common share is the same.

The following table sets forth the potential common shares excluded from the calculation of net loss per common share-diluted for the three months ended March 31, 2016 and 2015 because their inclusion would have been anti-dilutive:

	Outstanding at	
	March 31, 2016	2015
	(in thousands)	
Options outstanding	5,584	5,861
Warrants outstanding	609	609
	6,193	6,470

## Stock-Based Compensation

Under the Company's stock-based compensation programs, the Company periodically grants stock options and restricted stock to employees, directors and nonemployee consultants. The Company also issues shares under an employee stock purchase plan. The fair value of all awards is recognized in the Company's statements of operations over the requisite service period for each award. Awards that vest as the recipient provides service are expensed on a straight-line basis over the requisite service period. Other awards, such as performance-based awards that vest upon the achievement of specified goals, are expensed using the accelerated attribution method if achievement of the specified goals is considered probable. The Company has also granted awards that vest upon the achievement of market conditions. Per Accounting Standards Codification ("ASC") 718 Share-Based Payments, market conditions must be considered in determining the estimated grant-date fair value of share-based payments and the market conditions must be considered in determining the requisite service period over which compensation cost is recognized. The Company estimates the fair value of the awards with market conditions using a Monte Carlo simulation, which utilizes several assumptions including the risk-free interest rate, the volatility of the Company's stock and the exercise behavior of award recipients. The grant-date fair value of the awards is then recognized over the requisite service period, which represents the derived service period for the awards as determined by the Monte Carlo simulation.

The fair value of equity-classified awards to employees and directors are measured at fair value on the date the awards are granted. Awards to nonemployee consultants are recorded at their fair values and are re-measured as of each balance sheet date until the recipient's services are complete. During the three months ended March 31, 2016 and 2015, the Company recorded the following stock-based compensation expense:

	Three Months Ended	
	March 31, 2016	2015
	(in thousands)	
Research and development	\$ 125	\$ 125
General and administrative	265	233
Restructuring		69
	\$ 390	\$ 427

Stock-based compensation expense is allocated to research and development and general and administrative expense based upon the department of the employee to whom each award was granted. Expenses recognized in connection with the modification of awards in connection with the Company's strategic restructurings are allocated to restructuring expense. No related tax benefits of the stock-based compensation expense have been recognized.

#### Income Taxes

The Company provides for income taxes using the asset-liability method. Under this method, deferred tax assets and liabilities are recognized based on differences between financial reporting and tax bases of assets and liabilities, and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company calculates its provision for income taxes on ordinary income based on its projected annual tax rate for the year. Uncertain tax positions are recognized if the position is more-likely-than-not to be sustained upon examination by a tax authority. Unrecognized tax benefits represent tax positions for which reserves have been established. As of March 31, 2016, the Company is forecasting a net loss for the year ended December 31, 2016. The Company maintains a full valuation allowance on all deferred tax assets. For the three months ended March 31, 2016, the Company recorded a \$0.1 million provision for income taxes related to withholding taxes incurred in a foreign jurisdiction.

#### Segment and Geographic Information

Operating segments are defined as components of an enterprise engaging in business activities for which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The Company views its operations and manages its business in one operating segment principally in the United States. As of March 31, 2016, the Company has \$0.9 million of net assets located in the United Kingdom.

#### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States ("GAAP") requires the Company's management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

#### Recent Accounting Pronouncements

For a discussion of recent accounting pronouncements adopted by the Company, please refer to Note 2, "Significant Accounting Policies," included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015, filed with the SEC on March 15, 2016. The Company did not adopt any new accounting pronouncements during the three months ended March 31, 2016 that had a material effect on the Company's condensed consolidated financial statements.

In May 2014, the Financial Accounting Standards Board ("FASB") issued a comprehensive new revenue recognition standard that will supersede nearly all existing revenue recognition guidance under US GAAP. The standard was originally scheduled to be effective for public entities for annual and interim periods beginning after December 15, 2016. In July 2015, the standard was deferred and will now be effective for annual and interim periods beginning after December 15, 2017. Early adoption is permitted for annual and interim periods beginning after December 15, 2016. The Company is currently evaluating the effect this standard will have on its revenue recognition policies and its financial statements, including how the standard will be adopted.

In August 2014, the FASB issued Accounting Standards Update ("ASU") No. 2014-15, Presentation of Financial Statements—Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern. This ASU is intended to define management's responsibility to evaluate whether there is substantial



doubt about an organization's ability to continue as a going concern within one year of the date of issuance of the entity's financial statements and to provide related footnote disclosures. This guidance is effective for fiscal years ending after December 15, 2016, with early application permitted. If this standard had been adopted as of March 31, 2016 and applied to these financial statements, the Company believes that there would be no significant impact to its disclosure as no substantial doubt about the Company's ability to continue as a going concern exists. The Company faces certain risks and uncertainties, however, as further described in Note 1, "Organization," that may have an effect on the Company's disclosures in future periods.

In March 2016, the FASB issued ASU No. 2016-09, Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. This ASU is intended to simplify certain aspects of the accounting for share-based payment transactions, such as allowing entities to elect to account for forfeitures as they occur or to continue to estimate the number of awards that are expected to vest. The standard is effective for public entities for annual and interim periods beginning after December 15, 2016. The Company is currently evaluating the impact that the adoption of this standard will have on its financial statements.

(4) Collaborations and License Agreements

CANbridge

In March 2016, the Company entered into a collaboration and license agreement with CANbridge Life Sciences Ltd. (“CANbridge”). Under the terms of the license agreement, the Company granted CANbridge the exclusive right to develop, manufacture and commercialize AV-203, the Company’s proprietary ErbB3 (HER3) inhibitory antibody, for the diagnosis, treatment and prevention of disease in humans and animals in all countries other than the United States, Canada and Mexico (the “Licensed Territory”). Under the terms of the license agreement, if the Company determines to grant a license to any ErbB3 inhibitory antibody in the United States, Canada or Mexico, the Company is obligated to first negotiate with CANbridge for the grant to CANbridge of a license to such rights. In addition, for a period of time following the completion of certain proof-of-concept clinical studies by CANbridge involving the use of AV-203 for the treatment of squamous cell esophagus cancer, the Company has agreed to negotiate exclusively with CANbridge for (a) the right to co-develop ErbB3 inhibitory antibody products for the treatment of squamous cell esophagus cancer or (b) the right to include the United States, Canada and Mexico as part of the Licensed Territory under the license agreement. The effective date of the license agreement is March 16, 2016 (the “Effective Date”).

CANbridge made an upfront payment to the Company of \$1.0 million in April 2016. This amount was included in accounts receivable on the Company’s balance sheet as of March 31, 2016 net of \$0.1 million of withholding taxes. CANbridge has agreed to reimburse the Company \$1.0 million for certain manufacturing costs and expenses previously incurred by the Company with respect to AV-203, \$0.5 million of which will be due to the Company on the earlier of (i) the date of validation by CANbridge of certain manufacturing development activities conducted by the Company prior to the Effective Date or (ii) twelve months from the Effective Date, and the remaining \$0.5 million of which will be due to the Company on the earlier of (i) the date of validation by CANbridge of such manufacturing development activities or (ii) eighteen months from the Effective Date. The Company is also eligible to receive up to \$42.0 million in potential development and regulatory milestone payments and up to \$90.0 million in potential sales based milestone payments based on annual net sales of licensed products. Upon commercialization, the Company is eligible to receive a tiered royalty, with a percentage range in the low double digits, on net sales of approved licensed products. CANbridge’s obligation to pay royalties for each licensed product expires on a country-by-country basis on the later of the expiration of patent rights covering such licensed product in such country, the expiration of regulatory data exclusivity in such country and ten years after the first commercial sale of such licensed product in such country.

CANbridge is obligated to use commercially reasonable efforts to develop and commercialize AV-203 in each of China, Japan, the United Kingdom, France, Italy, Spain, and Germany. CANbridge has responsibility for all activities and costs associated with the further development, manufacture, regulatory filings and commercialization of AV-203 in the Licensed Territory.

The term of the license agreement commenced on the Effective Date and will continue until the last to expire royalty term applicable to licensed products. Either party may terminate the license agreement in the event of a material breach by the other party that remains uncured for a period of 45 days, in the case of a material breach of a payment obligation, and 90 days in the case of any other material breach. CANbridge may terminate the license agreement without cause at any time upon 180 days’ prior written notice to the Company. The Company may terminate the license agreement upon thirty days’ prior written notice if CANbridge challenges any of the patent rights licensed to CANbridge under the license agreement.

The Company and CANbridge have each agreed to not directly or indirectly develop or commercialize any ErbB3 inhibitory antibody product during the term of the license agreement other than pursuant to the license agreement.

A percentage of any milestone and royalty payments received by the Company, excluding upfront and reimbursement payments, are due to Biogen Idec International GMBH (“Biogen”) as a sublicensing fee under the option and license agreement between the Company and Biogen dated March 18, 2009, as amended.

Activities under the agreement were evaluated under ASC 605-25 Revenue Recognition—Multiple Element Arrangements, or ASC 605-25, to determine whether such activities represented a multiple element revenue arrangement. The agreement with CANbridge includes the following non-contingent deliverables: (i) the Company's grant of an exclusive license to develop and commercialize AV-203 in the licensed territories, (ii) the Company's obligation to transfer all technical knowledge and data useful in the development and manufacture of AV-203 and (iii) the Company's obligation to participate on a joint steering committee during the proof-of-concept development period. The relative selling price of the Company's joint steering committee participation had de minimis value. The Company determined that the delivered license and know-how did have stand-alone value from the undelivered element and have accounted for these items as separate deliverables. The Company allocated the up-front consideration of \$1.0 million to the units of accounting and recognized the \$1.0 million attributed to the delivered license and know-how during the three months ended March 31, 2016.

The Company believes the regulatory milestones that may be achieved under the license agreement are consistent with the definition of a milestone included in ASU 2010-17, Revenue Recognition—Milestone Method, and, accordingly, the Company will

recognize payments related to the achievement of such milestones, if any, when each such milestone is achieved. Factors considered in this determination included scientific and regulatory risks that must be overcome to achieve each milestone, the level of effort and investment required to achieve each milestone, and the monetary value attributed to each milestone.

## EUSA

In December 2015, the Company entered into a license agreement with EUSA Pharma (UK) Limited (“EUSA”) under which the Company granted to EUSA the exclusive, sublicensable right to develop, manufacture and commercialize tivozanib in the territories of Europe (excluding Russia, Ukraine and the Commonwealth of Independent States), Latin America (excluding Mexico), Africa, Australasia and New Zealand (the “Licensed Territories”) for all diseases and conditions in humans, excluding non-oncologic diseases or conditions of the eye. EUSA filed an application with the EMA in February 2016 for approval of marketing authorization for tivozanib for the treatment of RCC.

Under the license agreement, EUSA made a research and development funding payment to the Company of \$2.5 million during the year ended December 31, 2015. EUSA is required to make a further research and development funding payment of \$4.0 million upon the grant by the European Medicines Agency (“EMA”) of marketing approval for tivozanib for treatment of RCC. The Company is eligible to receive additional research funding from EUSA, including up to \$20.0 million if the Company conducts a phase 3 study in third-line RCC and EUSA elects to utilize data generated by the study, and up to \$2.0 million for a potential phase 1 combination study with a checkpoint inhibitor. The Company will be entitled to receive milestone payments of \$2.0 million per country upon reimbursement approval for RCC in each of France, Germany, Italy, Spain and the United Kingdom, and an additional \$2.0 million for the grant of marketing approval in three of the following five countries: Argentina, Australia, Brazil, South Africa and Venezuela. The Company is also eligible to receive a payment of \$2.0 million in connection with EUSA’s filing with the EMA for marketing approval for tivozanib for the treatment of each of up to three additional indications and \$5.0 million per indication in connection with the EMA’s grant of marketing approval for each of up to three additional indications, as well as potentially up to \$335.0 million upon EUSA’s achievement of certain sales thresholds. The Company is also eligible to receive tiered double digit royalties on net sales, if any, of licensed products in the Licensed Territories ranging from a low double digit up to mid-twenty percent depending on the level of annual net sales. A percentage of any milestone and royalty payments received by AVEO are due to Kyowa Hakko Kirin Co., Ltd. (formerly Kirin Brewery Co., Ltd.) (“KHK”) as a sublicensing fee under the license agreement between AVEO and KHK dated as of December 21, 2006, pursuant to which the Company acquired exclusive rights to develop and commercialize tivozanib for all human diseases outside of Asia (the “KHK License Agreement”). The research and development funding payments under the EUSA license agreement are not subject to sublicensing payment to KHK.

EUSA is obligated to use commercially reasonable efforts to develop and commercialize tivozanib throughout the Licensed Territories. With the exception of certain support to be provided by the Company in connection with the application for marketing approval by the EMA, EUSA has responsibility for all activities and costs associated with the further development, manufacture, regulatory filings and commercialization of tivozanib in the Licensed Territories.

Activities under the agreement were evaluated under ASC 605-25 to determine whether such activities represented a multiple element revenue arrangement. The agreement with EUSA includes the following non-contingent deliverables: (i) the Company’s grant of an exclusive license to develop and commercialize the tivozanib in the licensed territories; (ii) the Company’s obligation to transfer all technical knowledge and data useful in the development and manufacture of tivozanib; (iii) the Company’s obligation to cooperate with EUSA and support its efforts to file for marketing approval in the licensed territories, (iv) the Company’s obligation to provide access to certain regulatory information resulting from the Company’s ongoing development activities outside of the licensed territories and (v) the Company’s participation in a joint steering committee. The Company determined that the delivered license did not have stand-alone value from the undelivered elements and have accounted for these items as

a single bundled deliverable. The Company allocated up-front consideration of \$2.5 million to the bundled unit of accounting and is recognizing it over the Company's performance period through April 2022, the remaining patent life of tivozanib. The Company recognized approximately \$0.1 million as revenue during the three months ended March 31, 2016.

The Company believes the regulatory milestones that may be achieved under the EUSA agreement are consistent with the definition of a milestone included in ASU 2010-17, Revenue Recognition—Milestone Method, and, accordingly, the Company will recognize payments related to the achievement of such milestones, if any, when each such milestone is achieved. Factors considered in this determination included scientific and regulatory risks that must be overcome to achieve each milestone, the level of effort and investment required to achieve each milestone, and the monetary value attributed to each milestone. No milestone payments have been earned as of March 31, 2016.

Novartis

In August 2015, the Company entered into a license agreement with Novartis. Under the license agreement, the Company has granted to Novartis the exclusive right to develop and commercialize worldwide the Company's proprietary antibody AV-380 and related AVEO antibodies that bind to Growth Differentiation Factor 15 ("GDF15") for the treatment and prevention of diseases and other conditions in all indications in humans (the "Product").

Pursuant to the license agreement, Novartis made an upfront payment to the Company of \$15.0 million within fifteen days of the effective date. Novartis also has acquired the Company's inventory of clinical quality, AV-380 biological drug substance and reimbursed the Company for approximately \$3.5 million for such existing inventory. The Company is also eligible to receive (a) up to \$53.0 million in potential clinical and development milestone payments and up to \$105.0 million in potential regulatory milestone payments tied to the commencement of clinical trials and to regulatory approvals of products developed under the license agreement in the United States, the European Union and Japan; and (b) up to \$150.0 million in potential commercial milestone payments based on annual net sales of such products. Upon commercialization, the Company is eligible to receive tiered royalties on net sales of approved products ranging from the high single digits to the low double digits. Novartis has responsibility under the license agreement for the development, manufacture and commercialization of the Company's antibodies and any resulting approved therapeutic products.

The Company has agreed that it will not directly or indirectly develop, manufacture or commercialize any GDF15 modulator as a human therapeutic during the term of the license agreement.

Activities under the agreement with Novartis were evaluated under ASC 605-25, to determine whether such activities represented a multiple element revenue arrangement. The agreement with Novartis includes the following non-contingent deliverables: (i) the Company's grant of an exclusive, worldwide license to develop and commercialize the Product; (ii) the Company's obligation to transfer all technical knowledge and data useful in the development and manufacture of the Product; and (iii) the Company's obligation to cooperate with Novartis' requests for transition assistance during a 90 day period. The Company determined that the option to purchase the Company's existing inventory was a contingent deliverable.

The Company determined the delivered license and obligation to transfer technical knowledge and data have standalone value from the undelivered cooperation. The Company allocated up-front consideration of \$15.0 million to the delivered license and technical knowledge and recognized this amount as revenue during the year ended December 31, 2015. The relative selling price of the undelivered cooperation had de minimis value.

The Company received a cash payment of \$3.5 million related to the delivery of its inventory of clinical quality drug substance to Novartis during the three months ended March 31, 2016. No amounts were due to the Company from Novartis as of March 31, 2016.

#### Pharmstandard

In August 2015, the Company entered into a license agreement with JSC "Pharmstandard-Ufimskiy Vitamin Plant," a company registered under the laws of the Russian Federation ("Pharmstandard"). Pharmstandard is a subsidiary of Pharmstandard OJSC. Under the license agreement, the Company has granted to Pharmstandard the exclusive, sublicensable right to develop, manufacture and commercialize tivozanib in the territories of Russia, Ukraine and the Commonwealth of Independent States (the "Licensed Territories") for all diseases and conditions in humans, excluding non-oncologic ocular conditions.

Pharmstandard is obligated to use commercially reasonable efforts to develop and commercialize tivozanib throughout the Licensed Territories, and Pharmstandard has responsibility for all activities and costs associated with the further development, manufacture, regulatory filings and commercialization of tivozanib in the Licensed Territories. Pharmstandard filed an application for marketing authorization in Russia for tivozanib for the treatment of renal cell carcinoma in December 2015.

Under the license agreement, Pharmstandard is required to make an upfront payment to AVEO of \$1.5 million, of which \$1.0 million was paid during the year ended December 31, 2015 and \$0.5 million is payable within fifteen

business days of the date the license agreement is registered with the Federal Service for Intellectual Property of the Russian Federation. The Company is also eligible to receive \$7.5 million in connection with the first marketing authorization of tivozanib in Russia. If Russian regulatory authorities require additional studies to be conducted by Pharmstandard prior to approval, this amount would be reduced to \$3.0 million. In addition, the Company is eligible to receive \$3.0 million for each additional approved indication of tivozanib, if Pharmstandard elects to seek any such approvals, as well as a high single-digit royalty on net sales in the Licensed Territories. A percentage of all upfront, milestone and royalty payments received by AVEO are due to KHK as a sublicensing fee under the KHK License Agreement. Pharmstandard has recently informed the Company that, based on adverse economic and financial conditions in Russia, they are seeking to renegotiate their obligation to make milestone payments to the Company under the license agreement.

Activities under the agreement with Pharmstandard were evaluated under ASC 605-25 to determine whether such activities represented a multiple element revenue arrangement. The agreement with Pharmstandard includes the following non-contingent deliverables: (i) the Company's grant of an exclusive license to develop and commercialize tivozanib in the Licensed Territories, (ii) the Company's obligation to provide access, upon request, to all clinical data, regulatory filings, safety data and manufacturing data to Pharmstandard for use in the development and commercialization of tivozanib in the Licensed Territories, (iii) the Company's obligation to participate in certain development and commercialization planning meetings and (iv) the

Company's obligation to provide support for certain development, regulatory or manufacturing activities if requested by Pharmstandard.

The Company determined the delivered license does not have standalone value from the undelivered items and that the arrangement should be treated as a single unit of accounting. The Company allocated the upfront payment of \$1.0 million to the bundled unit of accounting and is recognizing it over the Company's performance period through April 2022, the remaining patent life of tivozanib. The Company recognized approximately \$38,000 as revenue during the three months ended March 31, 2016.

The Company believes the regulatory milestones that may be achieved under the Pharmstandard agreement are consistent with the definition of a milestone included in ASU 2010-17, Revenue Recognition—Milestone Method, and, accordingly, the Company will recognize payments related to the achievement of such milestones, if any, when such milestone is achieved. Factors considered in this determination included scientific and regulatory risks that must be overcome to achieve each milestone, the level of effort and investment required to achieve each milestone, and the monetary value attributed to each milestone.

#### Ophthotech Corporation

In November 2014 the Company entered into a research and exclusive option agreement (the "Option Agreement"), with Ophthotech Corporation ("Ophthotech") pursuant to which the Company provided Ophthotech an exclusive option to enter into a definitive license agreement whereby the Company would grant Ophthotech the right to develop and commercialize tivozanib outside of Asia for the potential diagnosis, prevention and treatment of non-oncologic diseases or conditions of the eye in humans.

Pursuant to this Option Agreement, the Company granted to Ophthotech an exclusive, royalty-free license or sublicense, as applicable, under intellectual property rights controlled by the Company solely to perform the research and development activities related to the use of tivozanib for the specific purposes outlined in the agreement during the Option Period (as defined below). These activities include formulation work for ocular administration, preclinical research and the conduct of a phase 1/2a, proof of concept clinical trial of a product containing tivozanib in patients with wet age-related macular degeneration, (the "POC Study").

Ophthotech paid the Company \$0.5 million in consideration for the grant of the option. Such amount is non-refundable and not creditable against any other amounts due under the agreement. The Company is obligated to make available to Ophthotech, at no cost to Ophthotech, certain quantities of tivozanib hydrochloride solely for conducting its Option Period research including manufacturing additional quantities of tivozanib in the event stability data indicates that the current supply will expire prior to the end of February 2017.

During the Option Period, if Ophthotech elects to continue the development of tivozanib for non-oncologic diseases of the eye, the Company is entitled to receive a one-time milestone payment of \$2.0 million upon acceptance of the first Investigational New Drug application for the purpose of conducting a human clinical study of tivozanib in ocular diseases (the "IND Submission Milestone Payment"). The Company is also entitled to receive a one-time milestone payment of \$6.0 million (the "Clinical Efficacy Milestone Payment"), on the earlier of (a) December 31, 2016 and (b) the later to occur of: (i) the achievement of a clinical milestone in the POC Study (the "Clinical Efficacy Milestone") and (ii) the earlier of (A) the date twelve (12) months after our and Ophthotech's agreement as to the form and substance of the KHK Amendment (as defined below) or (B) the date ninety (90) days after the entry into the KHK Amendment, subject to the Company's right to terminate the Option Agreement on 90 days' written notice (the date on which such payment is due, referred to as the "Clinical Efficacy Milestone Payment Trigger Date").

Ophthotech may exercise the option at any time until the latest to occur of: (i) twelve (12) months after the achievement of the Clinical Efficacy Milestone, (ii) ninety (90) days after the Clinical Efficacy Milestone Payment Trigger Date, and (iii) thirty (30) days after the Company and Ophthotech agree as to the definitive form of license



agreement (the “Option Period”).

During the Option Period, the Company will not grant a license to any third party that would preclude the Company from being able to grant to Ophthotech the rights and licenses that are contemplated by the definitive license agreement, and the Company will not engage in any research, development or commercialization of tivozanib in the field covered by the contemplated definitive license agreement, except as specified in the Option Agreement.

The terms of the Option Agreement are subject to the Company’s obligations to KHK under the KHK License Agreement. A percentage of all payments received by the Company under the Option Agreement and any definitive license agreement must be paid to KHK. The Company is required to maintain the KHK License Agreement in effect, and not enter into any amendment or termination thereof that would adversely affect the Company’s rights, during the option period.

During the Option Period, the Company and Ophthotech are obligated to negotiate in good faith the form and substance of a definitive license agreement, as well as the form and substance of an amendment to the KHK License Agreement (the “KHK

Amendment”) to modify certain rights and obligations of the parties and sublicensees thereunder, particularly with respect to rights to improvements that are not specifically related to tivozanib, and regulatory affairs matters.

If Ophthotech exercises the option, Ophthotech is required to pay the Company a one-time option exercise fee of \$2.0 million in addition to the IND Submission Milestone Payment if such payment has not then been previously paid. If upon exercise of the option, the Clinical Efficacy Milestone Payment Trigger Date has not yet occurred, the Company shall be entitled to the Clinical Efficacy Milestone Payment at such time that the Clinical Efficacy Milestone Payment Date does occur if the license agreement remains in effect as of such date. The license agreement, if entered into upon Ophthotech’s exercise of the option, will provide for the Company to be entitled to receive (i) \$10.0 million upon meeting certain efficacy and safety endpoints in phase 2 clinical trials that would enable the commencement of a phase 3 clinical trial, (ii) \$20.0 million upon marketing approval in the United States, (iii) \$20.0 million upon marketing approval in the UK, Germany, Spain, Italy and France and (iv) up to \$45.0 million in sales-based milestone payments. Ophthotech would also be required to pay tiered, double digit royalties, up to the mid-teens, on net sales of tivozanib or products containing tivozanib.

Activities under the agreement with Ophthotech were evaluated under ASC 605-25 to determine whether such activities represented a multiple element revenue arrangement. The agreement with Ophthotech includes the following non-contingent deliverables: (i) the Company’s obligation to grant an exclusive option to Ophthotech to enter into a license agreement to develop and commercialize products incorporating tivozanib for treatment of diseases of the eye outside of Asia during the Option Period (the “Option Grant Deliverable”); (ii) the Company’s obligation to enter into an amendment with KHK to modify the terms of the existing KHK agreement to negotiate a mutually acceptable form of license agreement; and (iii) the Company’s obligation to transfer research-grade tivozanib drug substance for Ophthotech to conduct the Option Period research.

The Company determined that the delivered Option Grant Deliverable did not have standalone value from the remaining deliverables since Ophthotech could not obtain the intended benefit of the option without the remaining deliverables. Similarly, the remaining deliverables have no standalone value without the Option Grant Deliverable. The Company is accounting for the deliverables as one unit of accounting.

Under the Option Agreement, the Company received a cash payment of \$0.5 million during the year ended December 31, 2014. The Company deferred the payment and is recording the deferred revenue over the Company’s period of performance, which is currently estimated to be through December 2017. The Company recorded approximately \$28,000 and \$58,000 of revenue during the three months ended March 31, 2016 and 2015, respectively.

#### Biodesix

In April 2014, the Company entered into a worldwide agreement with Biodesix to develop and commercialize ficlatuzumab, the Company’s its hepatocyte growth factor (“HGF”) inhibitory antibody, with BDX004, a proprietary companion diagnostic test developed by Biodesix and derived from VeriStrat®, a serum protein test that is commercially available to help physicians guide treatment decisions for patients with advanced non-small cell lung cancer (“NSCLC”). Under the agreement, the Company granted Biodesix perpetual, non-exclusive rights to certain intellectual property, including all clinical and biomarker data related to ficlatuzumab, to develop and commercialize BDX004. Biodesix granted the Company perpetual, non-exclusive rights to certain intellectual property, including diagnostic data related to BDX004, with respect to the development and commercialization of ficlatuzumab; each license includes the right to sublicense, subject to certain exceptions. Pursuant to a joint development plan, the Company retains primary responsibility for clinical development of ficlatuzumab in a proof of concept (“POC”) clinical study of ficlatuzumab for NSCLC, in which VeriStrat will be used to select clinical trial subjects, referred to as the NSCLC POC Trial. The NSCLC POC Trial will be fully funded by Biodesix up to a cap of \$15.0 million. After the cap is reached, the Company and Biodesix will share all costs of the NSCLC trial equally. Under the Biodesix agreement all manufacturing costs are shared equally, and the Company and Biodesix will each be responsible for 50% of development and regulatory costs associated with all future clinical trials agreed-upon by Biodesix and the

Company, including all milestone payments and royalties payable to third parties, if any.

Pending marketing approval of ficlatuzumab and subject to a commercialization agreement to be entered into after receipt of results from the NSCLC POC Trial, each party would share equally in commercialization profits and losses, subject to the Company's right to be the lead commercialization party.

Biodesix is solely responsible for the BDX004 development costs, as well as BDX004 sales and marketing costs. Subject to and following the approval of the BDX004 test as a companion diagnostic for ficlatuzumab, Biodesix has agreed to make the BDX004 test available and use commercially reasonable efforts to seek reimbursement in all geographies where ficlatuzumab is approved. The Company has agreed to reimburse Biodesix a pre-specified amount, under certain circumstances for BDX004 tests performed.

Prior to the first commercial sale of ficlatuzumab and after the earlier of (i) the Cap being reached or (ii) the completion of the NSCLC POC Trial, each party has the right to elect to discontinue participating in further development or commercialization efforts

with respect to ficlatuzumab, which is referred to as an “Opt-Out”. If either AVEO or Biodesix elects to Opt-Out, with such party referred to as the “Opting-Out Party”, then the Opting-Out Party shall not be responsible for any future costs associated with developing and commercializing ficlatuzumab other than any ongoing clinical trials. After election of an Opt-Out, the non-opting out party shall have sole decision-making authority with respect to further development and commercialization of ficlatuzumab. Additionally, the Opting-Out Party shall be entitled to receive, if ficlatuzumab is successfully developed and commercialized, a royalty equal to 10% of net sales of ficlatuzumab throughout the world, if any, subject to offsets under certain circumstances.

If Biodesix elects to Opt-Out, it will continue to be responsible for its development and commercialization obligations with respect to BDX004. If AVEO elects to Opt-Out, it will continue to make the existing supply of ficlatuzumab available to Biodesix for the purposes of enabling Biodesix to complete the development of ficlatuzumab, and Biodesix will have the right to commercialize ficlatuzumab.

Prior to any Opt-Out, the parties shall share equally in any payments received from a third party licensee; provided, however, after any Opt-Out, the Opting-Out Party shall be entitled to receive only a reduced portion of such third party payments. The agreement will remain in effect until the expiration of all payment obligations between the parties related to development and commercialization of ficlatuzumab, unless earlier terminated.

Activities under the agreement with Biodesix were evaluated under ASC 605-25 to determine whether such activities represented a multiple element revenue arrangement. The agreement with Biodesix includes the following non-contingent deliverables: (i) the Company’s obligation to deliver perpetual, non-exclusive rights to certain intellectual property including clinical and biomarker data related to ficlatuzumab for use in developing and commercializing BDX004; (ii) the Company’s obligation to deliver technology improvements and data developed during the NSCLC POC Trial to Biodesix; (iii) the Company’s obligation to participate in the joint steering committee during the NSCLC POC Trial; (iv) the Company’s obligation to perform certain development activities associated with the NSCLC POC Trial; (v) the Company’s obligation to supply clinical material for use in conducting the NSCLC POC Trial; and (vi) the Company’s obligation to deliver clinical specimens and data during the NSCLC POC Trial. The Company concluded that any deliverables that would be delivered after the NSCLC POC Trial is complete are contingent deliverables because these services are contingent upon the results of the NSCLC POC Trial. As these deliverables are contingent, and are not at an incremental discount, they are not evaluated as deliverables at the inception of the arrangement. These contingent deliverables will be evaluated and accounted for separately as each related contingency is resolved. As of March 31, 2016, no contingent deliverables had been provided by the Company.

The Company determined that the delivered item, or the perpetual, non-exclusive rights to certain intellectual property for use in developing and commercializing BDX004 did not have standalone value from the remaining deliverables since Biodesix could not obtain the intended benefit of the license without the remaining deliverables. Since the remaining deliverables will be performed over the same period of performance there is no difference in accounting for the deliverables as one unit or multiple units of accounting, and therefore, the Company is accounting for the deliverables as one unit of accounting.

The Company records the consideration earned while conducting the NSCLC POC Trial, which consists of reimbursements from Biodesix for expenses related to the trial under the Cap, as a reduction to research and development expense using the proportional performance method over the respective period of performance. As a result of the cost sharing provisions in the agreement, the Company reduced research and development expenses by approximately \$0.9 million during the three months ended March 31, 2016 and 2015. The amount due to the Company from Biodesix pursuant to the cost-sharing provision was \$0.7 million and \$0.9 million at March 31, 2016 and 2015, respectively. Under the agreement, the Company received cash payments of \$1.3 million and \$1.8 million during the three months ended March 31, 2016 and 2015, respectively.

St. Vincent’s

In July 2012, the Company entered into a license agreement with St. Vincent's Hospital Sydney Limited ("St. Vincent's"), under which the Company obtained an exclusive, worldwide license to research, develop, manufacture and commercialize products for human therapeutic, preventative and palliative applications that benefit from inhibition or decreased expression or activity of MIC-1, which is also referred to as GDF15. Under the agreement, the Company has the right to grant sublicenses subject to certain restrictions. Under the license agreement, St. Vincent's also granted the Company non-exclusive rights for certain related diagnostic products and research tools.

In order to sublicense certain necessary intellectual property rights to Novartis in August 2015, the Company and St. Vincent's amended and restated the license agreement (the "Amended St. Vincent's Agreement"). Under the Amended St. Vincent's Agreement, the Company was required to make an upfront payment to St. Vincent's of \$1.5 million. St. Vincent's is also eligible to receive up to approximately \$18.9 million in connection with development and regulatory milestones under the Amended St. Vincent's Agreement. Royalties for approved products resulting from the Amended St. Vincent's Agreement will also be payable to St. Vincent's, and the Company and Novartis will share that obligation equally. Under the license agreement with Novartis, the Company is required to

maintain the Amended St. Vincent's Agreement in effect, and not enter into any amendment that would adversely affect Novartis' rights during the term of the license agreement with Novartis.

During the three months ended March 31, 2016, the Company made a \$0.4 million milestone payment to St. Vincent's related to the selection of a development candidate.

#### Biogen Idec International GmbH

In March 2009, the Company entered into an exclusive option and license agreement with Biogen regarding the development and commercialization of the Company's discovery-stage ErbB3-targeted antibodies, AV-203, for the potential treatment and diagnosis of cancer and other diseases outside of North America. Under the agreement, the Company was responsible for developing ErbB3 antibodies through completion of the first phase 2 clinical trial designed in a manner that, if successful, will generate data sufficient to support advancement to a phase 3 clinical trial.

In March 2014, the Company and Biogen amended the exclusive option and license agreement (the "Amendment"). Pursuant to the Amendment, Biogen agreed to the termination of its rights and obligations under the agreement, including Biogen's option to (i) obtain a co-exclusive (with AVEO) worldwide license to develop and manufacture ErbB3 targeted antibodies and (ii) obtain exclusive commercialization rights to ErbB3 products in countries in the world other than North America. As a result, AVEO has worldwide rights to AV-203. Pursuant to the Amendment, the Company was obligated to use reasonable efforts to seek a collaboration partner for the purpose of funding further development and commercialization of ErbB3 targeted antibodies. The Company is also obligated to pay Biogen a percentage of milestone payments received by AVEO from future partnerships after March 28, 2016 and single digit royalty payments on net sales related to the sale of ErbB3 products, if any, up to cumulative maximum amount of \$50 million.

The Company concluded that the Amendment materially modified the terms of the agreement and, as a result, required the application of ASC 605-25. Based upon the terms of the Amendment, the remaining deliverables included the Company's obligation to seek a collaboration partner to fund further development of the program and the Company's obligation to continue development and commercialization of the licensed products if a collaboration partner is secured ("Development Deliverable"). The Company concluded that its obligation to use best efforts to seek a collaboration partner does not have standalone value from the Development Deliverable upon delivery and thus the deliverables should be treated as a single unit of accounting.

Upon modifying the arrangement, the Company had \$14.7 million of deferred revenue remaining to be amortized. The Company is not entitled to receive any further consideration from Biogen Idec under the amended arrangement. The Company allocated a portion of the remaining deferred revenue to the undelivered unit of accounting based upon the Company's best estimate of the selling price, as the Company determined that neither VSOE or TPE were available. The Company determined the best estimate of selling price to be approximately \$0.6 million and recognized the remaining \$14.1 million as collaboration revenue in March 2014. The deferred revenue associated with the undelivered unit of accounting is being recognized on a straight-line basis over the period of performance, or through March 2016, when the Company executed its agreement with CANbridge.

Under the agreement, the Company recorded revenue of \$38,000 and \$76,000 during the three months ended March 31, 2016 and 2015, respectively.

In March 2016, the Company entered into a collaboration and license agreement for AV-203 with CANbridge. See "Collaborations and License Agreements—CANbridge" herein for a further description of that arrangement.

#### Astellas Pharma

In February 2011, the Company, together with its wholly-owned subsidiary AVEO Pharma Limited, entered into a collaboration and license agreement (the “Astellas Agreement”) with Astellas Pharma Inc. and certain of its subsidiaries (together, “Astellas”), pursuant to which the Company and Astellas intended to develop and commercialize tivozanib for the treatment of a broad range of cancers. Astellas elected to terminate the agreement effective on August 11, 2014, at which time the tivozanib rights were returned to the Company. In accordance with the Astellas Agreement, committed development costs, including the costs of completing certain tivozanib clinical development activities, will be shared equally. There are no refund provisions in the Astellas Agreement.

The Company accounted for the joint development and commercialization activities in North America and Europe as a joint risk-sharing collaboration in accordance with ASC 808, Collaborative Arrangements. Payments from Astellas with respect to Astellas’ share of tivozanib development and commercialization costs incurred by the Company pursuant to the joint development plan were recorded as a reduction to research and development expense and general and administrative expense in the accompanying consolidated financial statements due to the joint risk-sharing nature of the activities in North America and Europe. As a result of the cost-sharing provisions in the Astellas Agreement, the Company increased (decreased) research and development expense by (\$0.2)

million and \$0.2 million during the three months ended March 31, 2016 and 2015, respectively. The net amount due to (due from) the Company from (to) Astellas pursuant to the cost-sharing provisions was \$0.2 million and (\$0.2) million at March 31, 2016 and 2015, respectively.

Under the agreement, the Company received cash payments related to reimbursable payments of \$0.1 million and \$0.5 million during the three months ended March 31, 2016 and 2015, respectively.

#### (5) Accrued Expenses

Accrued expenses consisted of the following as of March 31, 2016 and December 31, 2015:

	March 31,	December 31,
	2016	2015
	(in thousands)	
Clinical expenses	\$1,108	\$ 1,793
Professional fees	675	573
Salaries and benefits	423	938
Manufacturing and distribution	198	173
Restructuring	196	357
Other	243	272
	\$2,843	\$ 4,106

#### (6) Loans Payable

On May 28, 2010, the Company entered into a loan and security agreement (the “Loan Agreement”) with Hercules Technology II, L.P. and Hercules Technology III, L.P., affiliates of Hercules Technology Growth (collectively, “Hercules”), pursuant to which the Company received a loan in the aggregate principal amount of \$25.0 million. The Company was required to repay the aggregate principal balance under the Loan Agreement in 30 equal monthly installments of principal starting on January 1, 2012. On March 31, 2012, the Company entered into an amendment to the Loan Agreement, pursuant to which the Company increased the principal amount under the Loan Agreement to \$26.5 million. Under the amendment to the Loan Agreement, the date on which the Company was required to begin repaying the aggregate principal balance was extended to April 1, 2013, at which point the Company began repaying such balance in 30 equal monthly installments.

On September 24, 2014, the Company further amended the Loan Agreement with Hercules (the “Amended Loan Agreement”). Pursuant to the Amended Loan Agreement, the Company received a new loan in the aggregate principal amount of \$10.0 million and amended the terms of the Loan Agreement with an outstanding principal balance of \$11.6 million. The Company was not required to pay principal on the original loan until January 1, 2015, at which time the Company was required to commence making 12 principal and interest payments ending December 1, 2015. The original loan was fully paid as of December 2015.



Pursuant to the Amended Loan Agreement, the Company is not required to pay principal on the new loan of \$10.0 million for a period of time until May 1, 2016. The period during which the Company is not required to pay principal was extended six months from November 1, 2015 to May 1, 2016 upon executing the Company's license agreement with Novartis and may be further extended if the Company continues to achieve certain performance milestones, after which time, the Company is required to make monthly principal and interest payments with the last principal and interest payment due on January 1, 2018. The Amended Loan Agreement has an end-of-term payment of approximately \$0.5 million due on January 1, 2018 or on such earlier date as the new loan is prepaid. The Company accounted for the Amended Loan Agreement as a loan modification in accordance with ASC 470-50, Debt—Modifications and Extinguishments.

The Company must make interest payments on the loan each month it remains outstanding. Per annum interest is payable on the principal balance of both loans at the greater of 11.9% and an amount equal to 11.9% plus the prime rate of interest minus 4.75% as determined daily, provided however, that the per annum interest shall not exceed 15.0% (11.9% as of March 31, 2016).

In addition to the obligations and covenants existing under the Loan Agreement, the Amended Loan Agreement contains a financial covenant, whereby the Company has agreed to maintain, with respect to the new loan of \$10.0 million, a liquidity ratio equal to or greater than 1.25 to 1.00 of the then outstanding loan balance or the equivalent of \$12.5 million in unrestricted and unencumbered cash and cash equivalents as of March 31, 2016. The financial covenant shall not apply after such time that the Company receives favorable data both with respect to its phase 2 clinical trial of ficlatuzumab and a phase 1 clinical trial of AV-380. The Company was in compliance with this and all other financial covenants at March 31, 2016 that are included in the Loan Agreement and Amended Loan Agreement.

The Loan Agreement required a deferred financing charge of \$1.3 million which was paid in May 2012 related to the amendment of the Loan Agreement. The Loan Agreement also included an additional deferred financing charge of \$1.2 million which was paid in June 2014, and was recorded as a loan discount and is being amortized to interest expense over the term of the loan borrowed under the Loan Agreement using the effective interest rate method. The Company had recorded a liability for the full amount of the charge since the payment of such amount was not contingent on any future event. The Company incurred approximately \$0.2 million in loan issuance costs paid directly to Hercules under the Loan Agreement, which were offset against the loan proceeds and are accounted for as a loan discount.

As part of the Loan Agreement, on June 2, 2010, the Company issued warrants to the lenders to purchase up to 156,641 shares of the Company's common stock at an exercise price equal to \$7.98 per share. The Company recorded the relative fair value of the warrants of approximately \$0.8 million as stockholders' equity and as a discount to the related loan outstanding and is amortizing the value of the discount to interest expense over the term of the loan using the effective interest method. On July 21, 2011, Hercules exercised these warrants and they are no longer outstanding.

As part of the Amended Loan Agreement, on September 24, 2014, the Company issued warrants to the lenders to purchase up to 608,696 shares of the Company's common stock at an exercise price equal to \$1.15 per share. The Company recorded the relative fair value of the warrants of approximately \$0.4 million as stockholders' equity and as a discount to the related loan outstanding and is amortizing the value of the discount to interest expense over the term of the loan using the effective interest method.

As part of the Loan Agreement, Hercules also received an option, subject to the Company's written consent, not to be unreasonably withheld, to purchase, either with cash or through conversion of outstanding principal under the loan, up to \$2.0 million of equity of the Company sold in any sale by the Company to third parties of equity securities resulting in at least \$10.0 million in net cash proceeds to the Company, subject to certain exceptions. The Company has evaluated the embedded conversion option, and has concluded that it does not need to be bifurcated and separately accounted for. No amount will be recognized for the conversion feature until such time as the conversion feature is exercised and it can be determined whether a beneficial conversion feature exists. As of March 31, 2016, the aggregate principal balance outstanding was \$10.0 million.

The loans are secured by a lien on all the Company's personal property (other than intellectual property), whether owned as of, or acquired after, the date of the Amended Loan Agreement. The Amended Loan Agreement defines events of default, including the occurrence of an event that results in a material adverse effect upon the Company's business operations, properties, assets or condition (financial or otherwise), its ability to perform its obligations under and in accordance with the terms of the Amended Loan Agreement, or upon the ability of the lenders to enforce any of their rights or remedies with respect to such obligations, or upon the collateral under the Loan Agreement, the related liens or the priority thereof. As of March 31, 2016, Hercules has not asserted any events of default and the Company does not believe that there has been a material adverse change as defined in the loan agreement. The Company has determined that the risk of subjective acceleration under the material adverse events clause is remote and therefore has classified the outstanding principal in current and long-term liabilities based on the timing of scheduled principal payments.

Future minimum payments under the loans payable outstanding as of March 31, 2016 are as follows (amounts in thousands):

Years Ending December 31:	
2016 (9 months remaining)	\$3,199
2017	4,645
2018	4,269

	12,113
Less amount representing interest	(1,572 )
Less discount	(445 )
Less deferred charges	(540 )
Less current portion	(3,019 )
Loans payable, net of current portion and discount	\$6,537

#### (7) Common Stock

##### ATM Sales Agreement

In February 2015, the Company entered into an at-the-market issuance sales agreement (the “Sales Agreement”) with FBR & Co. (formerly MLV & Co. LLC) (“FBR”), pursuant to which the Company could issue and sell shares of its common stock from time to time up to an aggregate amount of \$17.9 million, at the Company’s option, through FBR as its sales agent. Sales of common stock through FBR may be made by any method that is deemed an “at-the-market” offering as defined in Rule 415 promulgated under the

Securities Act of 1933, as amended, including by means of ordinary brokers' transactions at market prices, in block transactions or as otherwise agreed by the Company and FBR. Subject to the terms and conditions of the Sales Agreement, FBR will use commercially reasonable efforts to sell the common stock based upon the Company's instructions (including any price, time or size limits or other customary parameters or conditions the Company may impose). The Company is not obligated to make any sales of its common stock under the Sales Agreement. Any shares sold will be sold pursuant to an effective shelf registration statement on Form S-3. The Company will pay FBR a commission of up to 3% of the gross proceeds. The Sales Agreement may be terminated by the Company at any time.

On May 7, 2015, the Company filed a shelf registration statement on Form S-3 with the SEC, which covers the offering, issuance and sale by the Company of up to \$100.0 million of its common stock, preferred stock, debt securities, warrants and/or units (the "2015 Shelf"). The 2015 Shelf was filed to replace the Company's existing \$250.0 million shelf registration statement (the "2012 Shelf"). On May 7, 2015, the Company also amended its Sales Agreement with FBR to provide for the offering, issuance and sale by the Company of up to \$15.0 million of its common stock under the 2015 Shelf, which replaced the Company's existing \$17.9 million offering that expired along with the expired 2012 Shelf. As of March 31, 2016, the Company has sold approximately 5.9 million shares pursuant to the Sales Agreement, as amended, resulting in proceeds of approximately \$10.2 million, net of commissions and issuance costs. No additional shares were issued during the three months ended March 31, 2016.

Approximately \$9.0 million remains available for sale under the Sales Agreement.

## (8) Stock-based Compensation

### Stock Plans

The Company issued stock options and had restricted stock awards outstanding during the three months ended March 31, 2016. A summary of the status of the Company's stock option activity at March 31, 2016 and changes during the three months then ended is presented in the table and narrative below.

	Options	Weighted- Average Exercise Price	Weighted- Average Term	Remaining Contractual Value	Aggregate Intrinsic
Outstanding at December 31, 2015	4,796,005	\$ 3.78			
Granted	1,139,500	\$ 1.08			
Exercised					
Forfeited	(351,085 )	\$ 1.38			
Outstanding at March 31, 2016	5,584,420	\$ 3.38	7.17	\$ 88,258	

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Vested or expected to vest at March 31, 2016	3,176,655	\$ 5.04	5.82	\$ 43,329
Exercisable at March 31, 2016	2,537,373	\$ 6.00	4.99	\$ 27,625

Stock options to purchase 321,000 shares of common stock contain market conditions which were not deemed probable of vesting at March 31, 2016.

The fair value of stock options subject only to service or performance conditions that are granted to employees is estimated on the date of grant using the Black-Scholes option-pricing model using the assumptions noted in the following table:

	Three Months Ended	
	March 31, 2016	2015
Volatility factor	73.79%	<del>73.91%</del>
Expected term (in years)	6.25	6.25
Risk-free interest rates	1.38%	1.54%
Dividend yield	—	—

The risk-free interest rate is determined based upon the United States Treasury's rates for U.S. Treasury zero-coupon bonds with maturities similar to those of the expected term of the options being valued. The Company does not expect to pay dividends in the foreseeable future.

The Company does not have sufficient history to support a calculation of volatility and expected term using only its historical data. As such, the Company has used a weighted-average volatility considering the Company's own volatility since March 2010, and the volatilities of several peer companies. For purposes of identifying similar entities, the Company considered characteristics such as industry, length of trading history, similar vesting terms and in-the-money option status. Due to lack of available option activity data, the Company elected to use the "simplified" method for "plain vanilla" options to estimate the expected term of the stock option grants. Under this approach, the weighted-average expected life is presumed to be the average of the vesting term and the contractual term of the option. Based upon these assumptions, the weighted-average grant date fair value of stock options granted to employees during the three months ended March 31, 2016 and 2015 was \$0.71 per share and \$0.62 per share, respectively.

The Company is required to include an estimate of the value of the awards that will be forfeited in calculating compensation costs, which the Company estimates based upon actual historical forfeitures. The forfeiture estimates are recognized over the requisite service period of the awards on a straight-line basis. The Company estimated its forfeiture rate to be approximately 76% and 70% as of March 31, 2016 and 2015, respectively.

As of March 31, 2016, there was \$0.7 million of total unrecognized stock-based compensation expense related to stock options granted to employees under the Company's 2002 Stock Incentive Plan and 2010 Stock Incentive Plan (collectively, the "Plans"). The expense is expected to be recognized over a weighted-average period of 3.0 years. The intrinsic value of options exercised during the three months ended March 31, 2015 was \$13,000. No options were exercised during the three months ended March 31, 2016.

The restricted stock activity for the three months ended March 31, 2016 is as follows:

	Number of Shares	Weighted-Average Fair-Value
Unvested at December 31, 2015	42,750	\$ 1.61
Granted	—	—
Vested/Released	(42,750 )	1.61
Unvested at March 31, 2016	—	—

As of March 31, 2016, there was no unrecognized stock-based compensation expense related to restricted stock awards granted under the Plan.

#### (9) Strategic Restructuring

On January 6, 2015, the Board of the Company approved a strategic restructuring of the Company that eliminated the Company's internal research function and aligned the Company's resources with the Company's future strategic plans. As part of this restructuring, the Company eliminated approximately two-thirds of the Company's workforce, or 40 positions across the organization. The Company substantially completed the restructuring during the quarter-ended March 31, 2015.

The following table summarizes the components of the Company's restructuring activity recorded in operating expenses and in accrued expenses in the accompanying consolidated balance sheet:

	Restructuring expense Restructuring incurred amounts accrued at December 31,		2015	2016	Restructuring amounts paid during the three months ended March 31,	2016	Restructuring amounts accrued at March 31,	2016
	2015	2016	(in thousands)		2016	2016	2016	2016
Employee severance, benefits and related costs.	\$357	—			\$ (161 )		196	

The Company is obligated to continue to pay the remaining amounts accrued through the third quarter of 2016.

(10) Facility Lease Exit

In September 2014, the Company entered into the Lease Termination Agreement pursuant to which the Company immediately surrendered leased space at 650 East Kendall Street in Cambridge, Massachusetts that it had previously ceased using earlier in 2014.

In connection with the Lease Termination Agreement, the Company agreed to pay the landlord a termination fee totaling \$15.6 million. The Company also agreed to surrender its remaining leased space upon 90 days written notice prior to September 24, 2015.

In February 2015, the Company provided notice that it would surrender the remaining space on May 29, 2015. Accordingly, the Company revised the estimated useful life of its leasehold improvements related to this office space and amortized such assets through May 2015, resulting in an additional \$1.4 million of depreciation expense during the three months ended March 31, 2015. Similarly, the Company accelerated the amortization of its deferred rent and leasehold improvement allowance associated with this office space through May 2015, resulting in an additional \$1.7 million of amortization during the three months ended March 31, 2015. Upon the surrender of the remaining space, the Company had no further rights or obligations with respect to the lease. The Company secured office space appropriate for its current needs under a cancellable arrangement that began in May 2015.

#### (11) Legal Proceedings

Two class action lawsuits have been filed against the Company and certain of its former officers and members of its board of directors, (Tuan Ha-Ngoc, David N. Johnston, William Slichenmyer and Ronald DePinho), in the United States District Court for the District of Massachusetts, one captioned Paul Sanders v. Aveo Pharmaceuticals, Inc., et al., No. 1:13-cv-11157-JLT, filed on May 9, 2013, and the other captioned Christine Krause v. AVEO Pharmaceuticals, Inc., et al., No. 1:13-cv-11320-JLT, filed on May 31, 2013. On December 4, 2013, the District Court consolidated the complaints as In re AVEO Pharmaceuticals, Inc. Securities Litigation et al., No. 1:13-cv-11157-DJC, and an amended complaint was filed on February 3, 2014. The amended complaint purported to be brought on behalf of shareholders who purchased the Company's common stock between January 3, 2012 and May 1, 2013. The amended complaint generally alleged that the Company and certain of its present and former officers and directors violated Sections 10(b) and/or 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 promulgated thereunder by making allegedly false and/or misleading statements concerning the phase 3 trial design and results for the Company's TIVO-1 study in an effort to lead investors to believe that the drug would receive approval from the FDA. The lawsuit seeks unspecified damages, interest, attorneys' fees, and other costs. The consolidated amended complaint was dismissed without prejudice on March 20, 2015, and the lead plaintiffs then filed a second amended complaint bringing similar allegations. The Company moved to dismiss again, and after a second round of briefing and oral argument, the court ruled in the Company's favor and dismissed the second amended complaint with prejudice on November 18, 2015. The lead plaintiffs have appealed the court's decision to the United States Court of Appeals for the First Circuit. They have also filed a motion to vacate and reconsider the district court's judgment, which we have opposed. The Company denies any allegations of wrongdoing and intends to continue to vigorously defend against this lawsuit. However, there is no assurance that the Company will be successful in its defense or that insurance will be available or adequate to fund any settlement or judgment or the litigation costs of the action. Moreover, the Company is unable to predict the outcome or reasonably estimate a range of possible loss at this time.

On April 4, 2014, Karen J. van Ingen, a purported purchaser of AVEO stock, filed a derivative complaint allegedly on behalf of AVEO in the United States District Court for the District of Massachusetts, Civil Action No. 1:14-cv-11672-DJC, naming AVEO, as a nominal defendant and also naming as defendants present and former members of the Company's board of directors, including Tuan Ha-Ngoc, Henri A. Termeer, Kenneth M. Bate, Anthony B. Evnin, Robert Epstein, Raju Kucherlapati, Robert C. Young, and Kenneth E. Weg. The complaint alleged breach of fiduciary duty and abuse of control between January 2012 and May 2013 with respect to allegedly misleading statements and omissions regarding tivozanib. The lawsuit seeks, among other relief, unspecified damages,



costs and expenses, including attorneys' fees, an order requiring us to implement certain corporate governance reforms, restitution from the defendants and such other relief as the court might find just and proper. The Company filed a motion to dismiss the derivative complaint, and after briefing and oral argument, on March 18, 2015 the Court ruled in the Company's favor and dismissed the case with prejudice. The plaintiff then filed a motion seeking to vacate the Court's order of dismissal and permit filing of an amended complaint, which the Company opposed, and which the Court denied on June 30, 2015. The plaintiff has appealed the Court's decision to the United States Court of Appeals for the First Circuit. The Company denies any allegations of wrongdoing and intends to continue to vigorously defend this lawsuit. However, there is no assurance that the Company will be successful in its defense or that insurance will be available or adequate to fund any settlement or judgment or the litigation costs of this action. Moreover, the Company is unable to predict the outcome or reasonably estimate a range of possible loss at this time.

On July 3, 2013, the staff (the "SEC Staff") of the United States Securities and Exchange Commission (the "Commission") served a subpoena on the Company for documents and information concerning tivozanib, including related communications with the FDA, investors and others. The Company fully cooperated with the inquiry. In September 2015, the SEC Staff invited the Company to discuss the settlement of potential claims that the SEC Staff may recommend that the Commission bring against the Company asserting that it violated federal securities laws by omitting to disclose to investors the recommendation made to the Company by the staff of the U.S. Food and Drug Administration, on May 11, 2012, that the Company conduct an additional clinical trial with respect to tivozanib. Through these discussions with the SEC Staff, an agreement was reached to settle those claims for a total amount of \$4.0 million, subject to the approval of the Commission.

On March 29, 2016, the Commission filed a complaint against the Company and three of its former officers in the U.S. District Court for the District of Massachusetts (the “Court”) alleging that the Company misled investors about its efforts to obtain FDA approval for tivozanib. Without admitting or denying the allegations in the Commission’s complaint, the Company consented to the entry of a final judgment pursuant to which it would pay the Commission a \$4 million civil penalty to settle the Commission’s claims against the Company. The settlement was subject to Court approval.

On March 31, 2016, the Court entered a final judgment which (i) approved the settlement; (ii) permanently enjoined the Company from violating Section 17(a) of the Securities Act of 1933, as amended, Sections 10(b) and 13(a) of the Securities Exchange Act of 1934, as amended, and rules 10b-5, 12b-20, 13a-1, 13a-11 and 13a-13 promulgated thereunder; and (iii) ordered the Company to pay the agreed-to civil penalty.

The Commission’s action against the Company’s three former officers is still pending. The Company is not a party to any litigation or discussions between the SEC Staff and the former officers, and the Company can make no assurance regarding the outcome of that action or the Commission’s claims against those individuals.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forward-Looking Information

This report contains forward-looking statements regarding, among other things, our future development efforts, our collaborations, our future operating results and financial position, our business strategy, our prospects and other objectives for our operations. You can identify these forward-looking statements by their use of words such as "anticipate," "believe," "estimate," "expect," "forecast," "intend," "plan," "project," "target," "will" and other words and terms having similar meaning. You also can identify them by the fact that they do not relate strictly to historical or current facts. There are a number of important risks and uncertainties that could cause our actual results to differ materially from those indicated by forward-looking statements. These risks and uncertainties include those inherent in pharmaceutical research and development, such as adverse results in our clinical development activities, our ability to obtain any necessary financing to conduct our planned activities, decisions made by the U.S. Food and Drug Administration and other regulatory authorities with respect to the development and commercialization of our drug candidates, our ability to obtain, maintain and enforce intellectual property rights for our drug candidates, our dependence on our existing and future strategic partners, and other risk factors. Please refer to the section entitled "Risk Factors" in Item 1A of Part II and elsewhere in this report for a description of these risks and uncertainties. Unless required by law, we do not undertake any obligation to publicly update any forward-looking statements.

Company Overview

We are a biopharmaceutical company dedicated to advancing a broad portfolio of targeted therapeutics for oncology and other areas of unmet medical need. Our proprietary platform has delivered unique insights into cancer and related diseases. Our strategy is to leverage these biomarker insights and partner resources to advance the development of our clinical pipeline. We are focused on developing our lead candidate tivozanib in North America as a treatment for renal cell carcinoma. We have entered into partnerships to fund the further development of our clinical stage assets, including AV-380, ficlatuzumab, AV-203, and tivozanib in non-oncologic indications worldwide and oncology indications outside North America. We are currently seeking a partner to develop AV-353, a preclinical asset, worldwide in pulmonary arterial hypertension, or PAH.

Tivozanib

Tivozanib is a potent, selective, long half-life vascular endothelial growth factor (VEGF) tyrosine kinase inhibitor (TKI) of VEGF receptors 1, 2 and 3. In 2006, we acquired the exclusive rights to develop and commercialize tivozanib in all countries outside of Asia under a license from Kyowa Hakko Kirin Co., Ltd. (formerly Kirin Brewery Co. Ltd.), or KHK.

Clinical and Regulatory Development in RCC

**RCC First Line Phase 3 Trial (TIVO-1):** We conducted a global phase 3 clinical trial comparing the efficacy and safety of tivozanib with Nexavar<sup>®</sup> (sorafenib), an approved therapy, for first-line treatment of renal cell carcinoma, or RCC, which we refer to as the TIVO-1 trial. The trial met its primary endpoint for progression-free survival, or PFS, but showed a non-statistically significant trend favoring the sorafenib arm in overall survival, or OS. In June 2013, the U.S. Food and Drug Administration, or FDA, issued a complete response letter informing us that it would not approve tivozanib for the first-line treatment of advanced RCC based on the study data from this trial, and recommended that we perform an additional study adequately sized to assure the FDA that there is no adverse effect on OS.

In January 2015, we announced our receipt of confirmation from the European Medicines Agency, or EMA, that tivozanib is eligible for submission of an application for a European Union Marketing Authorization under the EMA's centralized procedure for the treatment of RCC. Confirmation of eligibility for submission is not predictive of the

EMA's approval of a Marketing Authorization Application, or MAA. Tivozanib has previously been granted orphan drug designation in Europe for the treatment of RCC. Our partner, EUSA Pharma (UK) Limited, or EUSA, submitted a MAA for tivozanib for the treatment of RCC with the EMA in February 2016 based on our existing dataset, which includes the results from the TIVO-1 study of tivozanib in the first-line treatment of RCC. In March 2016, the EMA validated the MAA, confirming that the submission was complete and that it would initiate its review process. In December 2015, our partner JSC "Pharmstandard-Ufimskiy Vitamin Plant", a subsidiary of Pharmstandard OJSC, or Pharmstandard, submitted an application for marketing authorization for tivozanib based on the TIVO-1 trial results in Russia that was accepted for review by the Russian Ministry of Health in February 2016.

TIVO-1 Extension Study - One-way crossover from sorafenib to tivozanib (Study 902): We completed a TIVO-1 extension study in which patients with advanced RCC received tivozanib as second-line treatment subsequent to disease progression on the sorafenib arm in the TIVO-1 first-line RCC trial. We presented the final results at the 2015 American Society of Clinical Oncology (ASCO) Annual Meeting on June 1, 2015. The final results showed a median PFS of 11.0 months and a median OS of 21.6 months, demonstrating the clinically meaningful efficacy of tivozanib in a VEGF treatment refractory population. We believe that the long OS derived from tivozanib following sorafenib in Study 902 contributed to the discordance in the results in the TIVO-1 trial between the PFS benefit, which significantly favored tivozanib, and the OS, which trended in favor of sorafenib. The FDA did not accept this

explanation, finding that the OS results were confounded by the one-way crossover, and recommended that we perform a second phase 3 trial.

**RCC Third Line Phase 3 Trial (TIVO-3):** We are planning to conduct a second phase 3 trial of tivozanib in the third-line treatment of patients with refractory RCC to address the OS concerns from the TIVO-1 trial presented in the June 2013 complete response letter from the FDA and to support a request for regulatory approval of tivozanib in the United States as a third-line treatment and as a first-line treatment. Our study design, which we have shared with the FDA, contemplates a randomized, controlled, multi-center, open-label phase 3 study of approximately 322 subjects randomized 1:1 to receive either tivozanib or sorafenib. Subjects enrolled in the study may include those who have received prior immunotherapy, including immune checkpoint (PD-1) inhibitors, reflecting a potentially evolving treatment landscape. The primary objective of the study would be to show improved PFS. Secondary endpoints would include OS and objective response rate, or ORR, as well as safety and pharmacokinetic endpoints.

**RCC PD-1 Combination Trial:** We are planning to conduct a phase 1/2 study of tivozanib combined with a PD-1 inhibitor for the treatment of patients with RCC. In recent studies, TKIs and PD-1 inhibitors have shown promising efficacy in treating RCC in combination. However, several TKI/PD-1 combinations have encountered toxicity levels that are likely to prohibit such TKIs from safely combining with PD-1 inhibitors for RCC treatment. In our clinical trials, tivozanib has demonstrated a superior tolerability profile than many other TKIs, including lower rates of key potential overlapping toxicities with PD-1 inhibitors. We believe that tivozanib's tolerability profile has the potential to allow tivozanib to combine with PD-1 inhibitors more safely than other TKIs.

We are evaluating all options for funding, including partnerships, for the clinical and regulatory advancement of tivozanib. If we are unable to raise funding to support the planned TIVO-3 trial, PD-1 combination trial or other programs, we would be forced to delay, reduce or eliminate such clinical and regulatory advancement plans. For a further discussion of our operating capital requirements see “-Liquidity and Capital Resources – Operating Capital Requirements” below.

#### Tivozanib Partnerships

**EUSA License Agreement:** In December 2015, we entered into a license agreement with EUSA Pharma (UK) Limited, or EUSA, under which we granted EUSA the right to develop and commercialize tivozanib for all diseases and conditions in humans, excluding non-oncologic diseases or conditions of the eye, in Europe (excluding Russia, Ukraine and the Commonwealth of Independent States), Latin America (excluding Mexico), Africa, Australasia and New Zealand.

**Pharmstandard License Agreement:** In August 2015, we entered into a license agreement under which we granted to Pharmstandard the exclusive right to develop, manufacture and commercialize tivozanib in the territories of Russia, Ukraine and the Commonwealth of Independent States, or CIS, for all conditions excluding non-oncologic ocular conditions. Pharmstandard has recently informed us that, based on adverse economic and financial conditions in Russia, they are seeking to renegotiate their obligation to make milestone payments to us.

**Ophthotech Option for Ocular Conditions (Non-Oncologic):** In November 2014, we entered into a research and exclusive option agreement with Ophthotech Corporation, or Ophthotech, under which we granted Ophthotech an option to develop and commercialize tivozanib outside of Asia for the potential diagnosis, prevention and treatment of non-oncologic diseases or conditions of the eye in humans.

#### CRC Development

**CRC Phase 2 Results:** In March 2015, we announced results from a predefined biomarker analysis of our BATON-CRC study, a randomized phase 2 clinical trial of modified FOLFOX6, a commonly used chemotherapy, combined with tivozanib or Avastin® (bevacizumab), which both target angiogenesis signaling pathways, in first-line

treatment of metastatic CRC. In this study, among prospectively defined biomarkers, patients with low (below the median, representing 50% of the population) serum neuropilin-1, or NRP-1, demonstrated longer PFS when treated with tivozanib compared to bevacizumab, which suggests that first-line colorectal cancer patients with low NRP-1 levels may benefit from treatment with tivozanib over bevacizumab, a standard of care in this disease. However, the assay used to measure serum NRP-1 is not suitable for development as a companion diagnostic. We continue to look for alternate means to identify those patients. We do not plan to conduct further clinical studies until such an assay is identified.

#### Ficlatuzumab

Ficlatuzumab is a potent Hepatocyte Growth Factor, or HGF, inhibitory antibody. HGF is the sole known ligand of the c-Met receptor which is believed to trigger many activities that are involved in cancer development and metastasis. We have completed two phase 1 clinical studies of ficlatuzumab administered as a single agent and in combination with erlotinib, a TKI, of the epidermal growth factor receptor, or EGFR, and a phase 2 clinical study evaluating ficlatuzumab in combination with gefitinib, an EGFR TKI, in first-line non-small cell lung cancer, or NSCLC. The phase 2 trial failed to demonstrate a statistically significant benefit in the intent-to-treat population. However, an exploratory analysis using a serum-based proteomic diagnostic test, known as VeriStrat<sup>®</sup>, identified a sub-population of patients who experienced a progression free survival and overall survival benefit from the addition of ficlatuzumab to gefitinib. VeriStrat is commercially available to help physicians guide treatment decisions for patients with second line advanced NSCLC. Data from the exploratory analyses with VeriStrat prompted the development of a separate investigational companion

diagnostic test called BDX004. Based upon the exploratory analyses, BDX004 may be indicative of a predictive biomarker for the combination of ficlatuzumab and EGFR TKI over EGFR TKI alone in the first-line EGFR mutation patients who have been previously identified to not respond well to the current standard of care.

In April 2014, we entered into a worldwide agreement with Biodesix, Inc., or Biodesix, to develop and commercialize ficlatuzumab with BDX004, a serum based diagnostic test which has been derived from the VeriStrat test, employing the same methodology and data processing algorithms as VeriStrat, for use in a confirmatory clinical trial. Pursuant to the Biodesix agreement, in December 2014 we initiated a phase 2 confirmatory study of ficlatuzumab, which we refer to as the FOCAL study, in combination with erlotinib in first-line advanced NSCLC patients who have an EGFR mutation and who are identified by the BDX004 test as being most likely to benefit from the addition of ficlatuzumab to the EGFR TKI. We began enrolling patients during the second half of 2015. Biodesix will fund up to \$15 million of the costs of this study, after which costs will be shared equally. Any additional development, regulatory and commercial costs under the Biodesix agreement will be shared equally. Under the Biodesix agreement, subject to regulatory approval, we would lead worldwide commercialization of ficlatuzumab.

#### AV-203

AV-203 is a potent anti-ErbB3 (also known as HER3) specific monoclonal antibody with high ErbB3 affinity. We have observed potent anti-tumor activity in mouse models. AV-203 selectively inhibits the activity of the ErbB3 receptor, and our preclinical studies suggest that neuregulin-1, or NRG1 (also known as heregulin), levels predict AV-203 anti-tumor activity in preclinical models. We have completed a phase 1 dose escalation study of AV-203, which established a recommended phase 2 dose of AV-203 at 20mg/kg intravenously every 2 weeks, demonstrated good tolerability and promising early signs of activity, and reached the maximum planned dose of AV-203 monotherapy. No anti-drug antibodies were detected, and pharmacokinetic results indicated a dose-proportional increase in levels of AV-203. The expansion cohort of this study among patients with a specific biomarker was discontinued.

In March 2016, we entered into collaboration and license agreement with with CANbridge Life Sciences Ltd., or CANbridge, under which we granted CANbridge the exclusive right to develop, manufacture and commercialize AV-203 in all countries other than the United States, Canada and Mexico.

#### AV-380

AV-380 is a potent humanized IgG1 inhibitory monoclonal antibody targeting growth differentiating factor-15, or GDF15, a divergent member of the TGF- $\beta$  family, for the potential treatment or prevention of cachexia. Cachexia is defined as a multi-factorial syndrome of involuntary weight loss characterized by an ongoing loss of skeletal muscle mass (with or without loss of fat mass) that cannot be fully reversed by conventional nutritional support and leads to progressive functional impairment. Cachexia is associated with various cancers as well as diseases outside of cancer including chronic kidney disease, congestive heart failure, and chronic obstructive pulmonary disease, or COPD. We believe that AV-380 represents a unique approach to treating cachexia because it addresses key underlying mechanisms of the syndrome and focuses on a significant area of patient need. It is estimated that approximately 30% of all cancer patients die due to cachexia and over half of cancer patients who die do so with cachexia present. (J Cachexia Sarcopenia Muscle 2010). In the United States alone, the estimated prevalence of cancer cachexia is over 400,000 patients, and the prevalence of cachexia due to cancer, COPD, congestive heart failure, frailty and end stage renal disease combined is estimated to total more than 5 million patients (Am J Clin Nutr 2006).

We have demonstrated preclinical proof-of-concept for AV-380 in multiple cancer cachexia models and have completed cell line development. In September 2014, we presented the results from four preclinical studies of AV-380 in various in vivo cachexia models and in vitro assays at the 2nd Cancer Cachexia Conference in Montreal Canada. Our research was also selected for presentation in an oral session at the conference. In April 2015, we also presented the results from a preclinical study of AV-380 in a cachectic human tumor xenograft model at the Annual

Meeting of the American Association of Cancer Research. We have established preclinical proof of concept for GDF15 as a key driver of cachexia by demonstrating, in animal models, that the administration of GDF15 induces cachexia, and that inhibition of GDF15 reverses cachexia and provides a potential indication of an overall survival benefit.

In August 2015, we entered into a license agreement under which we granted Novartis International Pharmaceutical Ltd., or Novartis, the exclusive right to develop and commercialize AV-380 and our related antibodies. Under this agreement, Novartis is responsible for all activities and costs associated with the further development, regulatory filing and commercialization of AV-380 worldwide. In connection with the AV-380 program, we have in-licensed certain patents and patent applications from St. Vincent's Hospital in Sydney, Australia.

#### AV-353

AV-353 is a potent inhibitory antibody specific to Notch 3. The Notch 3 signaling pathway is important in cell-to-cell communication involving gene regulation mechanisms that control multiple cell differentiation processes during the entire life cycle.



Scientific literature has implicated the Notch 3 receptor pathway in multiple diseases, including cancer, cardiovascular diseases and neurodegenerative conditions. Recent publications, including Nature Medicine (2009), have implicated the Notch 3 pathway in PAH, a rare and life-threatening disorder that affects approximately 250,000 people worldwide and is caused by enlargement of the arterial walls in small arteries between the heart and the lungs, resulting in restricted blood flow. Currently, no known cure for PAH exists. Existing treatments in PAH have focused on controlling symptoms by avoiding vasoconstriction and increasing vasodilation of blood vessels and have not reversed the underlying cause of the disease. In contrast, with the results of a recently concluded research study supported by the Company, AV-353 has generated a growing body of preclinical data that supports AV-353's ability to potentially reverse the disease phenotype, which would represent a potential disease-modifying approach to treatment. A manuscript of the results is being prepared for submission to a peer-reviewed journal.

We own worldwide rights to AV-353, which was developed utilizing our research and development platform and for which we have filed three composition of matter patent applications. We are currently seeking a partner to develop AV-353 worldwide in PAH.

### Strategic Partnerships

#### CANbridge

In March 2016, we entered into a collaboration and license agreement with CANbridge under which we granted CANbridge the exclusive right to develop, manufacture and commercialize AV-203, our proprietary ErbB3 (HER3) inhibitory antibody, for the diagnosis, treatment and prevention of disease in humans and animals in all countries other than the United States, Canada and Mexico. Under the terms of the license agreement, if we determine to grant a license to any ErbB3 inhibitory antibody in the United States, Canada or Mexico, we are obligated to first negotiate with CANbridge for the grant to CANbridge of a license to such rights. In addition, for a period of time following the completion of certain proof-of-concept clinical studies by CANbridge involving the use of AV-203 for the treatment of squamous cell esophagus cancer, we have agreed to negotiate exclusively with CANbridge for (a) the right to co-develop ErbB3 inhibitory antibody products for the treatment of squamous cell esophagus cancer or (b) the right to include the United States, Canada and Mexico as part of the licensed territory under the license agreement. The parties have both agreed not to directly or indirectly develop or commercialize any ErbB3 inhibitory antibody product during the term of the license agreement other than pursuant to the license agreement. The effective date of the license agreement is March 16, 2016 (the "Effective Date").

CANbridge is obligated to use commercially reasonable efforts to develop and commercialize AV-203 in each of China, Japan, the United Kingdom, France, Italy, Spain, and Germany. CANbridge has responsibility for all activities and costs associated with the further development, manufacture, regulatory filings and commercialization of AV-203 in the licensed territory.

Under the terms of the license agreement, CANbridge made an upfront payment to us of \$1.0 million in April 2016. CANbridge has also agreed to reimburse us \$1.0 million for certain manufacturing costs and expenses incurred by us with respect to AV-203 prior to the Effective Date of the licensing agreement, \$0.5 million of which will be due to us on the earlier of (i) the date of validation by CANbridge of certain manufacturing development activities conducted by us and (ii) twelve months from the Effective Date, and the remaining \$0.5 million of which will be due to us on the earlier of (i) the date of validation by CANbridge of such manufacturing development activities and (ii) eighteen months from the Effective Date. We are also eligible to receive up to \$42.0 million in potential development and regulatory milestone payments and up to \$90.0 million in potential sales based milestone payments based on annual net sales of licensed products. Upon commercialization, we are eligible to receive a tiered royalty, with a percentage range in the low double digits, on net sales of approved licensed products. CANbridge's obligation to pay royalties for each licensed product expires on a country-by-country basis on the later of the expiration of patent rights covering such licensed product in such country, the expiration of regulatory data exclusivity in such country and ten years after the first commercial sale of such licensed product in such country. A percentage of any milestone and royalty

payments received by us, excluding upfront and reimbursement payments, are due to Biogen Idec International GMBH as a sublicensing fee under our option and license agreement with Biogen dated March 18, 2009, as amended.

#### EUSA

In December 2015, we entered into a license agreement with EUSA under which we granted to EUSA the exclusive, sublicensable right to develop, manufacture and commercialize tivozanib in the territories of Europe (excluding Russia, Ukraine and the Commonwealth of Independent States), Latin America (excluding Mexico), Africa, Australasia and New Zealand for all diseases and conditions in humans, excluding non-oncologic diseases or conditions of the eye. EUSA filed an application with the EMA in February 2016 for approval of marketing authorization for tivozanib in the treatment of RCC.

EUSA is obligated to use commercially reasonable efforts to develop and commercialize tivozanib throughout the licensed territories. With the exception of certain support to be provided by us in connection with the application for marketing approval by the

EMA, EUSA has responsibility for all activities and costs associated with the further development, manufacture, regulatory filings and commercialization of tivozanib in the licensed territories.

Under the license agreement, EUSA made a research and development funding payment to us of \$2.5 million in 2015. EUSA is required to make a further research and development funding payment of \$4.0 million upon the grant by the European Medicines Agency, or the EMA, of marketing approval for tivozanib for treatment of RCC. We are eligible to receive additional research funding from EUSA, including up to \$20.0 million if the Company conducts a phase 3 study in third-line RCC and EUSA elects to utilize data generated by the study, and up to \$2.0 million for a potential phase 1 combination study with a checkpoint inhibitor. We will be entitled to receive milestone payments of \$2.0 million per country upon reimbursement approval for RCC in each of France, Germany, Italy, Spain and the United Kingdom, and an additional \$2.0 million for the grant of marketing approval in three of the following five countries: Argentina, Australia, Brazil, South Africa and Venezuela. We are also eligible to receive a payment of \$2.0 million in connection with EUSA's filing with the EMA for marketing approval for tivozanib for the treatment of each of up to three additional indications and \$5.0 million per indication in connection with the EMA's grant of marketing approval for each of up to three additional indications, as well as up to \$335.0 million upon EUSA's achievement of certain sales thresholds. We are also eligible to receive tiered double digit royalties on net sales, if any, of licensed products in the licensed territories ranging from a low double digit up to mid-twenty percent depending on the level of annual net sales. A percentage of any milestone and royalty payments we receive are due to KHK as a sublicensing fee under the license agreement between us and KHK dated as of December 21, 2006, pursuant to which we acquired exclusive rights to develop and commercialize tivozanib for all human diseases outside of Asia. The research and development funding payments under the EUSA license agreement are not subject to sublicensing payment to KHK.

#### Novartis

In August 2015, we entered into a license agreement with Novartis, under which we granted Novartis the exclusive right to develop and commercialize AV-380 and our related antibodies that bind to GDF15 worldwide. Under this agreement, Novartis is responsible for all activities and costs associated with the further development, regulatory filing and commercialization of AV-380 worldwide.

Novartis made an upfront payment to us of \$15.0 million during September 2015. We are also eligible to receive (a) up to \$53 million in potential clinical milestone payments and up to \$105 million in potential regulatory milestone payments tied to the commencement of clinical trials and to regulatory approvals of products developed under the license agreement in the United States, the European Union and Japan; and (b) up to \$150 million in potential sales based milestone payments based on annual net sales of such products. Upon commercialization, we are eligible to receive tiered royalties on net sales of approved products ranging from the high single digits to the low double digits. Novartis has responsibility under the license agreement for the development, manufacture and commercialization of the licensed antibodies and any resulting approved therapeutic products. In December 2015, Novartis also exercised its right under the license agreement to acquire our inventory of clinical quality drug substance, reimbursing us approximately \$3.5 million for such existing inventory.

#### Pharmstandard Group

In August 2015, we entered into an exclusive license agreement with Pharmstandard, under which we granted Pharmstandard the exclusive right to develop, manufacture and commercialize tivozanib in the territories of Russia, Ukraine and the Commonwealth of Independent States for all conditions excluding non-oncologic ocular conditions.

Pharmstandard is obligated to use commercially reasonable efforts to develop and commercialize tivozanib throughout the licensed territories and has responsibility for all activities and costs associated with the further development, manufacture, regulatory filings and commercialization of tivozanib in the licensed territories. Pharmstandard has filed an application for marketing authorization in Russia for tivozanib for the treatment of renal cell carcinoma that was accepted by the Ministry of Health of the Russian Federation in February 2016.

Pharmstandard made an upfront payment to us of \$1.0 million and will be obligated to pay an additional \$0.5 million upon registration of the license agreement with a Russian regulatory agency. We are also eligible to receive \$7.5 million in connection with the first marketing authorization of tivozanib in Russia. If Russian regulatory authorities require additional studies to be conducted prior to approval, this amount will be reduced to \$3.0 million. In addition, we are eligible to receive \$3.0 million for each additional approved indication of tivozanib, if Pharmstandard elects to seek any such approvals, as well as a high single-digit royalty on net sales in the sublicensed territories. A percentage of all upfront, milestone and royalty payments received by us are due to KHK as a sublicensing fee under our license agreement with KHK. Pharmstandard has recently informed us that, based on adverse economic and financial conditions in Russia, they are seeking to renegotiate their obligation to make milestone payments to us under the license agreement.

#### Ophthotech Corporation

In November 2014 we entered into a research and exclusive option agreement with Ophthotech, pursuant to which we provided Ophthotech an exclusive option to enter into a definitive license agreement whereby we would grant Ophthotech the right to develop and commercialize tivozanib, our VEGF factor tyrosine kinase inhibitor, outside of Asia for the potential diagnosis, prevention and treatment of non-oncologic diseases or conditions of the eye in humans.

Pursuant to this agreement, we granted to Ophthotech an exclusive, royalty-free license or sublicense, as applicable, under intellectual property rights controlled by us solely to perform the research and development activities related to the use of tivozanib for the specific purposes outlined in the agreement during the option period. These activities include formulation work for ocular administration, preclinical research and the conduct of a Phase 1/2a, proof of concept clinical trial of a product containing tivozanib in patients with wet age-related macular degeneration.

Ophthotech paid us \$0.5 million in consideration for the grant of the option. Such amount is non-refundable and not creditable against any other amounts due under the agreement. We are obligated to make available to Ophthotech, at no cost to Ophthotech, certain quantities of tivozanib hydrochloride solely for conducting its option period research, including manufacturing additional quantities of tivozanib in the event stability data indicates that the current supply will expire prior to the end of February 2017. A percentage of all payments received by us under this agreement, or any definitive license agreement, are due to KHK as a sublicensing fee under our license agreement with KHK.

#### Biodesix

In April 2014, we entered into a worldwide agreement with Biodesix to develop and commercialize ficlatuzumab, our HGF inhibitory antibody, with BDX004, a proprietary companion diagnostic test developed by Biodesix and based upon an exploratory analyses with VeriStrat<sup>®</sup>, a serum protein test that is commercially available to help physicians guide treatment decisions for patients with advanced NSCLC.

Pursuant to a joint development plan, we retain primary responsibility for clinical development of ficlatuzumab in a proof of concept clinical study of ficlatuzumab for NSCLC in which VeriStrat will be used to select clinical trial subjects. The trial is fully funded by Biodesix up to a cap of \$15.0 million, other than manufacturing costs for the trial, which are shared equally. After the cap is reached, we and Biodesix will share equally in all costs of the NSCLC trial. We will each be responsible for 50% of development and regulatory costs associated with all future clinical trials agreed-upon by both parties, including all milestone payments and royalties payable to third parties, if any. Biodesix is responsible for all of the costs associated with development and registration of BDX004. Under the Biodesix agreement, subject to regulatory approval, we would lead worldwide commercialization of ficlatuzumab.

#### St. Vincent's Hospital

In July 2012, we entered into a license agreement with St. Vincent's Hospital Sydney Limited, which we refer to as St. Vincent's, under which we obtained an exclusive, worldwide license to research, develop, manufacture and commercialize products for therapeutic applications that benefit from inhibition or decreased expression or activity of MIC-1, which is also known as GDF15. We believe GDF15 is a novel target for cachexia and we are exploiting this license in our AV-380 program for cachexia. Under the agreement, we have the right to grant sublicenses subject to certain restrictions. We have a right of first negotiation to obtain an exclusive license to certain improvements that St. Vincent's or third parties may make to licensed therapeutic products. Under the license agreement, St. Vincent's also granted us non-exclusive rights for certain related diagnostic products and research tools.

In August 2015, in connection with the execution of our license agreement with Novartis, we entered into an amended and restated agreement with St. Vincent's, pursuant to which we made an upfront payment to St. Vincent's of \$1.5 million. St. Vincent's is also eligible to receive up to approximately \$18.9 million in connection with development and

regulatory milestones. We made a \$0.4 million milestone payment to St. Vincent's during the three months ended March 31, 2016 related to the selection of a development candidate. Royalties for approved products resulting from the license agreement will also be payable to St. Vincent's, and we and Novartis will share that obligation equally.

#### Biogen Idec

In March 2009, we entered into an exclusive option and license agreement with Biogen Idec International GmbH, or Biogen Idec, regarding the development and commercialization of our discovery-stage ErbB3-targeted antibodies for the potential treatment and diagnosis of cancer and other diseases in humans outside of North America. Under the agreement, we were responsible for developing ErbB3 antibodies through completion of the first phase 2 clinical trial designed in a manner that, if successful, will generate data sufficient to support advancement to a phase 3 clinical trial. In March 2014, we amended our agreement with Biogen Idec, whereby Biogen Idec agreed to the termination of its rights and obligations under the agreement, including Biogen Idec's option

to (i) obtain a co-exclusive (with us) license to develop and manufacture ErbB3 targeted antibodies and (ii) obtain exclusive commercialization rights to ErbB3 products in countries in the world other than North America. As a result, we retain worldwide rights to AV-203, a clinical stage ErbB3-targeted antibody. Pursuant to the amendment, we were obligated to in good faith use reasonable efforts to seek a collaboration partner for the purpose of funding further development and commercialization of ErbB3-targeted antibodies. We satisfied this obligation in March 2016 upon entering into our license agreement with CANbridge. We are obligated to pay Biogen Idec a percentage of milestone payments we receive under the CANbridge agreement and single digit royalty payments on net sales related to the sale of AV-203, up to cumulative maximum amount of \$50.0 million.

#### Astellas Pharma

In February 2011, we entered into a collaboration and license agreement with Astellas Pharma Inc. and certain of its indirect wholly-owned subsidiaries, which we collectively refer to as Astellas, pursuant to which we and Astellas made plans to develop and seek to commercialize tivozanib for the treatment of a broad range of cancers. On February 12, 2014, Astellas exercised its right to terminate the agreement. The termination of the agreement became effective August 11, 2014, at which time tivozanib rights returned to us. In accordance with the collaboration and license agreement, we and Astellas agreed to equally share committed development costs, including the costs of completing certain tivozanib clinical development activities that were initiated as part of our partnership with Astellas.

#### Kyowa Hakko Kirin

In December 2006, we entered into a license agreement with KHK under which we obtained an exclusive license, with the right to grant sublicenses subject to certain restrictions, to research, develop, manufacture and commercialize tivozanib, pharmaceutical compositions thereof and associated biomarkers. Our exclusive license covers all territories in the world except for Asia, where KHK has retained rights to tivozanib. Under the license agreement, we obtained exclusive rights in our territory under certain KHK patents, patent applications and know-how related to tivozanib, to research, develop, make, have made, use, import, offer for sale, and sell tivozanib for the diagnosis, prevention and treatment of any and all human diseases and conditions. We and KHK each have access to and can benefit from the other party's clinical data and regulatory filings with respect to tivozanib and biomarkers identified in the conduct of activities under the license agreement.

Under the license agreement, we are obligated to use commercially reasonable efforts to develop and commercialize tivozanib in our territory, including meeting certain specified diligence goals. Prior to the first anniversary of the first post-marketing approval sale of tivozanib in our territory, neither we nor any of our subsidiaries has the right to conduct certain clinical trials of, seek marketing approval for or commercialize any other cancer product that also works by inhibiting the activity of the VEGF receptor.

Upon entering into the license agreement with KHK, we made a one-time cash payment in the amount of \$5.0 million. In March 2010, we made a \$10.0 million milestone payment to KHK in connection with the dosing of the first patient in our phase 3 clinical trial of tivozanib. In December 2012, we made a \$12.0 million milestone payment to KHK in connection with the acceptance by the FDA of our NDA filing for tivozanib. The total remaining payments for clinical and regulatory milestones under our license agreement with KHK are \$38.0 million, in the aggregate, provided that the associated clinical and regulatory milestones specific to licensed territories will be replaced by a specified percentage of any non-research and development amounts we receive from any third party in the event we sublicense our rights under the agreement.

We also made a \$22.5 million payment to KHK during the year ended December 31, 2011 related to the up-front license payment received under the collaboration and license agreement with Astellas that we entered into in February 2011. We are required to pay to KHK 30% of certain amounts we receive from sublicensees, including up-front license fees, milestone payments and royalties, other than amounts we receive in respect of research and development funding or equity investments, subject to certain limitations.

## Financial Overview

We have devoted substantially all of our resources to our drug discovery efforts, comprising research and development, conducting clinical trials for our product candidates, protecting our intellectual property and the general and administrative functions relating to these operations. We have generated no revenue from product sales through March 31, 2016, and through such date have principally funded our operations through the proceeds from our strategic partnerships, sales of stock to investors and loan agreements with Hercules Capital, Inc. (formerly known as Hercules Technology Growth Capital, Inc.) and certain of its affiliates, which we sometimes refer to collectively as Hercules.

We do not have a history of being profitable and, as of March 31, 2016, we had an accumulated deficit of \$502.7 million. We anticipate that we will continue to incur significant operating costs over the next several years as we continue our planned



development activities for our preclinical and clinical products. We will need additional funding to support our operating activities, and the timing and nature of activities contemplated for 2016 and thereafter will be conducted subject to the availability of sufficient financial resources.

#### Revenue

To date, we have not generated any revenue from product sales. All of our revenue to date has been derived from license fees, milestone payments, premium over the fair value of convertible preferred shares sold to our strategic partners, and research and development payments received from our strategic partners.

In the future, we may generate revenue from a combination of product sales, license fees, milestone payments and research and development payments in connection with strategic partnerships, and royalties resulting from the sales of products developed under licenses of our intellectual property. We expect that any revenue we generate will fluctuate from quarter to quarter as a result of the timing and amount of license fees, research and development reimbursements, milestone and other payments received under our strategic partnerships, and the amount and timing of payments that we receive upon the sale of our products, to the extent any are successfully commercialized. We do not expect to generate revenue from product sales in the near term. If we or our strategic partners fail to complete the development of our drug candidates in a timely manner or obtain regulatory approval for them, our ability to generate future revenue, and our results of operations and financial position, would be materially adversely affected.

#### Research and Development Expenses

Research and development expenses have historically consisted of expenses incurred in connection with the discovery and development of our product candidates. These expenses consist primarily of:

- employee-related expenses, which include salaries, benefits and stock-based compensation expense;
  - expenses incurred under agreements with contract research organizations, investigative sites and consultants that conduct our clinical trials and a substantial portion of our preclinical studies;
  - the cost of acquiring and manufacturing drug development related materials;
  - the cost of completing certain tivozanib clinical development activities that were initiated as part of our prior partnership with Astellas;
  - facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities and equipment, and depreciation of fixed assets;
    - license fees for, and milestone payments related to, in-licensed products and technology; and
  - costs associated with outsourced development activities, regulatory approvals and medical affairs.
- We expense research and development costs as incurred. Nonrefundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made.

Research and development expenses are net of amounts reimbursed under our agreements with Astellas and Biodesix for Astellas' and Biodesix' respective shares of development costs incurred by us under our joint development plans with each respective partner.

We track external development expenses and personnel expense on a program-by-program basis and allocate common expenses, such as scientific consultants and laboratory supplies, to each program based on the personnel resources allocated to such program. Facilities, depreciation, stock-based compensation, research and development management and research and development support services are not allocated among programs and are considered overhead. Below is a summary of our research and development expenses for the three months ended March 31, 2016 and 2015:

	Three Months Ended	
	March 31, 2016	2015
	(in thousands)	
Tivozanib	\$4,984	\$1,445
AV-380 Program in Cachexia	426	475
Ficlatuzumab	249	
AV-203	70	287
Other pipeline programs		11
Other research and development		10
Overhead	243	467
Total research and development expenses	\$5,972	\$2,695

#### Tivozanib

We have pursued partnering options to fund further tivozanib development in appropriate clinical settings outside of our strategic focus. In December 2015 and February 2016, our strategic partners submitted applications for marketing authorization for tivozanib for the treatment of RCC to the Russian Health Ministry and the European Medicines Agency, respectively. Our partners are responsible for all activities and costs associated with the further development and commercialization of tivozanib within the licensed territories. We continue to share the costs of development activities to which we and Astellas were committed at the time the Astellas partnership was terminated.

Subject to the availability of sufficient financial resources, we are also planning to conduct an additional phase 3 trial of tivozanib vs. sorafenib in approximately 322 patients in the refractory RCC setting using PFS as the primary endpoint and OS as a secondary endpoint, in order to address the OS concerns presented in the June 2013 complete response letter from the FDA and support a request for approval of tivozanib as a third-line treatment and as a first-line treatment. We expect the remaining uncommitted costs of this trial to be between \$32.0 and \$34.0 million through completion. We are also planning to conduct a phase 1/2 trial of tivozanib in combination with a PD-1 inhibitor for the treatment of RCC, for which costs could be in the range of \$1.5-2.0 million. The timing and nature of these and other activities contemplated for 2016 and thereafter will be conducted subject to the availability of sufficient financial resources.

#### AV-380 Program in Cachexia

In August 2015, we entered into a license agreement with Novartis, under which we granted Novartis the exclusive right to develop and commercialize AV-380 and related AVEO antibodies that bind to Growth Differentiation Factor 15 worldwide. Under this agreement, Novartis is responsible for all activities and costs associated with the further development, regulatory filing and commercialization of AV-380 worldwide. We do not expect to incur any significant costs related to AV-380 in future periods beyond any milestone fees and royalties payable to St. Vincent's pursuant to our in-licensing agreement, which comprises substantially all of the costs incurred during the three months

ended March 31, 2016.

#### AV-203

In March 2014, we regained our worldwide rights from Biogen Idec to develop, manufacture and commercialize AV-203. In March 2016, we entered into a collaboration and license agreement with CANbridge, under which we granted CANbridge the exclusive right to develop and commercialize AV-203 in all countries other than the United States, Canada and Mexico. CANbridge is responsible for all costs of developing and commercializing AV-203 within the licensed territory. For a period of time following the completion of certain proof-of-concept clinical studies by CANbridge involving the use of AV-203 for the treatment of squamous cell esophagus cancer, we agreed to negotiate exclusively with CANbridge for (a) the right to co-develop ErbB3 inhibitory antibody products for the treatment of squamous cell esophagus cancer or (b) the right to include the United States, Canada and Mexico as part of the licensed territories. We do not expect to incur any significant costs related to AV-203 prior to CANbridge's completion of a proof-of-concept clinical study.

## Ficlatuzumab

In April 2014, we entered into a worldwide agreement with Biodesix to develop and commercialize ficlatuzumab, our potent HGF inhibitory antibody, with BDX004, a proprietary companion diagnostic test, developed by Biodesix and based upon an exploratory analyses with VeriStrat<sup>®</sup>, a serum protein test that is commercially available to help physicians guide treatment decisions for patients with advanced NSCLC. Pursuant to the agreement, Biodesix will provide up to \$15.0 million for a phase 2 trial of ficlatuzumab in combination with erlotinib in first-line advanced NSCLC patients selected using BDX004 and fund the further development and registration of BDX004 as a companion diagnostic. Any manufacturing costs incurred are shared equally. After the completion of the phase 2 trial, any additional development, regulatory or commercial expenses for ficlatuzumab will be equally shared. Due to the unpredictable nature of clinical development, we are unable to estimate with any certainty the costs we will incur in the future development of ficlatuzumab.

## Uncertainties of Estimates Related to Research and Development Expenses

The process of conducting preclinical studies and clinical trials necessary to obtain FDA approval for each of our product candidates is costly and time-consuming. The probability of success for each product candidate and clinical trial may be affected by a variety of factors, including, among others, the quality of the product candidate's early clinical data, investment in the program, competition, manufacturing capabilities and commercial viability.

At this time, we cannot reasonably estimate or know the nature, specific timing and estimated costs of the efforts that will be necessary to complete the development of our product candidates, or the period, if any, in which material net cash inflows may commence from sales of any approved products. This uncertainty is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- our ability to establish and maintain strategic partnerships, the terms of those strategic partnerships and the success of those strategic partnerships, if any, including the timing and amount of payments that we might receive from strategic partners;
- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for any product candidate;
- the progress and results of our clinical trials;
- the costs, timing and outcome of regulatory review of our product candidates;
- the emergence of competing technologies and products and other adverse market developments; and
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims.

As a result of the uncertainties associated with developing drugs, including those discussed above, we are unable to determine the duration and completion costs of current or future clinical stages of our product candidates, or when, or to what extent, we will generate revenues from the commercialization and sale of any of our product candidates. Development timelines, probability of success and development costs vary widely. We anticipate that we will make determinations as to which additional programs to pursue and how much funding to direct to each program on an ongoing basis in response to the scientific and clinical success, if any, of each product candidate, as well as ongoing assessment of each product candidate's commercial potential. We will need to raise substantial additional capital in the future in order to fund the development of our preclinical and clinical product candidates.

## General and Administrative Expenses

General and administrative expenses consist principally of salaries and related costs for personnel in executive, finance, corporate development, information technology, legal and human resource functions. Other general and administrative expenses include facility costs not otherwise included in research and development expenses, patent filing, prosecution and defense costs and professional fees for legal, consulting, pre-commercialization activities, auditing and tax services.

We anticipate that our general and administrative expenses will decrease in 2016 as compared to 2015 due to our relocation to a smaller facility during the second quarter of 2015 and decreased legal costs associated with ongoing shareholder litigation and our recently-settled U.S. Securities and Exchange Commission, or SEC, investigation described in this report under the heading “Legal Proceedings” below in Part II—Item 1.

## Interest Income and Interest Expense

Interest income consists of interest earned on our cash, cash equivalents and marketable securities. The primary objective of our investment policy is capital preservation.

Interest expense consists of interest, amortization of debt discount, and amortization of deferred financing costs associated with our loans payable.

## Income Taxes

We calculate our provision for income taxes on ordinary income based on our projected annual tax rate for the year. As of March 31, 2016, we are forecasting a net loss for the year ended December 31, 2016, and since we maintain a full valuation allowance on all of our deferred tax assets, we have recorded no income tax benefit in the current quarter. For the three months ended March 31, 2016, we recorded a \$0.1 million provision for income taxes related to withholding taxes incurred in a foreign jurisdiction.

## Critical Accounting Policies and Significant Judgments and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue recognition, accrued clinical expenses, and stock-based compensation. We base our estimates on historical experience, known trends and events and various other factors that we and our management believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are described in the notes to our condensed consolidated financial statements appearing elsewhere in this report. There have been no material changes to our critical accounting policies during the three month period ended March 31, 2016. Please refer to Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations", of our annual report on Form 10-K for the fiscal year ended December 31, 2015 for further discussion of our critical accounting policies and significant judgments and estimates.

## Results of Operations

### Comparison of Three Months Ended March 31, 2016 and 2015

The following table summarizes the results of our operations for each of the three months ended March 31, 2016 and 2015, together with the changes in those items in dollars and as a percentage:

	Three Months Ended			
	March 31, 2016	2015	Increase/ (decrease)	%
	(in thousands)			
Revenue	\$1,203	\$134	\$ 1,069	798 %

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Operating expenses:

Research and development	5,972	2,695	3,277	122 %
General and administrative	2,463	3,255	(792 )	(24 )%
Restructuring and lease exit	—	4,333	(4,333 )	(100)%
Total operating expenses	8,435	10,283	(1,848 )	(18 )%
Loss from operations	(7,232)	(10,149)	2,917	(29 )%
Other expense, net	(9 )	(14 )	5	(36 )%
Interest expense	(386 )	(716 )	330	(46 )%
Interest income	17	5	12	240 %
Loss before income taxes	(7,610)	(10,874)	3,264	(30 )%
Income tax provision	(100 )	—	(100 )	100 %
Net loss	\$(7,710)	\$(10,874)	\$ 3,164	(29) %

The following table sets forth revenue for the three months ended March 31, 2016 and 2015:

Revenue	Three Months Ended		Increase/	
	March 31, 2016	March 31, 2015	(decrease)	%
(in thousands)				
<b>Strategic Partner:</b>				
CANbridge	\$ 1,000	\$—	\$ 1,000	100%
EUSA	99	—	99	100%
Biogen Idec	38	76	(38 )	(50 %)
Pharmstandard	38	—	38	100%
Ophthotech	28	58	(30 )	(52 %)
	\$ 1,203	\$ 134	\$ 1,069	798%

Revenue. Revenue for the three months ended March 31, 2016 was \$1.2 million compared to \$0.1 million for the three months ended March 31, 2015, an increase of approximately \$1.1 million. The increase was primarily due to an additional \$1.0 million in revenue recognized in the first quarter of 2016 in connection with our out-licensing agreement with CANbridge, which was executed in March 2016.

Research and development. Research and development, or R&D, expenses for the three months ended March 31, 2016 were \$6.0 million compared to \$2.7 million for the three months ended March 31, 2015, an increase of \$3.3 million or 122%. The increase was primarily attributable to a \$3.3 million increase in tivozanib clinical trial costs associated with our preparation for a phase 3 trial in renal cell carcinoma.

General and administrative. General and administrative expenses for the three months ended March 31, 2016 were \$2.5 million compared to \$3.3 million for the three months ended March 31, 2015, a decrease of \$0.8 million or 24%. The decrease was primarily the result of a \$0.3 million decrease in external legal costs associated with various ongoing legal matters, a \$0.5 million decrease in employee compensation, consulting, facilities and IT costs following our decreased headcount and the reduction of our utilized facility space following our 2015 restructuring.

Restructuring and lease exit. Restructuring and lease exit expenses for the three months ended March 31, 2016 and 2015 were \$0 and \$4.3 million, respectively. The expenses incurred during the three months ended March 31, 2015 related to the January 2015 restructuring, which was substantially completed in March 2015. As part of this restructuring, we eliminated our internal research function, reducing our headcount by approximately 40 positions.

Interest expense. Interest expense for the three months ended March 31, 2016 was \$0.4 million compared to \$0.7 million for the three months ended March 31, 2015. The decrease was primarily attributable to the decrease in the outstanding balance on our loan with Hercules.

Income Tax Provision. Income tax provision for the three months ended March 31, 2016 was \$0.1 million compared to \$0 for the three months ended March 31, 2015. The increase in the income tax provision relates to withholding taxes incurred in a foreign jurisdiction related income earned from our licensing agreement with CANbridge.

#### Liquidity and Capital Resources



We have funded our operations principally through the sale of equity securities sold in private placements and underwritten public offerings, revenue and expense reimbursements from strategic partnerships, debt financing and interest income. As of March 31, 2016, we had cash, cash equivalents and marketable securities of approximately \$23.8 million. Currently, our funds are invested in money market funds, U.S. government agency securities, and corporate debt securities, including commercial paper. The following table sets forth the primary sources and uses of cash for each of the periods set forth below:

	Three Months Ended	
	March 31, 2016	2015
	(in thousands)	
Net cash (used in) operating activities	\$(10,319)	\$(15,820)
Net cash provided by (used in) investing activities	1,754	(3,620)
Net cash provided by (used in) financing activities	(13)	1,669
Net decrease in cash and cash equivalents	\$(8,578)	\$(17,771)

For the three months ended March 31, 2016 and 2015, our operating activities used cash of \$10.3 million and \$15.8 million, respectively. Cash used by operations for the three months ended March 31, 2016 and 2015 was due primarily to our net loss adjusted for non-cash items and changes in working capital.

For the three months ended March 31, 2016 and 2015, our investing activities provided cash of \$1.8 million and used cash of \$3.6 million, respectively. Cash provided by investing activities for the three months ended March 31, 2016 was primarily the net result of the proceeds from the maturity of marketable securities, partially offset by the purchase of additional marketable securities. Cash used in investing activities for the three months ended March 31, 2015 was primarily the net result of the purchase of marketable securities, partially offset by the maturities and sales of marketable securities and the proceeds from the sale of lab equipment.

For the three months ended March 31, 2016 and 2015, our financing activities used cash of \$13,000 and provided cash of \$1.7 million, respectively. The decrease in cash provided by financing activities is primarily the result of the receipt of proceeds from sales of common stock during the three months ended March 31, 2015 that did not recur in 2016, partially offset by principal payments on a prior loan with Hercules in 2015 that was fully paid during 2015.

#### At-The-Market Issuance Sales Agreement with FBR

In February 2015, we entered into an at-the-market issuance sales agreement, which we refer to as the Sales Agreement, with FBR & Co., or FBR, (formerly MLV & Co. LLC), pursuant to which we could issue and sell shares of our common stock from time to time up to an aggregate amount of \$17.9 million, at our option, through FBR as our sales agent. Sales of common stock through FBR may be made by any method that is deemed an “at-the-market” offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including by means of ordinary brokers’ transactions at market prices, in block transactions or as otherwise agreed by the Company and FBR. Subject to the terms and conditions of the Sales Agreement, FBR will use commercially reasonable efforts to sell our common stock based upon our instructions (including any price, time or size limits or other customary parameters or conditions we may impose). We are not obligated to make any sales of common stock under the Sales Agreement. Any shares sold will be sold pursuant to an effective shelf registration statement on Form S-3. We are required to pay FBR a commission of up to 3% of the gross proceeds. The Sales Agreement may be terminated by us at any time.

On May 7, 2015, we filed a shelf registration statement on Form S-3 with the SEC, which we refer to as the 2015 Shelf. The 2015 Shelf covers the offering, issuance and sale of up to \$100 million of our common stock, preferred stock, debt securities, warrants and/or units. The 2015 Shelf was filed to replace our existing \$250 million shelf registration statement, which expired at the end of May 2015, and which we refer to as the 2012 Shelf. On May 7, 2015, we also amended the Sales Agreement to provide for the offering, issuance and sale of up to \$15 million of our common stock under the 2015 Shelf. The prior at-the-market offering initiated under the original Sales Agreement expired along with the 2012 Shelf. As of March 31, 2016, we have sold approximately 5.9 million shares pursuant to the Sales Agreement, as amended, resulting in proceeds of approximately \$10.2 million, net of commissions and issuance costs. Approximately \$9.0 million remains available for sale under the Sales Agreement.

**Credit Facilities.** On September 24, 2014, we amended our loan and security agreement with Hercules Capital, Inc. (formerly known as Hercules Technology Growth Capital, Inc.) and certain of its affiliates, which we refer to collectively as Hercules. We originally entered into the loan agreement on May 28, 2010 and previously amended it on December 21, 2011 and March 31, 2012. We refer to the loan agreement, as amended, as the Amended Loan Agreement. Pursuant to the Amended Loan Agreement, we received a new loan in an aggregate principal amount of \$10.0 million and amended the terms of our original loan with Hercules, which had an outstanding principal balance of \$11.6 million at the date of the amendment. The original loan was fully repaid as of December 2015.

We are not required to make any principal payments on the new loan of \$10.0 million until May 1, 2016. The date on which we will be required to begin making principal payments was extended by six months in August 2015 upon executing our license agreement with Novartis and may be further extended if we continue to achieve performance milestones, after which time we will be required to make monthly principal and interest payments with the final payment due on January 1, 2018.

The Amended Loan Agreement has an end-of-term payment of approximately \$0.5 million due on January 1, 2018 or on such earlier date as the new loan is prepaid. The Amended Loan Agreement also has a financial covenant with respect to the new loan, whereby we have agreed to maintain a liquidity ratio equal to or greater than 1.25 to 1.00 of the then outstanding principal balance, or the equivalent of \$12.5 million based on the outstanding principal balance as of March 31, 2016, in unrestricted and unencumbered cash and cash equivalents. This financial covenant will not apply after such time as we receive favorable data both with respect to our phase 2 clinical study of ficlatuzumab and a phase 1 clinical study of AV-380. We continued to be in compliance with all financial covenants under the Amended Loan Agreement at March 31, 2016. We must make interest payments on the loan each month it

remains outstanding. Per annum interest is payable on each loan at the greater of 11.9% and an amount equal to 11.9% plus the prime rate minus 4.75%, provided, however, that the per annum interest shall not exceed 15.0%. Our annual interest rate as of March 31, 2016 was 11.9%.

We have determined that the risk of subjective acceleration under the material adverse events clause included in this loan and security agreement is remote and, therefore, have classified the outstanding principal amount in current and long-term liabilities based on the timing of scheduled principal payments. As of March 31, 2016 and through the date of this filing, the lenders have not asserted any events of default under the loan.

The loans are secured by a lien on all of our personal property (other than intellectual property), whether owned as of, or acquired after, the date of the Amended Loan Agreement. As of March 31, 2016, the principal balance outstanding was \$10.0 million.

**Operating Capital Requirements.** We anticipate that we will continue to incur significant operating losses for the next several years as we incur expenses to continue to execute on our clinical development strategy to advance our clinical stage assets. We will require substantial funds to continue our development programs and to fulfill our planned operating goals. In particular, our currently planned operating and capital requirements include the need for substantial working capital to support our development activities for tivozanib. For example, we estimate that the remaining uncommitted costs for a phase 3 trial for RCC such as the one contemplated by us could be in the range of \$32-34 million in the aggregate through 2018. We are also designing a phase 1/2 study of tivozanib combined with a PD-1 inhibitor for the treatment of patients with RCC for which costs could be in the range of \$1.5-2.0 million. Moreover, we have future payment obligations and cost-sharing arrangements under certain of our collaboration and license agreements. For example, under our agreements with KHK and St. Vincent's, we are required to make certain clinical and regulatory milestone payments, have royalty obligations with respect to product sales and are required to pay a specified percentage of sublicense revenue in certain instances. Moreover, under our agreement with Biodesix, we are obligated to share any costs for the phase 2 FOCAL study that exceed \$15 million, and to share any manufacturing and future development costs. Accordingly, we will need substantial additional funding in connection with our planned operations. If we are unable to raise capital when needed or on attractive terms, or if we are unable to procure partnership arrangements to advance our programs, we would be forced to delay, reduce or eliminate our research and development programs and any future commercialization efforts.

We believe that our cash resources could allow us to fund our current operations into the fourth quarter of 2017. This estimate does not include our payment of potential licensing milestones to third parties or the uncommitted costs of conducting any contemplated clinical trials (such as a second phase 3 trial and PD-1 combination trial for tivozanib in RCC), and assumes no milestone payments from our partners, no additional funding from new partnership agreements, no equity financings, no debt financings, no accelerated repayment thereof and no further sales of equity under our ATM.

Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amounts of our working capital requirements and the period in which we will have working capital to fund our operations. Accordingly, the timing and nature of activities contemplated for 2016 and thereafter will be conducted subject to the availability of sufficient financial resources.

Our future funding requirements will depend on many factors, including, but not limited to:

- our ability to establish and maintain strategic partnerships, licensing or other arrangements and the financial terms of such agreements;
- the number and characteristics of the product candidates we pursue;
- the scope, progress, results and costs of researching and developing our product candidates, and conducting preclinical and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for our product candidates;

- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- the absence of any breach, acceleration event or event of default under our loan agreement with Hercules or under any other agreements with third parties;
- the outcome of legal actions against us, including the current lawsuits described under “Part II, Item 1—Legal Proceedings”;
- the cost of commercialization activities if any of our product candidates are approved for sale, including marketing, sales and distribution costs;

- the cost of manufacturing our product candidates and any products we successfully commercialize; and
- the timing, receipt and amount of sales of, or royalties on, our future products, if any.

If our available cash and cash equivalents are insufficient to satisfy our liquidity requirements, or if we identify additional opportunities to do so, we may seek to sell additional equity or debt securities or obtain additional credit facilities. The sale of additional equity or convertible debt securities may result in additional dilution to our stockholders. If we raise additional funds through the issuance of debt securities or preferred stock or through additional credit facilities, these securities and/or the loans under credit facilities could provide for rights senior to those of our common stock and could contain covenants that would restrict our operations. We will require additional capital beyond our currently forecasted amounts. Additional funds may not be available when we need them, on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to:

- delay, limit, reduce or terminate our clinical trials or other development activities for one or more of our product candidates; and/or
- delay, limit, reduce or terminate our establishment of sales and marketing capabilities or other activities that may be necessary to commercialize our product candidates, if approved.

#### Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments outside the ordinary course of business from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2015 filed with the SEC on March 15, 2016.

#### Off-Balance Sheet Arrangements

We did not have, during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

### Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to market risk related to changes in interest rates. As of March 31, 2016, we had cash, cash equivalents and marketable securities of \$23.8 million, consisting of cash on deposit with banks, money market funds, U.S. government agency securities, and corporate debt, including commercial paper. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are in short-term cash equivalents. Our cash equivalents are subject to interest rate risk and could fall in value if market interest rates increase. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our portfolio. We have the ability to hold our cash equivalents until maturity, and therefore we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a change in market interest rates on our investments. We do not currently have any auction rate securities.

Our long-term debt bears interest at variable rates. In May 2010, we entered into a loan agreement with Hercules pursuant to which we received a loan in the aggregate principal amount of \$25.0 million. In March 2012, we entered into an amendment to the loan agreement, pursuant to which we increased the principal amount to \$26.5 million. In September 2014, we entered into a further amendment to the loan agreement, pursuant to which we borrowed a new loan of \$10.0 million, which is in addition to the existing loan which had an outstanding principal balance of \$11.6 million. As of March 31, 2016, our aggregate principal balance outstanding on our loans was \$10.0 million. Per annum interest is payable at the greater of 11.9% and 11.9% plus the prime rate of interest minus 4.75%, not to exceed 15%. As a result of the 15% maximum per annum interest rate under the amended loan agreement, we have limited

exposure to changes in interest rates on borrowings under this loan agreement. For every 1% increase in the prime rate over 4.75%, given the amount of debt outstanding under the loan agreement as of March 31, 2016, and expected loan payments during 2016, we would have a decrease in future annual cash flows of approximately \$0.1 million over the next twelve month period as a result of such 1% increase.

We are also exposed to market risk related to change in foreign currency exchange rates. We contract with contract research organizations and investigational sites that are located around the world. We are subject to fluctuations in foreign currency rates in connection with these agreements. We do not currently hedge our foreign currency exchange rate risk.

Item 4. Controls and Procedures.

Our management, with the participation of our President and Chief Executive Officer (our principal executive officer) and our Chief Financial Officer (our principal financial officer), evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2016. In designing and evaluating our disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our President and Chief Executive Officer (our principal executive officer) and our Chief Financial Officer (our principal financial officer) concluded that as of March 31, 2016, our disclosure controls and procedures were (1) designed to ensure that material information relating to us is made known to our management including our principal executive officer and principal financial officer by others, particularly during the period in which this report was prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended March 31, 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.



## PART II. OTHER INFORMATION

## Item 1. Legal Proceedings

Two class action lawsuits have been filed against us and certain of our former officers and members of our board of directors, (Tuan Ha-Ngoc, David N. Johnston, William Slichenmyer and Ronald DePinho), in the United States District Court for the District of Massachusetts, one captioned Paul Sanders v. Aveo Pharmaceuticals, Inc., et al., No. 1:13-cv-11157-JLT, filed on May 9, 2013, and the other captioned Christine Krause v. AVEO Pharmaceuticals, Inc., et al., No. 1:13-cv-11320-JLT, filed on May 31, 2013. On December 4, 2013, the District Court consolidated the complaints as In re AVEO Pharmaceuticals, Inc. Securities Litigation et al., No. 1:13-cv-11157-DJC, and an amended complaint was filed on February 3, 2014. The amended complaint purported to be brought on behalf of shareholders who purchased our common stock between January 3, 2012 and May 1, 2013. The amended complaint generally alleged that we and certain of our present and former officers and directors violated Sections 10(b) and/or 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 promulgated thereunder by making allegedly false and/or misleading statements concerning the phase 3 trial design and results for our TIVO-1 study in an effort to lead investors to believe that the drug would receive approval from the FDA. The lawsuit seeks unspecified damages, interest, attorneys' fees, and other costs. The consolidated amended complaint was dismissed without prejudice on March 20, 2015, and the lead plaintiffs then filed a second amended complaint bringing similar allegations. We moved to dismiss again, and after a second round of briefing and oral argument, the court ruled in our favor and dismissed the second amended complaint with prejudice on November 18, 2015. The lead plaintiffs have appealed the court's decision to the United States Court of Appeals for the First Circuit. They have also filed a motion to vacate and reconsider the district court's judgment, which we have opposed. We deny any allegations of wrongdoing and intend to continue to vigorously defend against this lawsuit. However, there is no assurance that we will be successful in our defense or that insurance will be available or adequate to fund any settlement or judgment or the litigation costs of the action. Moreover, we are unable to predict the outcome or reasonably estimate a range of possible loss at this time.

On April 4, 2014, Karen J. van Ingen, a purported purchaser of AVEO stock, filed a derivative complaint allegedly on behalf of AVEO in the United States District Court for the District of Massachusetts, Civil Action No. 1:14-cv-11672-DJC, naming AVEO, as a nominal defendant and also naming as defendants present and former members of our board of directors, including Tuan Ha-Ngoc, Henri A. Termeer, Kenneth M. Bate, Anthony B. Evnin, Robert Epstein, Raju Kucherlapati, Robert C. Young, and Kenneth E. Weg. The complaint alleged breach of fiduciary duty and abuse of control between January 2012 and May 2013 with respect to allegedly misleading statements and omissions regarding tivozanib. The lawsuit seeks, among other relief, unspecified damages, costs and expenses, including attorneys' fees, an order requiring us to implement certain corporate governance reforms, restitution from the defendants and such other relief as the court might find just and proper. We filed a motion to dismiss the derivative complaint, and after briefing and oral argument, on March 18, 2015 the Court ruled in our favor and dismissed the case with prejudice. The plaintiff then filed a motion seeking to vacate the Court's order of dismissal and permit filing of an amended complaint, which we opposed, and which the Court denied on June 30, 2015. The plaintiff has appealed the Court's decision to the United States Court of Appeals for the First Circuit. We deny any allegations of wrongdoing and intend to continue to vigorously defend this lawsuit. However, there is no assurance that we will be successful in our defense or that insurance will be available or adequate to fund any settlement or judgment or the litigation costs of this action. Moreover, we are unable to predict the outcome or reasonably estimate a range of possible loss at this time.

On July 3, 2013, the staff (the "SEC Staff") of the United States Securities and Exchange Commission (the "Commission") served a subpoena on us for documents and information concerning tivozanib, including related communications with the FDA, investors and others. We have fully cooperated with the inquiry. In September 2015, the SEC Staff invited us to discuss the settlement of potential claims that the SEC Staff may recommend that the Commission bring against us asserting that we violated federal securities laws by omitting to disclose to investors the recommendation made to us by the staff of the U.S. Food and Drug Administration, on May 11, 2012, that we conduct an additional clinical trial with respect to tivozanib. Through these discussions with the SEC Staff, we agreed to settle

those claims for a total amount of \$4 million, subject to the approval of the Commission.

On March 29, 2016, the Commission filed a complaint against us and three of our former officers in the U.S. District Court for the District of Massachusetts (the “Court”) alleging that we misled investors about our efforts to obtain FDA approval for tivozanib. Without admitting or denying the allegations in the Commission’s complaint, we consented to the entry of a final judgment pursuant to which we would pay the Commission a \$4 million civil penalty to settle the Commission’s claims against us.

On March 31, 2016, the Court entered a final judgment which (i) approved the settlement; (ii) permanently enjoined us from violating Section 17(a) of the Securities Act of 1933, as amended, Sections 10(b) and 13(a) of the Securities Exchange Act of 1934, as amended, and rules 10b-5, 12b-20, 13a-1, 13a-11 and 13a-13 promulgated thereunder; and (iii) ordered us to pay the agreed-to civil penalty.

The Commission's action against our three former officers is still pending. We are not a party to any litigation or discussions between the SEC Staff and the former officers, and we can make no assurance regarding the outcome of that action or the Commission's claims against those individuals.

Refer to Footnote 11 in the Notes to Condensed Consolidated Financial Statements for further discussion.

#### Item 1A. Risk Factors

Our business is subject to numerous risks. We caution you that the following important factors, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in this Quarterly Report on Form 10-Q and other filings with the SEC, press releases, communications with investors and oral statements. Any or all of our forward-looking statements in this Quarterly Report on Form 10-Q and in any other public statements we make may turn out to be wrong. They can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties. Many factors mentioned in the discussion below will be important in determining future results. Consequently, no forward-looking statement can be guaranteed. Actual future results may differ materially from those anticipated in our forward-looking statements. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosure we make in our reports filed with the SEC.

#### Risks Related to Our Financial Position and Need for Additional Capital

We anticipate that we will continue to incur significant operating losses for the foreseeable future. It is uncertain if we will ever attain profitability, which would depress the market price of our common stock.

We have incurred a net loss of \$7.7 million for the three months ended March 31, 2016 and, as of March 31, 2016, had an accumulated deficit of \$502.7 million. To date, we have not commercialized any products or generated any revenues from the sale of products, and absent the realization of sufficient revenues from product sales, we may never attain profitability. Our losses have resulted principally from costs incurred in our discovery and development activities. We anticipate that we will continue to incur significant operating costs over the next several years as we seek to develop our product candidates.

If we do not successfully develop and obtain regulatory approval for our existing and future pipeline of product candidates and effectively manufacture, market and sell any product candidates that are approved, we may never generate product sales. Even if we do generate product sales, we may never achieve or sustain profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the market price of our common stock and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations.

Our business is in early stage of development, which may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

All of our product candidates are in early stages of development. We have not yet demonstrated our ability to obtain marketing approvals, manufacture a commercial scale medicine, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Typically, it takes about 10 to 15 years to develop one new medicine from the time it is discovered to when it is available for treating patients. Preclinical studies and clinical trials may involve highly uncertain results and a high risk of failure. Moreover, positive data from preclinical studies and clinical trials of our product candidates may not be predictive of results in ongoing or subsequent preclinical studies and clinical trials. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as an early stage business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. To be profitable, we will need to transition from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We will require substantial additional funding, and a failure to obtain this necessary capital when needed would force us to delay, limit, reduce or terminate our research, product development or commercialization efforts.

We will require substantial funds to continue our development programs and to fulfill our planned operating goals. In particular, our currently planned operating and capital requirements include the need for substantial working capital to support our development activities for tivozanib. For example, we estimate that the remaining uncommitted costs for a Phase 3 trial for RCC such as the one contemplated by us could be in the range of \$32-34 million in the aggregate through 2018. We are also designing a phase 1/2 study of tivozanib combined with a PD-1 inhibitor for the treatment of patients with RCC for which costs could be in the range of \$1.5-2 million. Moreover, we have future payment obligations and cost-sharing arrangements under certain of our collaboration and license agreements. For example, under our agreements with KHK and St. Vincent's, we are required to make certain clinical and regulatory

milestone payments, have royalty obligations with respect to product sales and are required to pay a specified percentage of sublicense revenue in certain instances. Moreover, under our agreement with Biodesix, we are obligated to share any costs for the phase 2 FOCAL study that exceed \$15 million. Accordingly, we will need substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, or if we are unable to procure partnership arrangements to advance our programs, we would be forced to delay, reduce or eliminate our research and development programs and any future commercialization efforts.

We believe that our cash resources would allow us to fund our current operations into the fourth quarter of 2017. This estimate does not include our payment of potential licensing milestones to third parties or the uncommitted costs of conducting any contemplated clinical trials, such as a phase 3 TIVO-3 trial in RCC, and assumes no milestone payments from our partners, no additional funding from new partnership agreements, no equity financings, no debt financings, no accelerated repayment thereof and no further sales of equity under our ATM.

Because of the numerous risks and uncertainties associated with the development and commercialization of pharmaceutical products, we are unable to estimate the exact amounts of our working capital requirements and the period in which we will have working capital to fund our operations. Accordingly, the timing and nature of activities contemplated for 2016 and thereafter will be conducted subject to the availability of sufficient financial resources.

Our future capital requirements depend on many factors, including:

- our ability to establish and maintain strategic partnerships, licensing or other arrangements and the financial terms of such agreements;
- the number and characteristics of the product candidates we pursue;
- the scope, progress, results and costs of developing our product candidates, and conducting preclinical and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for our product candidates;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- the absence of any breach, acceleration event or event of default under our loan agreement with Hercules or under any other agreements with third parties;
- the outcome of legal actions against us, including the current lawsuits described under “Part I, Item 3—Legal Proceedings”;
- the cost of commercialization activities if any of our product candidates are approved for sale, including marketing, sales and distribution costs;
- the cost of manufacturing our product candidates and any products we successfully commercialize; and
- the timing, receipt and amount of sales of, or royalties on, our future products, if any.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or drug candidates.

We may seek to sell additional equity or debt securities or obtain additional credit facilities. The sale of additional equity or convertible debt securities may result in additional dilution to our stockholders. If we raise additional funds through the issuance of debt securities or preferred stock or through additional credit facilities, these securities and/or the loans under credit facilities could provide for rights senior to those of our common stock and could contain covenants that would restrict our operations. We will require additional capital beyond our currently forecasted amounts. Additional funds may not be available when we need them, on terms that are acceptable to us, or at all.

We also expect to seek additional funds through arrangements with collaborators, licensees or other third parties. These arrangements would generally require us to relinquish or encumber rights to some of our technologies or drug candidates, and we may not be able to enter into such arrangements on acceptable terms, if at all.

We anticipate that we will require additional funding. If we are unable to obtain such additional funding on a timely basis, whether through payments under existing or future collaborations or license agreement or sales of debt or equity, we may be required to delay, limit, reduce or terminate our clinical trials or development activities for one or more of our product candidates.

We may not be successful in establishing and maintaining strategic partnerships to further the development of each of our therapeutic programs. A failure to obtain such partnerships in the near future will have a material adverse effect on our operations and business.

Our success will depend in significant part on our ability to attract and maintain strategic partners and strategic relationships with major biotechnology or pharmaceutical companies to support the development and commercialization of our product candidates. In these partnerships, we would expect our strategic partner to provide substantial funding, as well as significant capabilities in research, development, marketing and sales

We face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for any product candidates and programs because our development pipeline may be deemed insufficient, our product candidates and programs may be deemed to be at too early of a stage of development for collaborative effort or third parties may not view our product candidates and programs as having the requisite potential to demonstrate safety and efficacy.

Even if we are successful in our efforts to establish new strategic partnerships, the terms that we agree upon may not be favorable to us and we may not be able to maintain such strategic partnerships if, for example, development or approval of a product candidate is delayed or sales of an approved product are disappointing. Any delay in entering into new strategic partnership agreements related to our product candidates could have an adverse effect on our business or our operating plan, including delaying the development and commercialization of our product candidates.

Moreover, if we fail to establish and maintain additional strategic partnerships related to our product candidates:

- we will have limited resources with which to continue to operate our business and we may not be able to successfully complete any other strategic transactions;
- the development of certain of our product candidates may be terminated or delayed; and
  - our cash expenditures related to development of our product candidates would increase significantly and we do not have the cash resources to develop our product candidates on our own.

#### Risks Related to our Litigation

We and certain of our former officers and present and former directors have been named as defendants in multiple lawsuits that could result in substantial costs and divert management's attention.

We, and certain of our former officers and directors, were named as defendants in a consolidated class action lawsuit initiated in 2013 that generally alleges that we and those individuals violated federal securities laws by making allegedly false and/or misleading statements concerning the development of our drug tivozanib and its prospects for FDA approval. The lawsuit seeks unspecified damages, interest, attorneys' fees, and other costs. The consolidated amended complaint was dismissed without prejudice on March 20, 2015, and the lead plaintiffs then filed a second amended complaint bringing similar allegations. This second amended complaint was dismissed with prejudice on November 18, 2015. The lead plaintiffs have appealed the court's decision to the United States Court of Appeals for the First Circuit and have also filed a motion to vacate and reconsider the district court's judgment, which we have opposed. Another plaintiff has also filed a derivative complaint, allegedly on our behalf, naming us as a nominal defendant and also naming as defendants present and former members of our board of directors, alleging breach of fiduciary duty and abuse of control on the part of those directors with respect to the same statements at issue in the securities litigation. The derivative complaint seeks, among other relief, unspecified damages, costs and expenses, including attorneys' fees, an order requiring us to implement certain corporate governance reforms, restitution from the defendants and such other relief as the court might find just and proper. The derivative complaint was dismissed with prejudice on March 18, 2015. The plaintiff has appealed the court's decision to the United States Court of Appeals for the First Circuit.

We intend to continue to deny these allegations and to engage in a vigorous defense of these lawsuits. However, we are unable to predict the outcome of these matters at this time. Moreover, any conclusion of these matters in a manner adverse to us could have a material adverse effect on our financial condition and business. For example, we could incur substantial costs not covered by our liability insurance, suffer a significant adverse impact on our reputation and divert management's attention and resources from other priorities, including the execution of business plans and strategies that are important to our ability to grow our business, any of which could have a material adverse effect on our business. In addition, any of these matters could require payments that are not covered by, or exceed the limits of, our available liability insurance, which could have a material adverse effect on our operating results or financial condition.

We have concluded a settlement with the SEC, but the SEC is still pursuing an action against our former officers.



We have agreed to pay \$4 million to settle a lawsuit filed by the SEC in federal court alleging that we violated federal securities laws by omitting to disclose the recommendation of the staff of the U.S. Food and Drug Administration, on May 11, 2012, that we conduct an additional clinical trial with respect to tivozanib. See “Part II, Item 1 – Legal Proceedings” for a further discussion of these claims. The SEC also named three of our former officers as defendants in the same lawsuit, and those claims are still pending. We are not a party to, nor are we involved in any litigation or discussions between the SEC and the former officers. However, those individuals may seek advancement of legal expenses or indemnification for any losses, either of which could be material to the extent not covered by our director and officer liability insurance.

#### Risks Related to Development and Commercialization of Our Drug Candidates

In the near term, we are dependent on the success of tivozanib. If we are unable to initiate or complete the clinical development of, obtain marketing approval for or successfully commercialize tivozanib, either alone or with our collaborators, or if we experience significant delays in doing so, our business could be substantially harmed.

We currently have no products approved for sale and are investing a significant portion of our efforts and financial resources in the development of tivozanib. Our prospects are substantially dependent on our ability, or that of our collaborators, to develop, obtain marketing approval for and successfully commercialize tivozanib in one or more disease indications.

The success of tivozanib will depend on several factors, including the following:

- our ability to secure the substantial additional working capital required to initiate and conduct our planned clinical trials of tivozanib, including the planned TIVO-3 trial and the phase 1/2 PD-1 combination trial in RCC;
- initiation and successful enrollment and completion of clinical trials;
- a safety, tolerability and efficacy profile that is satisfactory to the U.S. Food and Drug Administration, or FDA, or any comparable foreign regulatory authority for marketing approval;
- timely receipt of marketing approvals from applicable regulatory authorities;
- the performance of our collaborators;
  - the extent of any required post marketing approval commitments to applicable regulatory authorities;
- establishment of supply arrangements with third party raw materials suppliers and manufacturers including with respect to the supply of active pharmaceutical ingredient for tivozanib;
- establishment of arrangements with third party manufacturers to obtain finished drug product that is appropriately packaged for sale;
- adequate ongoing availability of raw materials and drug product for clinical development and any commercial sales;
- obtaining and maintaining patent, trade secret protection and regulatory exclusivity, both in the United States and internationally, including our ability to maintain our license agreement with Kyowa Hakko Kirin Co., Ltd.;
- protection of our rights in our intellectual property portfolio;
- successful launch of commercial sales following any marketing approval;
- a continued acceptable safety profile following any marketing approval;
- commercial acceptance by patients, the medical community and third party payors;
- successful identification of biomarkers for patient selection; and
- our ability to compete with other therapies.

Many of these factors are beyond our control, including clinical development, the regulatory submission process, potential threats to our intellectual property rights and the manufacturing, marketing and sales efforts of our collaborators. If we are unable to develop, receive marketing approval for and successfully commercialize tivozanib on our own or with our collaborators, or experience delays as a result of any of these factors or otherwise, our business could be substantially harmed.



If clinical trials of any product candidates that we, or any collaborators, may develop fail to satisfactorily demonstrate safety and efficacy to the FDA and other regulators, we, or any collaborators, may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of these product candidates.

We, and any collaborators, are not permitted to commercialize, market, promote or sell any product candidate in the United States without obtaining marketing approval from the FDA. Foreign regulatory authorities, such as the European Medicines Agency, or the EMA, impose similar requirements. We, and any collaborators, must complete extensive preclinical development and clinical trials to demonstrate the safety and efficacy of our product candidates in humans before we will be able to obtain these approvals.

Clinical testing is expensive, is difficult to design and implement, can take many years to complete and is inherently uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. The clinical development of our product candidates is susceptible to the risk of failure inherent at any stage of product development, including failure to demonstrate efficacy in a clinical trial or across a broad population of patients, the occurrence of adverse events that are severe or medically or commercially unacceptable, failure to comply with protocols or applicable regulatory requirements and determination by the FDA or any comparable foreign regulatory authority that a product candidate may not continue development or is not approvable. It is possible that even if one or more of our product candidates has a beneficial effect, that effect will not be detected during clinical evaluation as a result of one or more of a variety of factors, including the size, duration, design, measurements, conduct or analysis of our clinical trials. Conversely, as a result of the same factors, our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any. Similarly, in our clinical trials we may fail to detect toxicity or intolerability caused by our product candidates, or mistakenly believe that our product candidates are toxic or not well tolerated when that is not in fact the case.

Any inability to successfully complete preclinical and clinical development could result in additional costs to us, or any collaborators, and impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. Moreover, if we, or any collaborators, are required to conduct additional clinical trials or other testing of our product candidates beyond the trials and testing that we or they contemplate, if we, or they, are unable to successfully complete clinical trials of our product candidates or other testing, or the results of these trials or tests are unfavorable, uncertain or are only modestly favorable, or there are unacceptable safety concerns associated with our product candidates, we, or any collaborators, may:

- incur additional unplanned costs;
- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or significant safety warnings, including boxed warnings;
- be subject to additional post marketing testing or other requirements; or
- be required to remove the product from the market after obtaining marketing approval.

Our failure to successfully initiate and complete clinical trials of our product candidates and to demonstrate the efficacy and safety necessary to obtain regulatory approval to market any of our product candidates would significantly harm our business.

Adverse events or undesirable side effects caused by, or other unexpected properties of, tivozanib or any future product candidates that we develop may be identified during development and could delay or prevent their marketing approval or limit their use.

Adverse events or undesirable side effects caused by, or other unexpected properties of, tivozanib or any future product candidates that we may develop could cause us, any collaborators, an institutional review board or regulatory authorities to interrupt, delay or halt clinical trials of one or more of our product candidates and could result in a more restrictive label or the delay or denial of marketing approval by the FDA or comparable foreign regulatory authorities. If any of our product candidates is associated with adverse events or undesirable side effects or has properties that are unexpected, we, or any collaborators, may need to abandon development or limit development of that product candidate to certain uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk benefit perspective. Many compounds that initially showed promise in clinical or earlier stage testing have later been found to cause undesirable or unexpected side effects that prevented further development of the compound.

If we, or any collaborators, experience any of a number of possible unforeseen events in connection with clinical trials of our current or any future product candidates that we, or any collaborators, may develop, potential clinical development, marketing approval or commercialization of our product candidates could be delayed or prevented.

We, or any collaborators, may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent clinical development, marketing approval or commercialization of our current product candidates or any future product candidates that we, or any collaborators, may develop, including:

- regulators or institutional review boards may not authorize us, any collaborators or our or their investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we, or any collaborators, may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- clinical trials of our product candidates may produce unfavorable or inconclusive results;
- we, or any collaborators, may decide, or regulators may require us or them, to conduct additional clinical trials or abandon product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we, or any collaborators, anticipate, patient enrollment in these clinical trials may be slower than we, or any collaborators, anticipate or participants may drop out of these clinical trials at a higher rate than we, or any collaborators, anticipate;
- the cost of planned clinical trials of our product candidates may be greater than we anticipate;
- our third party contractors or those of any collaborators, including those manufacturing our product candidates or components or ingredients thereof or conducting clinical trials on our behalf or on behalf of any collaborators, may fail to comply with regulatory requirements or meet their contractual obligations to us or any collaborators in a timely manner or at all;
- patients that enroll in a clinical trial may misrepresent their eligibility to do so or may otherwise not comply with the clinical trial protocol, resulting in the need to drop the patients from the clinical trial, increase the needed enrollment size for the clinical trial or extend the clinical trial's duration;
- we, or any collaborators, may have to delay, suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate;
- regulators or institutional review boards may require that we, or any collaborators, or our or their investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or their standards of conduct, a finding that the participants are being exposed to unacceptable health risks, undesirable side effects or other unexpected characteristics of the product candidate or findings of undesirable effects caused by a chemically or mechanistically similar product or product candidate;
- the FDA or comparable foreign regulatory authorities may disagree with our, or any collaborators', clinical trial designs or our or their interpretation of data from preclinical studies and clinical trials;
- the FDA or comparable foreign regulatory authorities may fail to approve or subsequently find fault with the manufacturing processes or facilities of third party manufacturers with which we, or any collaborators, enter into agreements for clinical and commercial supplies;
- the supply or quality of raw materials or manufactured product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient, inadequate or not available at an acceptable cost, or we may experience interruptions in supply; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient to obtain marketing approval.

Product development costs for us, or any collaborators, will increase if we, or they, experience delays in testing or pursuing marketing approvals and we, or they, may be required to obtain additional funds to complete clinical trials and prepare for possible commercialization. We do not know whether any trials will begin as planned, will need to be restructured, or will be completed on schedule or at all. Significant clinical trial delays also could shorten any periods during which we, or any collaborators, may have the exclusive right to commercialize our product candidates or allow our competitors, or the competitors of any collaborators, to bring products to market before we, or any collaborators,

do and impair our ability, or the ability of any collaborators, to successfully commercialize our product candidates and may harm our business and results of operations. In addition, many of the factors that lead to clinical trial delays may ultimately lead to the denial of marketing approval of any of our product candidates.

If we, or any collaborators, experience delays or difficulties in the enrollment of patients in clinical trials, our or their receipt of necessary regulatory approvals could be delayed or prevented.

We, or any collaborators, may not be able to initiate or continue clinical trials for our current product candidates or any future product candidates that we, or any collaborators, may develop if we, or they, are unable to locate and enroll a sufficient number of eligible patients to participate in clinical trials. Patient enrollment is a significant factor in the timing of clinical trials, and is affected by many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- the availability of approved therapeutics for the relevant disease;
- the proximity of patients to clinical sites;
- the eligibility criteria for the trial;
- the design of the clinical trial;
- efforts to facilitate timely enrollment;
- competing clinical trials; and
- clinicians' and patients' perceptions as to the potential advantages and risks of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating.

Our inability, or the inability of any collaborators, to enroll a sufficient number of patients for our, or their, clinical trials could result in significant delays or may require us or them to abandon one or more clinical trials altogether. Enrollment delays in our, or their, clinical trials may result in increased development costs for our product candidates, delay or halt the development of and approval processes for our product candidates and jeopardize our, or any collaborators', ability to commence sales of and generate revenues from our product candidates, which could cause the value of our company to decline and limit our ability to obtain additional financing, if needed.

Results of early clinical trials may not be predictive of results of future late stage clinical trials.

The outcome of early clinical trials may not be predictive of the success of later clinical trials, and interim results of clinical trials do not necessarily predict success in future clinical trials. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late stage clinical trials after achieving positive results in earlier development, and we have and could, in the future, face similar setbacks. For example, in June 2013, the FDA issued a response letter informing us that it would not approve tivozanib for the treatment of first-line advanced renal cell carcinoma based on the study data from our initial Phase 3 trial, and recommended that we perform an additional study that is adequately sized to assure the FDA that there is no adverse effect on overall survival. The design of a clinical trial can determine whether its results will support approval of a product and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. We have limited experience in designing clinical trials and may be unable to design and execute a clinical trial to support marketing approval. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if we, or any collaborators, believe that the results of clinical trials for our product candidates warrant marketing approval, the FDA or comparable foreign regulatory authorities may disagree and may not grant marketing approval of our product candidates.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen and other clinical trial protocols and the rate of dropout among clinical trial participants. If we fail to receive positive results in clinical trials of our product candidates, the development timeline and regulatory approval and commercialization prospects for our most advanced product candidates, and, correspondingly, our business and financial prospects would be negatively impacted.

We have never obtained marketing approval for a product candidate and we may be unable to obtain, or may be delayed in obtaining, marketing approval for our current product candidates or any future product candidates that we, or any collaborators, may develop.

We have never obtained marketing approval for a product candidate. It is possible that the FDA may refuse to accept for substantive review any new drug applications, or NDAs, that we submit for our product candidates or may conclude after review of



our data that our application is insufficient to obtain marketing approval of our product candidate. If the FDA does not accept or approve NDAs for any of our product candidates, it may require that we conduct additional clinical trials, preclinical studies or manufacturing validation studies and submit that data before it will reconsider our applications. Depending on the extent of these or any other FDA required trials or studies, approval of any NDA or application that we submit may be delayed by several years, or may require us to expend more resources than we have available. It is also possible that additional trials or studies, if performed and completed, may not be considered sufficient by the FDA to approve our NDAs. Any delay in obtaining, or an inability to obtain, marketing approvals would prevent us from commercializing our product candidates or any companion diagnostics, generating revenues and achieving and sustaining profitability. If any of these outcomes occurs, we may be forced to abandon our development efforts for our product candidates, which could significantly harm our business.

Even if any product candidates that we, or any collaborators, may develop receive marketing approval, we or others may later discover that the product is less effective than previously believed or causes undesirable side effects that were not previously identified, which could compromise our ability, or that of any collaborators, to market the product.

Clinical trials of any product candidates that we, or any collaborators, may develop will be conducted in carefully defined subsets of patients who have agreed to enter into clinical trials. Consequently, it is possible that our clinical trials, or those of any collaborator, may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any, or alternatively fail to identify undesirable side effects. If, following approval of a product candidate, we, or others, discover that the product is less effective than previously believed or causes undesirable side effects that were not previously identified, any of the following adverse events could occur:

- regulatory authorities may withdraw their approval of the product or seize the product;
- we, or any collaborators, may be required to recall the product, change the way the product is administered or conduct additional clinical trials;
- additional restrictions may be imposed on the marketing of, or the manufacturing processes for, the particular product;
- we may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a “black box” warning or a contraindication;
- we, or any collaborators, may be required to create a Medication Guide outlining the risks of the previously unidentified side effects for distribution to patients;
- we, or any collaborators, could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of these events could harm our business and operations, and could negatively impact our stock price.

Even if our current product candidates, or any future product candidates that we, or any collaborators, may develop receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third party payors and others in the medical community necessary for commercial success, in which case we may not generate significant revenues or become profitable.

We have never commercialized a product, and even if one of our product candidates is approved by the appropriate regulatory authorities for marketing and sale, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third party payors and others in the medical community. Physicians are often reluctant to switch their patients from existing therapies even when new and potentially more effective or convenient treatments enter the market. Further, patients often acclimate to the therapy that they are currently taking and do not want to switch unless their physicians recommend switching products or they are required to switch therapies due to lack of reimbursement for existing therapies.

Efforts to educate the medical community and third party payors on the benefits of our product candidates may require significant resources and may not be successful. If any of our product candidates is approved but does not achieve an adequate level of market acceptance, we may not generate significant revenues and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of the product;
- the potential advantages of the product compared to competitive therapies;

- the prevalence and severity of any side effects;
- whether the product is designated under physician treatment guidelines as a first , second or third line therapy;
- our ability, or the ability of any collaborators, to offer the product for sale at competitive prices;
- the product's convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try, and of physicians to prescribe, the product;
- limitations or warnings, including distribution or use restrictions, contained in the product's approved labeling;
- the strength of sales, marketing and distribution support;
- changes in the standard of care for the targeted indications for the product; and
- availability and amount of coverage and reimbursement from government payors, managed care plans and other third party payors.

If we are unable to establish sales, marketing and distribution capabilities or enter into sales, marketing and distribution arrangements with third parties, we may not be successful in commercializing any product candidates if approved.

We do not have a sales, marketing or distribution infrastructure and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource these functions to third parties. We plan to build focused capabilities to commercialize development programs for certain indications where we believe that the medical specialists for the indications are sufficiently concentrated to allow us to effectively promote the product with a targeted sales team. The development of sales, marketing and distribution capabilities will require substantial resources, will be time consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing and distribution capabilities is delayed or does not occur for any reason, we could have prematurely or unnecessarily incurred these commercialization costs. This may be costly, and our investment could be lost if we cannot retain or reposition our sales and marketing personnel. In addition, we may not be able to hire or retain a sales force in the United States that is sufficient in size or has adequate expertise in the medical markets that we plan to target. If we are unable to establish or retain a sales force and marketing and distribution capabilities, our operating results may be adversely affected. If a potential partner has development or commercialization expertise that we believe is particularly relevant to one of our products, then we may seek to collaborate with that potential partner even if we believe we could otherwise develop and commercialize the product independently.

In certain indications, we seek to enter into collaborations that we believe may contribute to our ability to advance development and ultimately commercialize our product candidates. We also seek to enter into collaborations where we believe that realizing the full commercial value of our development programs will require access to broader geographic markets or the pursuit of broader patient populations or indications. As a result of entering into arrangements with third parties to perform sales, marketing and distribution services, our product revenues or the profitability of these product revenues may be lower, perhaps substantially lower, than if we were to directly market and sell products in those markets. Furthermore, we may be unsuccessful in entering into the necessary arrangements with third parties or may be unable to do so on terms that are favorable to us. In addition, we may have little or no control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively.

If we do not establish sales, marketing and distribution capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing any of our product candidates that receive marketing approval.

If we are unable to successfully develop companion diagnostics for certain of our therapeutic product candidates, or experience significant delays in doing so, we may not realize the full commercial potential of these therapeutics.

A component of our business strategy may be to develop, in collaboration with a third party, companion diagnostics for some of our therapeutic product candidates. There has been limited success to date industry-wide in developing companion diagnostics. To be successful, our collaborator will need to address a number of scientific, technical, regulatory and logistical challenges. We have limited experience in the development of diagnostics and may not be successful in developing appropriate diagnostics to pair with any

of our therapeutic product candidates. The FDA and similar regulatory authorities outside the United States are generally expected to regulate companion diagnostics as medical devices. In each case, companion diagnostics require separate regulatory approval prior to commercialization. For example, BDX004, our companion diagnostic test for ficlatuzumab in our FOCAL study, requires separate approval by the FDA, for which we must rely on Biodesix to obtain. In addition, we require a commercializable companion diagnostic assay to identify patients with low NRP-1 in order to proceed with the development of tivozanib in CRC. We expect to rely in part on third parties for the design, development and manufacture of any companion diagnostic. If we, or any third parties that we engage to

assist us, are unable to successfully develop companion diagnostics for our therapeutic product candidates, or experience delays in doing so, the development of our therapeutic product candidates may be adversely affected, our therapeutic product candidates may not receive marketing approval and we may not realize the full commercial potential of any therapeutics that receive marketing approval. As a result, our business would be harmed, possibly materially.

We face substantial competition from existing approved products. Our competitors may also discover, develop or commercialize new competing products before, or more successfully, than we do.

The biotechnology and pharmaceutical industries are highly competitive. Our future success depends on our ability to demonstrate and maintain a competitive advantage with respect to the design, development and commercialization of product candidates. Our objective is to design, develop and commercialize new products with superior efficacy, convenience, tolerability and safety. We expect any product candidate that we commercialize with our strategic partners will compete with existing, market-leading products.

There are many pharmaceutical companies, biotechnology companies, public and private universities and research organizations actively engaged in the research and development of products that may be similar to our products. A number of multinational pharmaceutical companies, as well as large biotechnology companies, including, but not limited to, Roche Laboratories, Inc., Pfizer Inc., Bayer HealthCare AG, Amgen, Inc., Eli Lilly and Company, GlaxoSmithKline plc, GTx, Inc., Helsinn and XBiotech, Novartis, Bristol-Myers Squibb, Merck, Merrimack Pharmaceuticals, Inc., Arqule, Inc., Exelixis, Inc., Eisai Co., Ltd., AstraZeneca, Gilead Sciences, Inc., Actelion Pharmaceuticals Ltd. and United Therapeutics Corporation are pursuing the development or are currently marketing pharmaceuticals that target VEGF, HGF, ErbB3, Notch 3 or other pathways on which we may focus, as well as cachexia. It is probable that the number of companies seeking to develop competing products and therapies will increase.

Many of our competitors, either alone or with their strategic partners, have greater financial, technical and human resources than we do and greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of products, and the commercialization of those products. Many are already marketing products to treat the same indications, and having the same biological targets, as the product candidates we are developing, including with respect to renal cell carcinoma. In addition, many of these competitors have significantly greater commercial infrastructures than we have. We will not be able to compete successfully unless we effectively:

- design and develop products that are superior to other products in the market in terms of, among other things, both safety and efficacy;
- obtain patent and/or other proprietary protection for our processes and product candidates;
- obtain required regulatory approvals;
- obtain favorable reimbursement, formulary and guideline status; and
- collaborate with others in the design, development and commercialization of new products.

Established competitors may invest heavily to quickly discover and develop novel compounds that could make our product candidates obsolete. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to obtain approval, to overcome price competition and to be commercially successful. If we are not able to compete effectively against our current and future competitors, our business will not grow and our financial condition and operations will suffer.

There are currently 11 FDA-approved drugs in oncology which, like tivozanib, target the VEGF pathway as a part or all of their inhibitory mechanism. Eight of the FDA-approved VEGF pathway inhibitors are oral small molecule

receptor tyrosine kinase inhibitors, or TKIs. Many of the approved VEGF pathway inhibitor agents are in ongoing development in additional cancer indications including RCC. Additionally, we are aware of a number of companies that have ongoing programs to develop both small molecules and biologics that target the VEGF pathway. In addition, the emergence of PD1/PDL1 inhibitor therapies present additional competition for tivozanib in advanced RCC. Additional clinical trials for mono and combination therapies of PD1/PDL1 with VEGF TKIs are in the pipeline targeting RCC.

We believe the products that are considered competitive with ficlatuzumab include those agents targeting the HGF/c-Met pathway. We believe the most direct competitors to our AV-203 program are monoclonal antibodies that specifically target the ErbB3 receptor. There are also other agents that target ErbB3 as a part or all of their inhibitory mechanism. Only a limited number of agents have been approved for the treatment or prevention of cachexia caused by any disease. However, a number of agents with different mechanisms of action have completed or are currently being studied in phase 2 trials in cachexia or muscle wasting. There are no currently approved Notch 3 inhibitors, although there is at least one Notch 3 inhibitor currently in clinical trials. There are multiple treatments approved for PAH through various mechanisms.

Even if we, or any collaborators, are able to commercialize any product candidate that we, or they, develop, the product may become subject to unfavorable pricing regulations, third party payor reimbursement practices or healthcare reform initiatives, any of which could harm our business.

The commercial success of our product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid by third party payors, including government health care programs and private health insurers. If coverage is not available, or reimbursement is limited, we, or any collaborators, may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us, or any collaborators, to establish or maintain pricing sufficient to realize a sufficient return on our or their investments. In the United States, no uniform policy of coverage and reimbursement for products exists among third party payors and coverage and reimbursement levels for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time consuming and costly process that may require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance.

There is significant uncertainty related to third party payor coverage and reimbursement of newly approved drugs. Marketing approvals, pricing and reimbursement for new drug products vary widely from country to country. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we, or any collaborators, might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, which may negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability or the ability of any collaborators to recoup our or their investment in one or more product candidates, even if our product candidates obtain marketing approval.

Patients who are provided medical treatment for their conditions generally rely on third party payors to reimburse all or part of the costs associated with their treatment. Therefore, our ability, and the ability of any collaborators, to commercialize successfully any of our product candidates will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from third party payors. Third party payors decide which medications they will cover and establish reimbursement levels. The healthcare industry is acutely focused on cost containment, both in the United States and elsewhere. Government authorities and other third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications, which could affect our ability or that of any collaborators to sell our product candidates profitably. These payors may not view our products, if any, as cost effective, and coverage and reimbursement may not be available to our customers, or those of any collaborators, or may not be sufficient to allow our products, if any, to be marketed on a competitive basis. Cost control initiatives could cause us, or any collaborators, to decrease the price we, or they, might establish for products, which could result in lower than anticipated product revenues. If the prices for our products, if any, decrease or if governmental and other third party payors do not provide coverage or adequate reimbursement, our prospects for revenue and profitability will suffer.

There may also be delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the indications for which the drug is approved by the FDA or comparable foreign regulatory authorities. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Reimbursement rates may vary, by way of example, according to the use of the product and the clinical setting in which it is used. Reimbursement rates may also be based on reimbursement levels already set for lower cost drugs or may be incorporated into existing payments for other services.

In addition, increasingly, third party payors are requiring higher levels of evidence of the benefits and clinical outcomes of new technologies and are challenging the prices charged. Further, the net reimbursement for drug products may be subject to additional reductions if there are changes to laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. An inability to promptly obtain coverage and adequate payment rates from both government funded and private payors for any of our product candidates for which we, or any collaborator, obtain marketing approval could significantly harm our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we commercialize any products. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability, and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot



successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Even successful defense could require significant financial and management resources. Regardless of the merits or eventual outcome, product liability claims may result in:

- decreased demand for our product candidates or products that we may develop;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- the inability to commercialize our product candidates; and
- a decline in our stock price.

Our inability to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop. We currently carry product liability insurance covering our clinical studies in the amount of \$20 million in the aggregate. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts.

#### Risks Related to Our Dependence on Third Parties

We rely on third parties, such as clinical research organizations, or CROs, to conduct clinical trials for our product candidates, and if they do not properly and successfully perform their obligations to us, we may not be able to obtain regulatory approvals for our product candidates.

We, in consultation with our collaborators, where applicable, design the clinical trials for our product candidates, but we have relied, and will rely, on contract research organizations and other third parties to assist us in managing, monitoring and otherwise carrying out many of these trials. We compete with larger companies for the resources of these third parties.

Although we plan to continue to rely on these third parties to conduct our ongoing any future clinical trials, we are responsible for ensuring that each of our clinical trials is conducted in accordance with its general investigational plan and protocol. Moreover, the FDA and foreign regulatory agencies require us to comply with regulations and standards, commonly referred to as good clinical practices, for designing, conducting, monitoring, recording, analyzing, and reporting the results of clinical trials to assure that the data and results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements.

The third parties on whom we rely generally may terminate their engagements with us at any time. If we are required to enter into alternative arrangements because of any such termination, the introduction of our product candidates to market could be delayed.

If these third parties do not successfully carry out their duties under their agreements with us, if the quality or accuracy of the data they obtain is compromised due to their failure to adhere to our clinical trial protocols or regulatory requirements, or if they otherwise fail to comply with clinical trial protocols or meet expected deadlines, our clinical trials may not meet regulatory requirements. If our clinical trials do not meet regulatory requirements or if

these third parties need to be replaced, our preclinical development activities or clinical trials may be extended, delayed, suspended or terminated. If any of these events occur, we may not be able to obtain regulatory approval of our product candidates and our reputation could be harmed.

We rely on third-party manufacturers to produce our preclinical and clinical product candidate supplies and we intend to rely on third parties to produce commercial supplies of any approved product candidates. Any failure by a third-party manufacturer to produce supplies for us may delay or impair our ability to complete our clinical trials or commercialize our product candidates.

We do not possess all of the capabilities to fully commercialize any of our product candidates on our own. We have relied upon third-party manufacturers for the manufacture of our product candidates for preclinical and clinical testing purposes and intend to continue to do so in the future. If we are unable to arrange for third-party manufacturing sources, or to do so on commercially reasonable terms, we may not be able to complete development of such other product candidates or market them.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party for regulatory compliance and quality assurance, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control (including a failure to synthesize and manufacture our product candidates in accordance with our product specifications), failure of the third party to accept orders for supply of drug substance or drug product and the possibility of termination or nonrenewal of the agreement by the third-party, based on its own business priorities, at a time that is costly or damaging to us. In addition, the FDA and other regulatory authorities require that our product candidates be manufactured according to cGMP and similar foreign standards. Any failure by our third-party manufacturers to comply with cGMP or failure to scale-up manufacturing processes as needed, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates. In addition, such failure could be the basis for action by the FDA to withdraw approvals for product candidates previously granted to us and for other regulatory action, including recall or seizure, fines, imposition of operating restrictions, total or partial suspension of production or injunctions.

We rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce our product candidates for our clinical studies. There are a small number of suppliers for certain capital equipment and raw materials that we use to manufacture our product candidates. Such suppliers may not sell this capital equipment or these raw materials to our manufacturers at the times we need them or on commercially reasonable terms. We do not have any control over the process or timing of the acquisition of this capital equipment or these raw materials by our manufacturers. Moreover, we currently do not have any agreements for the commercial production of these raw materials. Any significant delay in the supply of a product candidate or the raw material components thereof for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay completion of our clinical studies, product testing and potential regulatory approval of our product candidates. If our manufacturers or we are unable to purchase these raw materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates.

Because of the complex nature of many of our early stage compounds and product candidates, our manufacturers may not be able to manufacture such compounds and product candidates at a cost or in quantities or in a timely manner necessary to develop and commercialize related products. If we successfully commercialize any of our drugs, we may be required to establish or access large-scale commercial manufacturing capabilities. In addition, as our drug development pipeline increases and matures, we will have a greater need for clinical trial and commercial manufacturing capacity. We do not own or operate manufacturing facilities for the production of clinical or commercial quantities of our product candidates and we currently have no plans to build our own clinical or commercial scale manufacturing capabilities. To meet our projected needs for commercial manufacturing in the event that one or more of our product candidates gains marketing approval, third parties with whom we currently work will need to increase their scale of production or we will need to secure alternate suppliers.

If any of our current or future strategic partners fails to perform its obligations or terminates its agreement with us, the development and commercialization of the product candidates under such agreement could be delayed or terminated

and our business could be substantially harmed.

As part of our business strategy, we have entered into strategic partnerships for each of our development programs, and we plan to enter into additional strategic partnerships in the future. If any current or future strategic partners do not devote sufficient time and resources to its arrangements with us, we may not realize the potential commercial benefits of the arrangement, and our results of operations may be adversely affected. In addition, if any strategic partner were to breach or terminate its arrangements with us, the development and commercialization of the affected product candidate could be delayed, curtailed or terminated because we may not have sufficient financial resources or capabilities to continue development and commercialization of the product candidate on its own, and we may find it difficult to attract a new alliance partner for such product candidate. For example, Biodesix can opt-out of its agreement with us after the completion of the proof of concept trial prior to the first commercial sale of ficlatuzumab, at which point Biodesix would not be responsible for any future costs associated with developing and commercializing ficlatuzumab other than any ongoing clinical studies.

Much of the potential revenue from any of our strategic partnerships will likely consist of contingent payments, such as royalties payable on sales of any successfully developed drugs. Any such contingent revenue will depend upon our, and our strategic partners', ability to successfully develop, introduce, market and sell new drugs. In some cases, we are not involved in these processes, and we depend entirely on our strategic partners. Any of our strategic partners may fail to develop or effectively commercialize these drugs because it:

- decides not to devote the necessary resources because of internal constraints, such as limited personnel with the requisite scientific expertise, limited cash resources or specialized equipment limitations, or the belief that other product candidates may have a higher likelihood of obtaining regulatory approval or may potentially generate a greater return on investment;
- does not have sufficient resources necessary to carry the product candidate through clinical development, regulatory approval and commercialization; or
- cannot obtain the necessary regulatory approvals.

For example, Pharmstandard has recently informed us that, based on adverse economic and financial conditions in Russia, they are seeking to renegotiate their obligation to make milestone payments to us under their license agreement with us. If one or more of our strategic partners fails to develop or effectively commercialize product candidates for any of the foregoing reasons, we may not be able to replace the strategic partner with another partner to develop and commercialize a product candidate under the terms of the strategic partnership. We may also be unable to obtain, on terms acceptable to us, a license from such strategic partner to any of its intellectual property that may be necessary or useful for us to continue to develop and commercialize a product candidate. Any of these events could have a material adverse effect on our business, results of operations and our ability to achieve future profitability, and could cause our stock price to decline.

#### Risks Related to Our Intellectual Property Rights

We could be unsuccessful in obtaining adequate patent protection for one or more of our product candidates, which could result in competition and a decrease in the potential market share for our product candidates.

We cannot be certain that patents will be issued or granted with respect to applications that are currently pending, or that issued or granted patents will not later be found to be invalid and/or unenforceable. The patent position of biotechnology and pharmaceutical companies is generally uncertain because it involves complex legal and factual considerations. The standards applied by the United States Patent and Trademark Office and foreign patent offices in granting patents are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in biotechnology and pharmaceutical patents. Consequently, patents may not issue from our pending patent applications. As such, we do not know the degree of future protection that we will have on our proprietary products and technology. The scope of patent protection that the U.S. Patent and Trademark Office will grant with respect to the antibodies in our antibody product pipeline is uncertain. It is possible that the U.S. Patent and Trademark Office will not allow broad antibody claims that cover closely related antibodies as well as the specific antibody. Upon receipt of FDA approval, competitors would be free to market antibodies almost identical to ours, including biosimilar antibodies, thereby decreasing our market share.

Issued patents covering one or more of our products could be found invalid or unenforceable if challenged in patent office proceedings, or in court.

If we or one of our corporate partners were to initiate legal proceedings against a third-party to enforce a patent covering one of our products, the defendant could counterclaim that our patent is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet one or more statutory requirements for patentability, including, for example, lack of novelty, obviousness, lack of written description or non-enablement. In addition, patent validity challenges may, under certain circumstances, be based upon non-statutory obviousness-type double patenting, which, if successful, could result in a finding that the claims are invalid for

obviousness-type double patenting or the loss of patent term, including a patent term adjustment granted by the United States Patent and Trademark Officer, if a terminal disclaimer is filed to obviate a finding of obviousness-type double patenting. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the U.S. Patent and Trademark Office, or made a misleading statement, during prosecution. Additionally, third parties are able to challenge the validity of issued patents through administrative proceedings in the patent offices of certain countries, including the United States Patent and Trademark Office and the European Patent Office. Although we have conducted due diligence on patents we have exclusively in-licensed, and we believe that we have conducted our patent prosecution in accordance with the duty of candor and in good faith, the outcome following legal assertions of invalidity and unenforceability during patent litigation is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability,

we would lose at least part, and perhaps all, of the patent protection on one of our products or certain aspects of our Human Response Platform. Such a loss of patent protection could have a material adverse impact on our business.

Claims that our platform technologies, our products or the sale or use of our products infringe the patent rights of third parties could result in costly litigation or could require substantial time and money to resolve, even if litigation is avoided.

We cannot guarantee that our platform technologies, our products, or the use of our products, do not infringe third-party patents. Third parties might allege that we are infringing their patent rights or that we have misappropriated their trade secrets. Such third parties might resort to litigation against us. The basis of such litigation could be existing patents or patents that issue in the future.

It is also possible that we failed to identify relevant third-party patents or applications. For example, applications filed before November 29, 2000 and certain applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Patent applications in the United States and elsewhere are published approximately 18 months after the earliest filing, which is referred to as the priority date. Therefore, patent applications covering our products or platform technology could have been filed by others without our knowledge. Additionally, pending patent applications which have been published can, subject to certain limitations, be later amended in a manner that could cover our platform technologies, our products or the use of our products.

With regard to tivozanib, we are aware of a third-party United States patent, and corresponding foreign counterparts, that contain broad claims related to use of an organic compound, that, among other things, inhibits the tyrosine phosphorylation of a VEGF receptor caused by VEGF binding to such VEGF receptor. We are also aware of third-party United States patents that contain broad claims related to the use of a tyrosine kinase inhibitor in combination with a DNA damaging agent such as chemotherapy or radiation and we have received written notice from the owners of such patents indicating that they believe we may need a license from them in order to avoid infringing their patents. With regard to ficlatuzumab, we are aware of two separate families of United States patents, United States patent applications and foreign counterparts, with each of the two families being owned by a different third-party, that contain broad claims related to anti-HGF antibodies having certain binding properties and their use. With regard to AV-203, we are aware of a third-party United States patent that contains broad claims relating to anti-ErbB3 antibodies. Additionally, we are aware of a United States patent application and foreign counterparts that contains claims to the use of a companion diagnostic in conjunction with AV-203. Based on our analyses, if any of the above third-party patents were asserted against us, we do not believe our proposed products or activities would be found to infringe any valid claim of these patents. If we were to challenge the validity of any issued United States patent in court, we would need to overcome a statutory presumption of validity that attaches to every United States patent. This means that in order to prevail, we would have to present clear and convincing evidence as to the invalidity of the patent's claims. There is no assurance that a court would find in our favor on questions of infringement or validity.

In order to avoid or settle potential claims with respect to any of the patent rights described above or any other patent rights of third parties, we may choose or be required to seek a license from a third-party and be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we or our strategic partners were able to obtain a license, the rights may be non-exclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms. This could harm our business significantly.

Defending against claims of patent infringement or misappropriation of trade secrets could be costly and time-consuming, regardless of the outcome. Thus, even if we were to ultimately prevail, or to settle at an early stage, such litigation could burden us with substantial unanticipated costs. In addition, litigation or threatened litigation could result in significant demands on the time and attention of our management team, distracting them from the

pursuit of other company business.

Unfavorable outcomes in an intellectual property litigation could limit our research and development activities and/or our ability to commercialize certain products.

If third parties successfully assert intellectual property rights against us, we might be barred from using aspects of our technology platform, or barred from developing and commercializing related products. Prohibitions against using specified technologies, or prohibitions against commercializing specified products, could be imposed by a court or by a settlement agreement between us and a plaintiff. In addition, if we are unsuccessful in defending against allegations of patent infringement or misappropriation of trade secrets, we may be forced to pay substantial damage awards to the plaintiff. There is inevitable uncertainty in any litigation, including intellectual property litigation. There can be no assurance that we would prevail in any intellectual property litigation, even if the case against us is weak or flawed. If litigation leads to an outcome unfavorable to us, we may be required to obtain a license from the patent owner in order to continue our research and development programs or our partnerships or to market our product(s). It is possible that the necessary license will not be available to us on commercially acceptable terms, or at all. This could limit our research and development activities, our ability to commercialize specified products, or both.



Most of our competitors are larger than we are and have substantially greater resources. They are, therefore, likely to be able to sustain the costs of complex patent litigation longer than we could. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to continue our clinical trials, continue our internal research programs, in-license needed technology, or enter into strategic partnerships that would help us bring our product candidates to market.

In addition, any future patent litigation, interference or other administrative proceedings will result in additional expense and distraction of our personnel. An adverse outcome in such litigation or proceedings may expose us or our strategic partners to loss of our proprietary position, expose us to significant liabilities, or require us to seek licenses that may not be available on commercially acceptable terms, if at all.

An intellectual property litigation could lead to unfavorable publicity that could harm our reputation and cause the market price of our common stock to decline.

During the course of any patent litigation, there could be public announcements of the results of hearings, rulings on motions, and other interim proceedings in the litigation. If securities analysts or investors regard these announcements as negative, the perceived value of our products, programs, or intellectual property could be diminished. In such event, the market price of our common stock may decline.

AV-380 and tivozanib are protected by patents exclusively licensed from other companies or institutions. If the licensors terminate the licenses or fail to maintain or enforce the underlying patents, our competitive position would be harmed and our partnerships could be terminated.

Certain of our product candidates and out-licensing arrangements depend on patents and/or patent applications owned by other companies or institutions with which we have entered into intellectual property licenses. In particular, we hold exclusive licenses from St. Vincent's for therapeutic applications that benefit from inhibition or decreased expression or activity of MIC-1, which we refer to as GDF15 and which we used in our AV-380 program, and from KHK for tivozanib. We may enter into additional license agreements as part of the development of our business in the future. Our licensors may not successfully prosecute certain patent applications under which we are licensed and on which our business depends. Even if patents issue from these applications, our licensors may fail to maintain these patents, may decide not to pursue litigation against third-party infringers, may fail to prove infringement, or may fail to defend against counterclaims of patent invalidity or unenforceability. In addition, in spite of our best efforts, a licensor could claim that we have materially breached a license agreement and terminate the license, thereby removing our or our licensees' ability to obtain regulatory approval for and to market any product covered by such license. If these in-licenses are terminated, or if the underlying patents fail to provide the intended market exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, identical products. In addition, the partners to which we have sublicensed certain rights under these licenses, including Novartis and Pharmstandard, would likely have grounds for terminating our partnerships if these licenses are terminated or the underlying patents are not maintained or enforced. This could have a material adverse effect on our results of operations, our competitive business position and our business prospects.

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of trade secrets and other proprietary information.

In addition to patents, we rely on trade secrets, technical know-how, and proprietary information concerning our business strategy in order to protect our competitive position in the field of oncology. In the course of our research, development and business activities, we often rely on confidentiality agreements to protect our proprietary information. Such confidentiality agreements are used, for example, when we talk to vendors of laboratory or clinical development services or potential strategic partners. In addition, each of our employees is required to sign a confidentiality agreement upon joining our company. We take steps to protect our proprietary information, and we seek to carefully draft our confidentiality agreements to protect our proprietary interests. Nevertheless, there can be no

guarantee that an employee or an outside party will not make an unauthorized disclosure of our proprietary confidential information. This might happen intentionally or inadvertently. It is possible that a competitor will make use of such information, and that our competitive position will be compromised, in spite of any legal action we might take against persons making such unauthorized disclosures.

Trade secrets are difficult to protect. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors, or outside scientific collaborators might intentionally or inadvertently disclose our trade secret information to competitors. Enforcing a claim that a third-party illegally obtained and is using any of our trade secrets is expensive and time-consuming, and the outcome is unpredictable. In addition, courts outside the United States sometimes are less willing than U.S. courts to protect trade secrets. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how.

Our research and development strategic partners may have rights to publish data and other information to which we have rights. In addition, we sometimes engage individuals or entities to conduct research relevant to our business. The ability of these individuals

or entities to publish or otherwise publicly disclose data and other information generated during the course of their research is subject to certain contractual limitations. These contractual provisions may be insufficient or inadequate to protect our confidential information. If we do not apply for patent protection prior to such publication, or if we cannot otherwise maintain the confidentiality of our proprietary technology and other confidential information, then our ability to obtain patent protection or to protect our trade secret information may be jeopardized.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed.
- We or our licensors or strategic partners might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed.
- We or our licensors or strategic partners might not have been the first to file patent applications covering certain of our inventions.
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights.
- It is possible that our pending patent applications will not lead to issued patents.
  - Issued patents that we own or have exclusively licensed may not provide us with a competitive advantage; for example, our issued patents may not be broad enough to prevent the commercialization of competitive antibodies that are biosimilar to one or more of our antibody products, or may be held invalid or unenforceable, as a result of legal challenges by our competitors.
- Our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets.
- We may not develop additional proprietary technologies that are patentable.
- The patents of others may have an adverse effect on our business.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharma industry involve both technological complexity and legal complexity. Therefore, obtaining and enforcing biopharma patents is costly, time-consuming and inherently uncertain. In addition, several recent events have increased uncertainty with regard to our ability to obtain patents in the future and the value of patents once obtained. Among these, in September 2011, patent reform legislation passed by Congress was signed into law. The new patent law introduces changes including a first-to-file system for determining which inventors may be entitled to receive patents, and a new post-grant review process that allows third parties to challenge newly issued patents. It remains to be seen how the biopharma industry will be affected by such changes in the patent system. In addition, the Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in specified circumstances or weakening the rights of patent owners in specified situations. Depending on decisions by the U.S. Congress, the federal courts, and the U.S. Patent and Trademark Office, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

Risks Related to Regulatory Approval and Marketing of Our Product Candidates and Other Legal Compliance Matters

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our product candidates. If we or our collaborators are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we or they will not be able to commercialize our product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, export

and import, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the European Medicines Agency and comparable regulatory authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. We and our collaborators have not received approval to market any of our product candidates from regulatory authorities in any jurisdiction. We have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party contract research organizations to assist us in this process.

Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. Any marketing approval we or our collaborators ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

Accordingly, if we or our collaborators experience delays in obtaining approval or if we or they fail to obtain approval of our product candidates, the commercial prospects for our product candidates may be harmed and our ability to generate revenues will be materially impaired.

Failure to obtain marketing approval in foreign jurisdictions would prevent our product candidates from being marketed in such jurisdictions.

In order to market and sell our medicines in the European Union and many other jurisdictions, we or our third party collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, a product be approved for reimbursement before the product can be approved for sale in that country. We or our third party collaborators may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our products in any market.

We, or any future collaborators, may not be able to obtain orphan drug designation or orphan drug exclusivity for our product candidates and, even if we do, that exclusivity may not prevent the FDA or the EMA from approving other competing products.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs and biologics for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States. We, or any future collaborators, may seek orphan drug designations for other product candidates and may be unable to obtain such designations.

Even if we, or any future collaborators, obtain orphan drug designation for a product candidate, we, or they, may not be able to obtain orphan drug exclusivity for that candidate. Generally, a product with orphan drug designation only becomes entitled to orphan drug exclusivity if it receives the first marketing approval for the indication for which it has such designation, in which case the FDA or the EMA will be precluded from approving another marketing application for the same product for that indication for the applicable exclusivity period. The applicable exclusivity period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a product no longer meets the criteria for orphan drug designation or if the product is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or the EMA

determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

Even if we, or any future collaborators, obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different products can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug or biologic for the same condition if the FDA concludes that the later product is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

Even if we, or any current or future collaborators, obtain marketing approvals for our product candidates, the terms of approvals and ongoing regulation of our products may limit how we, or they, manufacture and market our products, which could materially impair our ability to generate revenue.

Once marketing approval has been granted, an approved product and its manufacturer and marketer are subject to ongoing review and extensive regulation. We, and any current or future collaborators, must therefore comply with requirements concerning advertising and promotion for any of our product candidates for which we or they obtain marketing approval. Promotional communications with respect to prescription products are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we and any current or future collaborators will not be able to promote any products we develop for indications or uses for which they are not approved.

In addition, manufacturers of approved products and those manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, our contract manufacturers, any current or future collaborators and their contract manufacturers could be subject to periodic unannounced inspections by the FDA to monitor and ensure compliance with cGMPs.

Accordingly, assuming we, or any current or future collaborators, receive marketing approval for one or more of our product candidates, we, and any current or future collaborators, and our and their contract manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control.

If we, and any current or future collaborators, are not able to comply with post-approval regulatory requirements, we, and any current or future collaborators, could have the marketing approvals for our products withdrawn by regulatory authorities and our, or any current or future collaborators', ability to market any products could be limited, which could adversely affect our ability to achieve or sustain profitability. Further, the cost of compliance with post-approval regulations may have a negative effect on our operating results and financial condition.

Any product candidate for which we or our collaborators obtain marketing approval could be subject to restrictions or withdrawal from the market and we may be subject to substantial penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our product candidates, when and if any of them are approved.

Any product candidate for which we or our collaborators obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to quality control and manufacturing, quality assurance and corresponding maintenance of records and documents, and requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a product candidate is granted, the approval may be subject to

limitations on the indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the medicine, including the requirement to implement a risk evaluation and mitigation strategy.

The FDA and other agencies, including the Department of Justice, or the DOJ, closely regulate and monitor the post-approval marketing and promotion of products to ensure that they are marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and DOJ impose stringent restrictions on manufacturers' communications regarding off-label use and if we do not market our products for their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the Federal Food, Drug, and Cosmetic Act and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription products may lead to investigations and enforcement actions alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.



In addition, later discovery of previously unknown adverse events or other problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on such products, manufacturers or manufacturing processes;
- restrictions on the labeling or marketing of a product;
- restrictions on distribution or use of a product;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- damage to relationships with any potential collaborators;
- unfavorable press coverage and damage to our reputation;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure;

Near and Middle East	124.3	134.3	124.3
North America	1,252.3	1,671.1	1,553.2
Latin America	130.0	151.7	165.0
Total	3,840.9	4,223.9	3,535.8

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\* Premiums from the United Kingdom include business assumed through GAUM and Lloyd's syndicates for such lines of business as aviation and space as well as marine, where the exposures are worldwide in nature.

Therefore, geographic location of the ceding company may not necessarily be indicative of the location of risk. In 2004, two reinsurance intermediaries produced approximately 12% and 9% of Converium's gross premiums written. The revenues from these reinsurance intermediaries were produced across all of the segments. The same two reinsurance intermediaries produced approximately 12% and 11% in 2003, and 13% each in 2002, respectively, of Converium's gross premiums written. No ceding company accounted for more than 10% of Converium's revenues for any of the three years ended December 31, 2004.

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Notes to the consolidated financial statements (continued)

## 7. Invested assets and investment income

**Table 7.1****Investment income**

(US\$ million)

Year ended December 31	2004	2003	2002
Investment income:			
Fixed maturities	201.3	121.0	132.7
Equity securities	11.5	11.4	14.5
Short-term investments and cash and cash equivalents	8.0	7.5	12.9
Real estate	9.4	11.5	11.5
Other	19.6	7.0	11.0
Funds Withheld Asset	75.1	85.6	81.1
Total investment income	324.9	244.0	263.7
Investment expenses	11.6	8.0	6.1
Real estate expenses	1.7	3.0	5.8
Net investment income	311.6	233.0	251.8

The Funds Withheld Asset (see Note 17) was US\$ 1,305.1 million and US\$ 1,530.6 million as of December 31, 2004 and 2003, respectively. Net investment income on the Funds Withheld Asset is based on a weighted average interest rate similar to that of a bond portfolio.

**Table 7.2****Net realized capital gains and losses**

(US\$ million)

Year ended December 31	2004	2003	2002
Fixed maturities:			
Realized capital gains	23.9	46.1	145.9
Realized capital losses	18.2	11.3	57.9
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Equity securities:			
Realized capital gains	61.2	9.1	37.5
Realized capital losses	10.0	1.7	90.4
Write-down of impaired investments	6.2	27.4	48.3
Other	4.2	3.6	2.9
Net realized capital gains (losses)	46.5	18.4	10.3

In 2004, Converium's realized capital gains increased by US\$ 28.1 million to US\$ 46.5 million, primarily resulting from sales of equity securities to adjust its asset allocation to reduce investment portfolio risks.

In 2003, realized capital gains on sales of fixed income investments in order to reduce the duration of Converium's bond portfolio were mostly offset by realized losses and impairment charges.

In 2003, Converium created a portfolio of held-to-maturity government bonds totaling US\$ 500.4 million (10.2% of the fixed maturities portfolio, excluding the Funds Withheld Asset), of which US\$ 308.0 million were transferred from available-for-sale to held-to-maturity and US\$ 192.4 million were directly invested from operational cash flow.

Included in the 2002 realized amounts were gains on the restructuring of the fixed maturities portfolio of US\$ 62.9 million, offset by losses on the restructuring of the equity portfolio of US\$ 48.2 million, and losses realized on the sale of WorldCom fixed income investments of US\$ 15.8 million.

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Table 7.3**  
**Unrealized investment gains and losses**  
**(included in other comprehensive income)**

(US\$ million)	Net change for the year ended December 31			Total as of December 31	
	2004	2003	2002	2004	2003
Fixed maturities held-to-maturity	4.3	14.1		9.8	14.1
Fixed maturities available-for-sale	0.9	8.0	11.2	26.7	25.8
Equity securities available-for-sale	24.2	148.1	75.7	70.3	94.5
Hedge funds	2.5			2.5	
Less amounts of net unrealized investment gains (losses) attributable to: Net deferred income taxes	3.5	5.9	31.2	7.4	10.9
Foreign currency effect		50.3	50.3		
Total	28.6	198.6	83.6	116.7	145.3

**Table 7.4**  
**Investments in fixed maturities**  
**and equity securities**

(US\$ million)	Cost or		Gross		Gross unrealized losses		Estimated fair value	
	amortized cost 2004	2003	unrealized gains 2004	2003	2004	2003	2004	2003
As of December 31								
<b>Held-to-maturity</b>								
Fixed maturities:								
Transferred in:								
US government	414.2	294.0		6.2	11.3		402.9	300.2
Other governments	15.3	14.0	0.5	0.1			15.8	14.1
Newly invested:								
US government	170.1	169.8	0.9	1.8	0.2		170.8	171.6

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Other governments	250.8	22.6	3.7			0.8	254.5	21.8
Total held-to-maturity	850.4	500.4	5.1	8.1	11.5	0.8	844.0	507.7
<b>Available-for-sale</b>								
Fixed maturities:								
US government	1,765.6	1,728.0	9.1	13.6	11.6	8.0	1,763.1	1,733.6
Other governments	1,769.3	1,163.4	15.7	3.8	2.0	2.6	1,783.0	1,164.6
Corporate and other debt securities	661.1	671.6	13.4	12.7	2.4	3.4	672.1	680.9
Mortgage and asset-backed securities	612.2	839.4	5.7	11.5	1.3	1.8	616.6	849.1
Total	4,808.2	4,402.4	43.9	41.6	17.3	15.8	4,834.8	4,428.2
Equity securities	338.0	745.7	73.0	96.2	2.5	1.7	408.5	840.2
Total available-for-sale	5,146.2	5,148.1	116.9	137.8	19.8	17.5	5,243.3	5,268.4

In 2003, a reclassification within accumulated other comprehensive income of US\$ 18.7 million was made between net unrealized gains (losses) on investments and cumulative translation adjustments; this reclassification had no impact on accumulated other comprehensive income or total equity.

The following table presents the continuous periods during which investment positions were carried at an unrealized loss as of December 31, 2004:

**Table 7.5**  
**Maturities of unrealized investment losses on fixed maturities and equity securities**

(US\$ million)	Estimated fair value	Gross unrealized losses		
		Less than one year	Greater than one year	Total gross unrealized losses
As of December 31, 2004				
<b>Held-to-maturity</b>				
Fixed maturities	91.6	11.2	0.3	11.5
<b>Available-for-sale</b>				
Fixed maturities	1,989.2	15.8	1.5	17.3
Equity securities	31.9	2.5		2.5
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Total available-for-sale	2,021.1	18.3	1.5	19.8
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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

The estimated fair values and carrying values of fixed maturities are shown by contractual maturity below. Actual maturities may differ from contractual maturities because certain borrowers have the right to call or prepay certain obligations with or without call or prepayment penalties.

**Table 7.6**  
**Fixed maturity schedule by maturity**

(US\$ million)	Estimated fair value Available-for-sale (AFS)	% of total AFS	Carrying value Held-to-maturity (HTM)	% of total HTM
As of December 31, 2004				
Less than one year	182.5	3.8	15.9	1.9
One year through five years	2,871.8	59.4	450.8	53.0
Five years through ten years	923.2	19.1	353.5	41.6
Over ten years	91.8	1.9	30.2	3.5
Subtotal	4,069.3	84.2	850.4	100.0
Mortgage and asset-backed securities	616.6	12.7		
Unit trust bonds	148.9	3.1		
Total	4,834.8	100.0	850.4	100.0

At December 31, 2004 and 2003, real estate held for investment of US\$ 138.8 million and US\$ 130.2 million, respectively, net of accumulated depreciation of US\$ 9.5 million and US\$ 5.8 million, respectively, consists primarily of investments in residential and commercial rental properties located in Switzerland, acquired in late 2001 from subsidiaries of Zurich Financial Services. The fire insurance value of Converium's real estate held for investment and fixed assets totaled US\$ 237.5 million and US\$ 222.7 million at December 31, 2004 and 2003, respectively.

There are no investments in any entity in excess of 10% of equity at December 31, 2004 and 2003, other than investments issued or guaranteed by the US or sovereign governments or their agencies. Cash and investments with a carrying value of US\$ 282.1 million and US\$ 234.6 million were deposited in trust or with regulatory authorities as of December 31, 2004 and 2003, respectively.

Converium utilizes foreign exchange swaps as part of its overall currency risk management. The objective is to manage the liquidity situation of Converium's entities in various currencies. There were no foreign exchange swaps outstanding at December 31, 2004 or 2003.

As of December 31, 2004, Converium reported total investments including cash and cash equivalents of US\$ 7,164.2 million, of which (i) US\$ 1,060.8 million were pledged as collateral relating to outstanding letters of credit of US\$ 955.7 million of the US\$ 1.6 billion Syndicated Letter of Credit Facility, (ii) US\$ 704.7 million were pledged as collateral relating to other irrevocable letters of credit, (iii) US\$ 109.3 million were pledged primarily as deposits with French cedents, and (iv) US\$ 562.1 million were pledged to support Converium-internal reinsurance transactions.

#### 8. Goodwill and other intangible assets

Goodwill was US\$ 49.2 million and US\$ 140.2 million, at December 31, 2004 and 2003, respectively. The carried value of other intangible assets was US\$ 20.6 million and US\$ 24.7 million at December 31, 2004 and 2003, respectively. Goodwill and other intangible assets are included in the balance sheet under the caption Other assets .

During August 1997, Zurich Financial Services acquired all the remaining equity interests in CRNA then not owned by Zurich Financial Services. The acquisition of the minority interest in CRNA was accounted for as a purchase. Accordingly, the excess of the consideration paid in exchange for the minority interest over the fair value of the net assets attributable to the minority interest of US\$ 94.0 million was recorded as goodwill.

SFAS 142, Goodwill and Other Intangible Assets , requires impairment testing of goodwill annually or more regularly if any event or change in business circumstances occurs which would indicate that the carrying value of goodwill may be impaired. SFAS 142 also requires that useful lives for intangible assets other than goodwill be reassessed and the remaining amortization periods be adjusted accordingly.

Due to the reserving actions in 2004 in respect of prior year development in the Specialty Lines segment's business written in North America, and a subsequent decision to take a full valuation allowance against the net deferred tax asset at CRNA, a goodwill impairment test was conducted to assess the fair value of the reporting unit. As a result of this assessment, an impairment charge of US\$ 94.0 million was recorded as at June 30, 2004, representing all goodwill relating to CRNA. There were no intangible assets recorded on the CRNA balance sheet; therefore there was no requirement to perform impairment testing on intangible assets at CRNA as of June 30, 2004.

In March 2003, upon receipt of all regulatory approvals, Converium finalized an agreement to acquire a 25% stake in Global Aerospace Underwriting Managers Limited ( GAUM ), a leading international commercial and general aviation-underwriting agency, as a part of its strategy to strengthen its long-term position in the aviation and space line of business. Under the terms of the sale and purchase agreement, Converium has paid an initial consideration of GBP 14.2 million (US\$ 22.4 million) and is



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## Converium Holding AG and Subsidiaries

## Notes to the consolidated financial statements (continued)

additionally obligated to pay deferred consideration associated with the underlying performance of GAUM's in-force business. In view of a capped limit on deferred consideration, the maximum amount payable by Converium for the 25% stake in GAUM is GBP 20.8 million (US\$ 32.7 million). Converium as a shareholder also provided a loan to GAUM in the amount of GBP 12.6 million (US\$ 19.8 million).

In February 2004, Converium AG finalized a Sale and Purchase Agreement with Royal and Sun Alliance (RSA) to acquire a further 5.1% stake in GAUM, which increased its overall stake in GAUM to 30.1%. Included within the Sale and Purchase Agreement is a requirement for Converium AG to replace an existing loan from RSA in the amount of GBP 2.5 million (US\$ 4.5 million).

At December 31, 2004, the current value of the amortizable intangible asset associated with the 30.1% stake in GAUM is GBP 11.2 million (US\$ 20.6 million). The intangible asset relates to established customer relationships of GAUM and was initially intended to be amortized over a useful life of ten years. At December 31, 2003 the value of the intangible asset associated with the 25% stake in GAUM was GBP 13.9 million (US\$ 24.7 million).

In the light of changing business circumstances associated with Converium's S & P rating downgrade, Converium entered into fronting agreements with Munich Re and National Indemnity in order to support and sustain the aviation business from GAUM. The fronting agreements currently extend to September 30, 2005 with no contractual guarantee that they will be extended beyond this date. In view of this fact Converium management have reassessed the remaining useful life of the intangible asset to be less than one year so that the intangible asset will be amortized until September 30, 2005, the date of cessation of the existing fronting agreement. As a result of this change, we recorded an additional amortization charge of GBP 3.7 million (US\$ 6.8 million) in the fourth quarter of 2004, resulting in a charge of US\$9.9 million for the year.

At December 31, 2004, the current carried value of goodwill associated with the 30.1% stake in GAUM is GBP 13.1 million (US\$ 25.2 million). At December 31, 2003, the current carried value of goodwill associated with the 25.0% stake in GAUM was GBP 11.4 million (US\$ 18.4 million). An annual goodwill impairment test was carried out at December 31, 2004 in respect of the 30.1% investment in GAUM and it is considered that no impairment is warranted as of December 31, 2004. Converium will reassess whether any impairment is warranted as and when there is a change in current business circumstances including a final decision as to whether the fronting arrangements with Munich Re and National Indemnity will be extended beyond the current ending date of September 30, 2005.

The remaining balance of goodwill as of December 31, 2004 relates to Converium AG's 49.9% strategic investment in the Medical Defence Union Services Ltd (MDUSL) executed during 2000. Upon application of SFAS No. 142, Converium ceased amortizing goodwill in respect of MDUSL effective January 1, 2002. Converium has conducted its normal impairment test in respect of MDUSL in the fourth quarter of 2004. This business continues to perform in line with management's expectations and accordingly no impairment is considered appropriate as of December 31, 2004.

See Notes 3 and 18 for additional information on GAUM. See Note 18 for additional information on the Medical Defence Union (the MDU) and MDUSL.

## 9. Losses and loss adjustment expenses

Significant delays occur in the notification of claims and a substantial measure of experience and judgment is involved in assessing outstanding liabilities, the ultimate cost of which cannot be known with certainty as of the balance sheet date. The reserve for losses and loss adjustment expenses is determined on the basis of information currently

available; however, it is inherent to the nature of the business written that the ultimate liabilities may vary as a result of subsequent developments.

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Converium Holding AG and Subsidiaries  
Notes to the consolidated financial statements (continued)

**Table 9.1**  
**Reserves for losses and loss adjustment expenses**

(US\$ million)	2004	2003	2002
<b>As of January 1</b>			
Gross reserves for losses and loss adjustment expenses	7,842.8	6,821.3	5,710.5
Less reinsurance recoverable	1,385.4	1,459.8	1,545.0
Net reserves for losses and loss adjustment expenses	6,457.4	5,361.5	4,165.5
<b>Loss and loss adjustment expenses incurred</b>			
Current year	2,865.4	2,527.9	2,186.8
Prior years	342.5	31.3	148.5
Total	3,207.9	2,496.6	2,335.3
<b>Losses and loss adjustment expenses paid</b>			
Current year	498.1	324.7	299.4
Prior years	1,766.4	1,464.7	1,095.5
Total	2,265.4	1,789.4	1,394.9
Foreign currency translation effects	240.7	388.7	255.6
<b>As of December 31</b>			
Net reserves for losses and loss adjustment expenses	7,641.5	6,457.4	5,361.5
Reinsurance recoverable	1,135.4	1,385.4	1,459.8
Gross reserves for losses and loss adjustment expenses	8,776.9	7,842.8	6,821.3

Prior years loss and loss adjustment expenses incurred in 2004 of US\$ (342.5) million net were primarily driven by reserve strengthening of (US\$ 562.0 million) and the impacts on losses and loss adjustment expenses incurred of (i) adjustments of ultimate premium estimates (US\$ 206.4 million) (see Note 11), (ii) the commutation of the stop-loss protection regarding underwriting year 2001 of the professional liability business generated through our joint venture with MDU (US\$ (10.5) million), and (iii) the reduction of reinsurance recoverables of (US\$ (12.0) million), which is offset by the effect of commutations.

Converium has experienced significant adverse development predominantly in its US casualty reinsurance lines for the last several years. Since 2000, Converium has recorded a total of US\$ 868.2 million of additional net provisions on prior years' non-life business (2000: US\$ 65.4 million; 2001: US\$ 123.6 million; 2002: US\$ 148.5 million; 2003: US\$ (31.3) million; and 2004: US\$ 562.0 million).

During early 2004, Converium announced that reported losses from prior years' US casualty business had exceeded expected loss emergence and that the volatility of longer-tail risks was likely to persist for some time. This adverse loss-reporting trend continued and accelerated into mid-2004 and prompted Converium to initiate additional reviews of its US business from an integrated underwriting, claims and actuarial perspective in order to examine the adequacy of prior years' provisions. In addition, in order to obtain an external review of our overall reserve position, Converium commissioned the actuarial consulting firm Tillinghast-Towers Perrin to perform an independent actuarial review of our non-life loss and allocated loss adjustment expense reserves as of June 30, 2004 in respect of the Zurich and New York originated businesses. The outcome of these in-depth internal and external reviews resulted in an aggregate strengthening of prior years' non-life loss reserves by US\$ 562.0 million for the year ended December 31, 2004. This action was taken in response to the continued adverse loss emergence due to increased claims reporting activity from clients relating to US casualty business written from 1997 to 2001 as well as deterioration from European non-proportional motor business written in recent years. While Converium believes that it has fully addressed this issue through our reserving actions, volatility is expected to persist for some time.

In the Standard Property & Casualty Reinsurance segment, the development of prior years' reserves of US\$ 73.5 million primarily related to adverse developments of General Third Party Liability (US\$ 116.3 million), motor liability outside the United States (US\$ 91.7 million) and Personal Accident (non-life) (US\$ 8.1 million), which was partially offset by positive developments related to property (US\$ 82.1 million) and miscellaneous liability (US\$ 60.5 million) that also included the impact of whole account retrocessions. In the Specialty Lines segment, the development of prior years' reserves of US\$ 488.5 million primarily related to adverse developments of the Professional Liability and other Special Liability lines (US\$ 449.3 million), particularly excess & surplus lines and umbrella, Workers' Compensation (US\$ 55.3 million), and Engineering (US\$ 12.9 million). These adverse developments in the Specialty Lines were partially offset by positive developments related to Aviation & Space (US\$ 24.5 million), Agribusiness (US\$ 0.7 million), and Credit & Surety (US\$ 3.8 million).

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## Converium Holding AG and Subsidiaries

## Notes to the consolidated financial statements (continued)

In 2003, the positive development of US\$ 31.3 million consisted of positive development on the property (US\$ 113.5 million) and aviation and space (US\$ 102.2 million) lines of business, offset by adverse development on workers' compensation and professional liability and other special liability lines (US\$ 120.3 million) and the motor and general third party liability lines (US\$ 64.1 million). The reserve releases in 2003 were primarily from the 2002 underwriting year, while the US business written in 1997 to 2001 mostly saw continued strengthening.

In 2002, Converium strengthened reserves for prior years by US\$ 148.5 million. Throughout the year, increased loss experience related to prior years continued to emerge, which resulted in an in-depth actuarial reserve analysis of certain lines of business. This resulted in an additional US\$ 148.5 million provision for losses, primarily related to underwriting years 1997 through 2000. In the Standard Property & Casualty Reinsurance segment, there were additional provisions of US\$ 62.2 million for the liability, motor and property lines. In the Specialty Lines segment, there were additional provisions of US\$ 86.3 million, primarily related to the commercial umbrella and medical errors and omissions liability lines of business.

The reserves for certain losses and loss adjustment expenses, such as those for settled claims with fixed payment terms, represent the present value estimates of the ultimate cost of all losses incurred but not paid through December 31 of each year. Where applicable, gross reserves of US\$ 618.6 million and US\$ 594.4 million have been discounted using an average interest rates of 3.5% in 2004 and 2003, respectively. This has reduced reserves by US\$ 69.6 million and US\$ 65.3 million as of December 31, 2004 and 2003, respectively. In addition, deferred charges relating to retrospective reinsurance and structured settlements totaling US\$ 75.9 million and US\$ 64.3 million as of December 31, 2004 and 2003, respectively, are included in other assets.

Converium believes that its exposure to environmental impairment liability and asbestos-related claims is relatively small due to the diminutive amount of business written prior to 1987 for Converium AG and CRNA. Additionally, CRNA is protected by a stop loss agreement with Zurich Insurance Company (ZIC), a wholly owned subsidiary of Zurich Financial Services, for business effected prior to June 1, 1993. As of December 31, 2004 and 2003, Converium Rückversicherung (Deutschland) AG had reserves for environmental impairment liability and asbestos-related claims of US\$ 49.2 million and US\$ 45.8 million, respectively, representing a survival ratio (calculated as the ratio of reserves held, including IBNR, over claims paid over the average of the last three years) of 13.6 years for each year.

*Impact of recent hurricanes, typhoons, and the tsunami:* In 2004, Converium recorded losses from Hurricanes Charley, Frances, Ivan and Jeanne in the United States and the Caribbean, the typhoons in Japan, and the tsunami in the Indian Ocean of US\$ 154.5 million.

**September 11th terrorist attacks**

As of December 31, 2004, Converium recorded gross and net incurred losses and loss adjustment expenses related to the September 11th terrorist attacks as follows:

Segment (US\$ million)	Retrocessional reinsurance		Net losses
	Gross losses	recoveries	
Standard Property & Casualty Reinsurance	263.7	155.2	108.5

Specialty Lines	380.0	211.3	168.7
Life & Health Reinsurance	20.0	8.0	12.0
Total	663.7	374.5	289.2

Included in the reinsurance recoveries above are US\$ 133.3 million due from Zurich Financial Services and subsidiaries.

Certain arrangements with Zurich Financial Services described below provide protection against potential adverse loss development on the September 11th terrorist attacks for Converium AG, Converium Rückversicherung (Deutschland) AG and CRNA above the initial loss amounts recorded of US\$ 289.2 million, net of retrocessional reinsurance recoveries.

In December 2004, a federal jury in New York concluded that the two planes that crashed into the World Trade Center during the attacks of September 11th, for insurance purposes, represented two separate attacks. This ruling increased Converium's gross losses and loss adjustment expenses by US\$ 8.7 million, but as Converium's losses are capped at US\$ 289.2 million by Zurich Financial Services, this ruling did not have an effect on Converium's net loss position. In 2004, 2003 and 2002, there was no additional development in net reserves for the September 11th terrorist attacks.

Converium AG's exposure under the Quota Share Retrocession Agreement (see Note 17) is limited for Extraordinary Events. The agreement limits Converium AG's losses arising out of any Extraordinary Event to US\$ 220.0 million and the parties have agreed that the September 11th terrorist attacks are an Extraordinary Event and that the US\$ 220.0 million limit applies to losses arising out of the September 11th terrorist attacks. Because ZIC and Zurich International Bermuda Ltd (ZIB), wholly

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Notes to the consolidated financial statements (continued)

owned subsidiaries of Zurich Financial Services, retain losses in excess of the limit, Zurich Financial Services will be responsible for non-payment, if any, by the retrocessionaires with regard to losses arising out of the September 11th terrorist attacks in excess of the US\$ 220.0 million limit.

ZIC will indemnify Converium Rückversicherung (Deutschland) AG for losses arising out of the September 11th terrorist attacks in excess of US\$ 11.0 million, net of retrocessional reinsurance recoveries.

CRNA is covered under the ZIC 1997 Aggregate Excess of Loss Agreement for losses in excess of US\$ 58.2 million. In addition, ZIC will indemnify CRNA against loss development in excess of the available limits under the ZIC 1997 Aggregate Excess of Loss Agreement. See Note 17 for further information.

10. Guaranteed Minimum Death Benefit (GMDB)

Converium assumed certain retrocession liability with regard to Guaranteed Minimum Death Benefit ( GMDB ) features attached to variable annuity policies written in the United States. These treaties are all in run-off and cover in total 1.5 million policies that were issued mainly in the late 1990 s and that incorporate various benefit types originating from different primary insurers. Claims occur in the event of death if a policy is in-the-money, which means that the GMDB exceeds the account balance. Under these circumstances, the difference between the GMDB and the account balance or the GMDB and the cash surrender value becomes due, depending on the definition of the underlying reinsurance agreements.

The following types of Guaranteed Minimum Death Benefits are covered:

Return of premium: The GMDB is the amount of total deposits adjusted for partial withdrawals, if any.

Ratchet: After a given number of years, the GMDB is adjusted to the current account balance, if greater. Most common is a one-year ratchet, meaning that the GMDB is adjusted annually on the policy s anniversary date.

Rollup: The GMDB increases each year from the initial premium adjusted for later deposits and partial withdrawals by a fixed percentage. Rollup guarantees reinsured under Converium s agreements grant an annual accumulation percentage between 3% and 7%. In many products, especially for higher rollup percentages, an upper limit applies (e.g. 200% of the paid policy- holder premium adjusted for later deposits and partial withdrawals).

Reset: After a given number of years, the GMDB is adjusted to the current account balance. This means that the GMDB can be reduced but often not below the paid-up premium (adjusted for later deposits and partial withdrawals).

Combinations of the above.

Guarantees that increase over the time are, for a majority of the assumed business, only applied up to a certain age (e.g. 85). For the majority of the portfolio, a maximum death benefit age exists and, as a consequence, Converium will be off the risk afterwards.

Converium does not hold any contract holder funds. These assets remain with the originating ceding companies.

The GMDB liability is determined each period based on the information provided by Converium s ceding companies. The current account value, the guaranteed death benefit and details of the covered benefit types are taken into

consideration for the evaluation of the net amount at risk ( NAR ) and the expected future liability. The liability according to SOP 03-1 is estimated at the end of the reporting period.

For the evaluation of the liabilities, Converium uses an actuarial model that considers 1,000 stochastically generated investment performance scenarios. The mean performance assumed for equities is 9.6% and the mean performance for other investment types such as bonds and cash deposits varies between 4.8% and 5.7%. The corresponding volatility assumptions are 18.3% and 1.5% to 2.2%, respectively. The discount rate used in the model is stochastically generated in line with the other investment scenarios and takes into consideration the current yield level. It is assumed to be an average of 5.7% over the long run. The mortality assumption is 100% of the Annuity 2000 table. Lapse rates vary by duration and range from 6.5% to 20%. Partial withdrawals, either applied pro rata or on a dollar-for-dollar basis according to the policy conditions, are also considered in the modeling. The corresponding parameter, reflecting the on average withdrawn amount of the account value, varies by duration and is assumed to range from 2.4% to 7.5% per annum.

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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

As of December 31, 2004, the following values were estimated as described above:

**Table 10.1**

(US\$ million)	Average age	GMDB	Account value	NAR	Gross SOP 03-1 reserve
Guarantee type					
Ratchet	65.4	2,110.4	1,771.9	407.4	24.7
Rollup	70.1	585.0	405.5	188.7	21.7
Rollup & ratchet	66.7	21.6	18.2	4.9	0.2
Return of premium	63.3	21.5	21.2	2.6	0.1
Reset	58.3	288.4	296.9	23.3	1.1
Reset & return of premium	59.8	131.1	131.0	8.6	0.4
Total	66.5	3,158.0	2,644.7	635.5	48.2

The table below shows the cash flow and claim reserves balances for the periods shown:

**Table 10.2**

(US\$ million)

Year ended December 31	2004	2003	2002
Received reinsurance premium, net of commission and brokerage	5.1	4.5	5.4
Paid losses	13.3	20.4	12.5
As of December 31	2004	2003	
Claim reserves (including case reserves and IBNR)	4.9	7.7	

For the year ended December 31, 2004 there were no exceptional reserving actions required for the GMDB book of business. In 2003 and 2002, the Life & Health Reinsurance segment strengthened reserves for this closed block of variable annuity business by US\$ 20.5 million (to net US\$ 56.0 million) and US\$ 15.6 million, respectively. As a

result of the strong performance of the US stock markets, the GMDB's net amount at risk further decreased to US\$ 635.5 million at December 31, 2004 from US\$ 809.7 million at December 31, 2003.

In late 2004, Converium entered into an agreement to terminate its US\$ 75.0 million GMDB reinsurance protection purchased at the end of 2003, for an amount of US\$ 9.7 million giving rise to a net cost of the cover for 2004 of US\$ 0.1 million. The primary purpose of this cover was to address the volatility in the United States equity markets and potential adverse deviations to other key assumptions such as mortality risks, lapse rate risks and surrenders.

Although Converium feels that its current carried reserves for its GMDB exposure are adequate, the company will continue to monitor and review other reinsurance and financial product solutions to address the risks associated with this business.

#### 11. Retrocessional reinsurance and catastrophe protection

##### **Retrocessional reinsurance**

Retrocessional reinsurance arrangements generally do not relieve Converium from its direct obligations to its reinsureds. Thus, a credit exposure exists with respect to reinsurance ceded to the extent that any retrocessionaire is unable or unwilling to meet the obligations assumed under the retrocessional agreements. At December 31, 2004 and 2003, Converium held US\$ 559.4 million and US\$ 635.3 million, respectively, in collateral as security under related retrocessional agreements in the form of deposits, securities and/or letters of credit. Converium is able to access outside capacity for both traditional and non-traditional coverage and therefore is not dependent upon any single retrocessional market.

As of December 31, 2004, recoverables from subsidiaries of Zurich Financial Services total 19.7% of equity. There were no recoverables from any other retrocessionaire that exceeded 10% of equity at December 31, 2004. Allowances of US\$ 40.6 million and US\$ 35.4 million have been recorded for estimated uncollectible receivables and reinsurance recoverables at December 31, 2004 and 2003, respectively.

##### *National Indemnity Cover*

In order to provide additional comfort as regards to Converium's reserve position, Converium has acquired a retroactive stop-loss retrocession cover from National Indemnity Company, a Standard & Poor's AAA-rated member of the Berkshire Hathaway

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## Notes to the consolidated financial statements (continued)

group of insurance companies. The stop-loss provides an additional US\$ 150.0 million of cover against potential adverse reserve development on the underwriting years 1987 through 2003 for Converium AG, CRNA and CINA. The cover of US\$ 150.0 million attaches at US\$ 100.0 million in excess of the ultimate third-party net non-life reserves; which are defined as non-life carried losses and allocated loss adjustment expense reserves as of June 30, 2004 plus the expected losses and allocated loss adjustment expenses emanating out of the unearned premium reserves as of June 30, 2004 of the portfolio subject to cover, carried by these legal entities for these underwriting years as of June 30, 2004 and therefore excludes inter-group reinsurance arrangements. The reinsurance charge for this retrocession is US\$ 20.0 million and has been recorded in the income statement under the caption Other (loss) income. There are additional consideration features associated with this layer of coverage, which may result in additional consideration of up to US\$ 60.0 million being paid in the event that the cover is fully utilized. No losses have been ceded as of December 31, 2004.

In addition, this contract has another layer of coverage of US\$ 235.0 million for which a consideration of US\$ 135.0 million has been paid. This layer attaches at US\$ 235.0 million below the ultimate third-party net non-life reserves on the same underwriting years. The economics of this layer of coverage are such that the reinsurance risk transfer requirements of US GAAP are not met. Accordingly, this protection is accounted for under deposit accounting rules. As a result, there is no material income statement impact for 2004 in respect of this layer of coverage.

Converium has retained the right to commute the whole transaction on July 1, 2009, or thereafter at mutually agreeable terms.

*Master Retrocession Agreement*

The Life & Health Reinsurance segment's Master Retrocession Agreement for its financing contracts was terminated, resulting in a repayment of the non-amortized financing of US\$ 36.9 million. The provisions for this termination led to a realization of a profit of US\$ 3.4 million in 2004.

**Table 11.1**

(US\$ million) Year ended December 31	Gross		Reinsurance assets		Net of reinsurance	
	2004	2003	2004	2003	2004	2003
Reserves for losses and loss adjustment expenses	8,776.9	7,842.8	1,135.4	1,385.4	7,641.5	6,457.4
Reserves for unearned premiums	1,312.3	1,467.4	111.7	177.0	1,200.6	1,290.4
Future life benefits	545.8	483.5	90.7	156.2	455.1	327.3
Total underwriting reserves	10,635.0	9,793.7	1,337.8	1,718.6	9,297.2	8,075.1

**Table 11.2****Premiums written and earned**

(US\$ million) For the years ended December 31	Premiums written			Premiums earned		
	2004	2003	2002	2004	2003	2002
Direct premiums	490.9	561.4	88.0	574.1	326.0	77.1
Assumed premiums	3,350.0	3,662.5	3,447.8	3,465.8	3,668.3	3,289.0
Ceded premiums	282.3	387.5	204.2	349.2	308.4	191.2
Catastrophe Agreement	5.6	9.4	9.4	5.6	9.4	9.4
Total	3,553.0	3,827.0	3,322.2	3,685.1	3,676.5	3,165.5

*Adjustments of ultimate premium estimates:* During the course of 2004 Converium implemented enhanced procedures for establishing written premium estimates. Our processes require underwriters and others to assess the realization of premium estimates on a quarterly basis. This was supplemented at year-end by a detailed review using actuarial techniques, primarily for European non-life business, which compare estimates with actuarially derived amounts using ceding companies actual reported premium information. These analyses resulted in a decrease in net premiums written and earned in the Standard Property & Casualty Reinsurance and Specialty Lines segments in the amount of US\$ 219.8 million; after reflecting the impact on accrued underwriting expenses of US\$ 16.5 million and losses of US\$ 206.4 million, the impact of these adjustments on the technical result was an increase of US\$ 3.0 million.

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Notes to the consolidated financial statements (continued)

**Table 11.3****Benefits, losses and expenses**

(US\$ million)

For the years ended December 31	2004	2003	2002
<b>Losses, loss adjustment expenses and life benefits</b>			
Direct	481.4	238.5	124.5
Assumed	2,891.3	2,633.2	2,587.7
Ceded	109.6	197.5	220.2
Total	3,263.1	2,674.2	2,492.0
<b>Underwriting acquisition costs</b>			
Direct	64.9	39.6	24.6
Assumed	821.1	798.5	681.3
Ceded	43.5	34.9	39.2
Total	842.5	803.2	666.7

**Catastrophe protection**

On June 15, 2004, Converium AG announced the successful private placement of US\$ 100.0 million of floating rate notes issued by Helix 04 Limited ( Helix 04 ), a Bermuda special purpose exempted company. By means of a counter-party contract with the issuer, the transaction provides Converium with fully collateralized second and subsequent event protection for North Atlantic hurricane, US earthquake, Japanese earthquake and European windstorm property catastrophe exposures. The notes are triggered only by second and subsequent events in any of the four peril regions during the five-year term of the transaction.

Payments from Helix 04 to Converium AG are based on modeled reinsurance losses on a notional portfolio. In a modeled loss contract, the covered party's aggregate exposure to each geographical region and type of catastrophe, by line of business, is compared to industry-wide data in order to produce the covered party's market share of particular loss events by line of business using commercially available natural catastrophe loss simulation modeling software. The software simulates a catastrophe, at various levels of severity, by generating certain probabilistic loss distributions, in order to calculate industry-wide losses and the corresponding losses for the covered party on a ground-up basis, by line of business. These losses are then compared to the modeled loss contracts to determine the amount of the covered party's recovery in respect of such an event.

The Helix 04 contract is first triggered when notional losses reach US\$ 150.0 million. The second trigger is hit when notional losses reach US\$ 175.0 million. It then pays out according to a sliding scale of notional losses up to US\$ 275.0 million. The amount of losses that must be incurred before coverage applies relates to the type of loss event, e.g. earthquake, hurricane or windstorm.

Converium estimates its gross loss for each of the recent hurricanes and typhoons to be less than the Helix 04 activation threshold of US\$ 150.0 million for each such event and therefore Converium will not file a trigger event request in respect of these losses.

The expected annual cost of Helix 04 to Converium AG is approximately US\$ 5.6 million. The annual charge to Converium is not impacted by the occurrence of a loss event that is protected by Helix 04, unlike the prior contract in respect of Trinom, where Converium was required to pay higher amounts for the remainder of the term of the contract. The Helix 04 counter-party contract is not treated as reinsurance and accordingly the charge is reflected through other (loss) income although the cost of the counter-party contract is amortized over the term of the contract in a manner similar to reinsurance.

## 12. Debt

Converium Holdings (North America) Inc. ( CHNA ) assumed US\$ 200.0 million principal amount of non-convertible, unsecured, unsubordinated Senior Notes (the Senior Notes ) originally issued during October 1993. The Senior Notes mature in full on October 15, 2023 and bear interest at the rate of 7.125%, payable semiannually in arrears on April 15 and October 15. In 2004, the interest payments regarding the 7.125% non-convertible, unsecured, unsubordinated Senior Notes of CHNA were funded (i) by corresponding dividends of CHNA with regards to the coupon payment of April 15, 2004; and (ii) by Converium AG with regards to the coupon payment of October 15, 2004, due to the dividend restrictions of CHNA (see Note 22).

In December 2002, Converium Finance S.A. issued US\$ 200.0 million principal amount of non-convertible, unsecured, guaranteed subordinated notes (the Guaranteed Subordinated Notes ). The Guaranteed Subordinated Notes are irrevocably and unconditionally guaranteed on a subordinated basis by each of Converium Holding AG and Converium AG. The Guaranteed Subordinated Notes mature in full on December 23, 2032 and bear interest at the rate of 8.25% paid quarterly in arrears on March 15, June 15, September 15 and December 15.

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Notes to the consolidated financial statements (continued)

Debt issuance costs and discounts were US\$ 9.1 million and US\$ 9.4 million at December 31, 2004 and 2003, respectively. Such costs are being amortized over the term of the related debt.

## 13. Income taxes

Table 13.1 below illustrates an overview of the current and deferred tax expense (benefit) for each tax jurisdiction of Converium.

**Table 13.1**  
**Income tax expense (benefit)**  
(US\$ million)

For the years ended December 31	2004	2003	2002
<b>Current</b>			
Switzerland	18.2	10.0	23.9
United States	59.3	48.4	
Germany	2.9	2.3	0.2
Total current	80.4	40.7	24.1
<b>Deferred</b>			
Switzerland	32.5	26.5	22.2
United States	207.9	63.9	34.4
Germany	17.4	10.4	16.9
Total deferred	257.8	80.0	73.5
Total income tax expense (benefit)	338.2	39.3	49.4

An expected income tax expense (benefit) is calculated based on the statutory tax rates for Converium. These rates were derived by calculating the weighted average of the expected statutory income tax in relation to the (loss) income generated in the various territories in which Converium operates. Based on the expected income tax expense (benefit), reconciliation is made to the actual income tax expense (benefit).

Table 13.2 below illustrates the factors that cause the actual income tax expense (benefit) to differ from the expected amount computed by applying the expected rate.

**Table 13.2**  
**Expected and actual income tax expense (benefit)**

(US\$ million)

Year ended December 31	2004	2003	2002
(Loss) income before tax	422.6	224.4	57.4
Statutory average tax rate	69.6%	7.0%	24.9%
Expected income tax (benefit) expense	294.0	15.7	14.3
Increase (reduction) in taxes resulting from:			
Dividends received deduction	1.5	3.8	2.9
Non-taxable reinsurance contract			4.9
Branch tax		2.1	0.7
Non-deductible expenses	1.9	3.3	9.1
Tax losses not realizable		37.9	
Tax loss carryforward	614.2	13.6	21.3
Changes in applicable tax rates	1.2	2.8	5.5
Deferred acquisition costs			4.7
Currency translation adjustments			6.7
Hedge Agreement with Converium Finance S.A., Luxembourg	2.3		
Prior year adjustments	7.8		
Goodwill take-down	32.9		
Other	2.6	0.5	1.1
Actual income tax expense (benefit)	338.2	39.3	49.4
Effective tax rate	80.0%	17.5%	86.1%

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## Converium Holding AG and Subsidiaries

## Notes to the consolidated financial statements (continued)

The statutory average tax rate of 69.6% is affected by the difference between statutory results relevant for tax calculations and the US GAAP pre-tax results. The primary difference is the handling of the impairment charges recorded in the fourth quarter related to investments in subsidiaries. The charges are reflected in the statutory results for tax calculations, however on a US GAAP basis these charges are eliminated during the consolidation process and are therefore excluded for tax calculation purposes.

Converium's consolidated income tax expense for the year ended December 31, 2004 reflects an additional expense of US\$ 269.8 million related to the establishment of a full valuation allowance against the net deferred income tax balances previously carried at CRNA. Converium has not established any additional deferred tax asset related to the losses sustained by CRNA. Additionally, Converium's consolidated income tax expense for 2004 includes an expense of US\$ 19.9 million related to the establishment of a valuation allowance against the net operating losses carried forward at Converium AG.

The 2003 consolidated tax expense reflects an increase in the tax loss carryforward due to the retrocession of certain contracts from Germany to Switzerland. This was offset by non-deductible expenses caused by the novation of certain contracts from North America to Switzerland.

The 2002 consolidated tax benefit reflects a one-time benefit of US\$ 21.3 million as a result of a ruling Converium AG received from the Swiss tax authorities regarding a tax loss carried forward.

As required under SFAS 109, "Accounting for Income Taxes", Converium is required to assess if it is more likely than not that some or all of the net deferred tax assets will not be realized. In making this assessment, reference is made to, among other things, historical losses. Therefore, a full valuation allowance was established against CRNA's net deferred tax assets to reflect the continued net loss position of CRNA. CRNA may offset future taxable income against the existing net operating losses carried forward, resulting in no US federal tax expense on such income until such time as the net operating losses are utilized or expire. In addition, Converium AG presents deferred taxes for timing differences only. Future positive income will offset against net operating losses carried forward and will not cause any income taxes except changes in timing differences. For CRNA and Converium AG positive income will offset against net operating losses carried forward until the net operating losses will expire.

As of December 31, 2004, Converium's valuation allowance on deferred tax assets was US\$ 711.9 million, comprising net operating losses carried forward (US\$ 571.7 million), loss reserve discount (US\$ 110.2 million) and other temporary differences, net (US\$ 30.0 million). As of December 31, 2003, the valuation allowance was US\$ 47.9 million, all of which related to net operating losses carried forward. As of December 31, 2004, Converium had total net operating losses carried forward of US\$ 2,512.5 million available to offset future taxable income of certain branches and subsidiaries. The majority of these net operating losses carried forward relate to CRNA and Converium AG and expire in the years 2020 through 2024 and 2010 through 2011, respectively.

Converium will continue to monitor its tax position and reassess the need for a full valuation allowance on its net deferred tax assets on a periodic basis. Realization of the deferred tax asset related to net operating losses carried forward is dependent upon generating sufficient taxable income within specified future periods. The decision to place CRNA into run-off may limit the ability to generate taxable income to fully utilize its net operating loss carryforwards.

Deferred income taxes are provided for all temporary differences, which are based on the difference between financial statement carrying amounts and the income tax bases of assets and liabilities. The income tax basis of an asset or

liability is calculated in accordance with the rules for determining taxable income established by the local taxation authorities. For a particular asset or liability, this may result in a deferred tax asset in one country but a deferred tax liability in another. In addition, a deferred tax asset is established for net operating loss carryforwards. The deferred tax asset is reduced by a valuation allowance if it is more likely than not that some or all of the deferred tax asset will not be realized.

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Notes to the consolidated financial statements (continued)

Converium's deferred income tax assets and liabilities are reflected in table 13.3 below.

**Table 13.3**  
**Deferred income taxes**

(US\$ million)	2004	2003
<b>Deferred income tax assets</b>		
Loss reserve discount	110.2	110.0
Unearned premium reserve deduction	17.6	36.3
Accruals not currently deductible	20.5	18.4
Partnership loss	2.6	5.5
Net operating loss carryforwards	590.6	175.4
Goodwill	8.1	11.0
Unrealized currency losses	21.4	
Other	19.2	36.4
Total deferred income tax assets	790.2	393.0
Valuation allowance	711.9	47.9
Net deferred income tax assets	78.3	345.1
<b>Deferred income tax liabilities</b>		
Loss and benefit reserves	25.4	31.9
Deferred policy acquisition costs	75.8	71.0
Unrealized appreciation of investments	22.4	9.3
Investments	10.2	12.0
Reinsurance contracts	19.3	17.6
Other	4.1	16.5
Total deferred income tax liabilities	157.2	158.3

Net deferred income tax assets	78.3	345.1
Net deferred income taxes as of December 31	78.9	186.8

The current net income tax payable as of December 31, 2004 was US\$ 16.4 million as compared to a current net income tax receivable of US\$ 44.1 million at December 31, 2003. In 2003, Converium claimed a refund request for special estimated tax payments made for former years. Respectively, Converium shifted approximately US\$ 58.0 million from deferred tax asset into current income tax receivable. In 2004, the Internal Revenue Service denied the refund and consequently, Converium decreased the current income tax receivable accordingly.

Converium's net operating loss carryforwards by expiration date are as follows:

**Table 13.4**  
**Net operating loss carryforwards**

(US\$ million)	Net operating loss carryforward	Deferred income tax asset	Valuation allowance	Net deferred income tax asset
One year through five years	100.1	15.1	15.1	0.0
Over five years	2,412.4	575.5	556.6	18.9
Total as of December 31, 2004	2,512.5	590.6	571.7	18.9

#### 14. Employee benefits

Converium has established a number of benefit plans for its employees. Some employees belong to defined benefit plans and other employees participate in defined contribution plans, providing benefits equal solely to contributions paid plus investment returns.

Personnel costs incurred for 2004, 2003 and 2002 were US\$ 131.1 million, US\$ 123.9 million and US\$ 110.7 million, respectively. The 2004 amount includes US\$ 15.7 million of costs related to the retention plans rolled out in September 2004 (see Note 15).

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## Converium Holding AG and Subsidiaries

## Notes to the consolidated financial statements (continued)

Employees of certain of Converium's entities are covered under various defined benefit pension plans. Eligibility for participation in these plans is either based on completion of a specified period of continuous service or date of hire. Benefits are generally based on the employees' years of credited service and average compensation in the years preceding retirement. Annual funding requirements are determined based on actuarial cost methods. The transition obligation (asset) is being amortized over the greater of either fifteen years or the service period of the employees on a straight-line basis.

The Pension Fund of Converium AG (the Fund) is a foundation whose objective is to insure the personnel of Converium AG against the economic consequences of retirement, disability and death as provided by the statutory provisions of the plan rules. The Fund is a pension fund providing mandatory insurance as required by Swiss Federal Law and is supervised by the Canton of Zurich. The Fund's pension plan is a defined contribution plan in accordance with Swiss Federal Law, but it does not meet the definition of a defined contribution plan pursuant to SFAS No. 87, Employers' Accounting for Pensions, because of certain defined benefit elements required by Swiss Federal Law.

The participants' contributions to the Fund typically amount to between 7% and 11.5% of the coordinated annual salary (defined as base salary minus coordination amount of 30%) depending on the insured participant's age and 7% of the annual incentive-based salary. By law, the employer's contribution must at least equal the contribution of the participant. Converium AG's contribution typically amounts to between 9% and 16% of the coordinated annual salary and 9% of the incentive-based salary. Converium AG's contributions to the Fund amounted to CHF 8.1 million in 2004 and CHF 5.2 million in 2003.

Participants may purchase pension benefits at their own cost at any time within certain limits defined by the plan rules or pre-finance their pension benefits reductions in case of early retirement.

The principal actuarial weighted average assumptions used for calculating defined benefit plans are as follows:

**Table 14.1**  
**Weighted average**

	2004	2003	2002
Discount rate	3.46%	3.99%	3.85%
Expected long-term rate of return on assets	5.50%	6.00%	6.00%
Future salary increases	2.00%	2.00%	2.16%
Future pension increases	0.89%	0.90%	0.91%

**Table 14.2**

(US\$ million)	2004	2003	2002
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**Projected benefit obligation**

Projected benefit obligation as of January 1	80.3	64.9	43.6
Service cost	7.4	7.6	5.0
Interest cost	3.2	2.6	2.1
Actuarial losses (gains)	10.1	3.8	4.5
Foreign currency translation effects	9.3	8.8	9.8
Benefits paid	0.9	0.2	0.1
Projected benefit obligation as of December 31	109.4	80.3	64.9
<b>Fair value of plan assets</b>			
Fair value of plan assets as of January 1	50.6	35.6	23.6
Actual return on plan assets	2.5	2.9	0.9
Employee contributions	3.1	2.6	1.8
Employer contributions	7.1	4.4	5.9
Foreign currency translation effects	5.8	4.9	5.3
Benefits paid	0.9	0.2	0.1
Fair value of plan assets as of December 31	68.2	50.6	35.6
<b>Funded status</b>			
Funded status	41.2	29.7	29.3
Unrecognized transition obligation			2.8
Unrecognized net actuarial losses (gains)	18.9	6.6	8.2
Unrecognized prior service cost	1.7	1.7	1.7
Additional plan liabilities	7.7		1.1
Accrued benefit liability	31.7	24.8	21.1
<b>Amounts recognized in the balance sheet</b>			
Accrued benefit liability	31.7	24.8	21.1

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

The net periodic benefit expense in the income statement consists of the following components:

**Table 14.3**  
**Net periodic benefit expense**

(US\$ million)	2004	2003	2002
For the years ended December 31			
Service cost	7.4	7.6	5.0
Interest cost	3.2	2.6	2.1
Expected return on plan assets	3.1	2.4	1.7
Employee contributions	3.1	2.6	1.8
Amortization of transition obligation		0.6	0.5
Amortization of actuarial (gains) losses		0.4	
Amortization of past service cost	0.2	0.2	0.2
Net periodic benefit expense	4.2	6.0	3.9

The movement in the accrued benefit liability was as follows:

**Table 14.4**  
**Accrued benefit liability**

(US\$ million)	2004	2003	2002
Year ended December 31			
Balance at January 1	24.8	21.1	18.6
Current year expense	4.2	6.0	3.9
Contributions paid	7.1	4.4	5.9
Foreign currency translation effects	2.1	2.1	3.4
Additional plan liabilities	7.7		1.1
Balance at December 31	31.7	24.8	21.1
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The expected future cash flows to be paid by Converium in respect of pension plans at December 31, 2004 were as follows:

**Table 14.5**  
**Expected future cash flows**

(US\$ million)

**Employer contributions**

2005 (estimate)	5.9
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**Expected future benefit payments**

2005	3.1
2006	3.3
2007	3.5
2008	3.6
2009	3.8
2010 - 2014	21.5

The weighted average assets allocation of funded defined benefit plans at December 31, 2004 were as follows:

**Table 14.6**  
**Weighted average assets allocation of defined benefit plans**

Year ended December 31	Long-term target	2004	2003
Debt securities	46% 70%	50%	51%
Equity securities	19% 33%	31%	27%
Real estate	14% 20%	17%	17%
Cash and other investments	0% 8%	2%	5%
Total		100%	100%

CRNA sponsors various qualified defined contribution plans. Substantially all employees of CRNA are eligible for participation in these plans. The plans provide for voluntary contributions by employees, which typically range from 1% to 25% of annual salaries, up to a calendar year maximum. Contributions by the employer are typically another



10% (matching or otherwise). In

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

addition, various supplemental, non-qualified deferred compensation plans allow members of management to defer certain amounts of compensation and receive specified contributions. CRNA's contributions under these plans amounted to US\$ 2.5 million, US\$ 2.5 million and US\$ 2.8 million in 2004, 2003 and 2002, respectively.

15. Share compensation and incentive plans

Converium has various incentive- and share-based compensation plans to attract, retain and motivate management and employees, to reward them for their contributions to Converium's performance and to encourage employee share ownership.

**(a) Cash-based incentive plans**

Converium operates a short-term incentive program ( Annual Incentive Plan or AIP ) for executives, management and certain employees. Awards are made in cash based on the accomplishment of both organizational and individual performance objectives. The compensation expense incurred in 2004, 2003 and 2002 in connection with these plans was US\$ 2.0 million, US\$ 11.7 million and US\$ 7.4 million, respectively.

*Employee retention plan*

In September 2004, Converium adopted a retention plan for certain of its key employees in order to ensure the successful continuation of business operations at Converium AG and Converium Rückversicherung (Deutschland) AG and the orderly run-off of its North American operations. The retention bonus is paid to the eligible employees in cash in two or three equal installments in amounts up to the equivalent of such employees' base salary. The last installment becomes due on January 31, 2006. The estimated cost of the program is approximately US\$ 31.5 million, which will be expensed over the period October 1, 2004 through January 31, 2006. For the year ended December 31, 2004, US\$ 15.7 million has been expensed based on the terms of this plan. In addition, severance amounts of US\$ 6.0 million will be required to be paid to certain CRNA employees in the event of a change of control or certain other events.

**(b) Share-based incentive plans**

Share-based compensation plans include all plans under which shares or options to purchase shares are awarded. The grant of shares and options to purchase shares in Converium Holding AG is at the discretion of the Remuneration Committee of the Board of Directors. The most significant of these plans are described below.

*Employee Stock Purchase Plan*

Converium adopted an Employee Stock Purchase Plan (the ESPP ) on January 1, 2002. The ESPP has two offering periods beginning January 1 and July 1 of each year. Substantially all employees meeting specified service requirements are eligible to participate in the ESPP. Participants may contribute between 1% and 15% of base salary towards the purchase of Converium Holding AG shares, up to certain limits. Employees who enroll in the ESPP purchase Converium Holding AG shares at 85% of the lower of the stock's fair market value on the first or last day of the offering period.

*Annual Incentive Share Plan*

Certain executives receive a minimum of 25% of their Annual Incentive Plan in the form of Converium shares. All employees may elect to receive up to 50% of their AIP in Converium shares. If these AIP shares are held for a three-year period, employees receive an additional share award equal to 25% of their AIP shares.

Table 15.1 summarizes the status of Converium's share plans for 2004, 2003 and 2002.

<b>Table 15.1</b>	2004	2003	2002
Unvested shares at beginning of year	160,859	363,278	706,451
Shares granted	438,795	133,930	29,732
Shares vested	30,288	311,587	299,214
Shares forfeited	112,185	24,762	73,691
Unvested shares at end of year	457,181	160,859	363,278

#### *Long-Term Incentive Plan (LTIP)*

The LTIP is designed to align the interests of management closely with those of shareholders, and to encourage share ownership. LTIP awards are made to senior employees, and are awarded in a combination of 50% Converium shares and 50% options to purchase shares in Converium Holding AG. Shares vest ratably over three years. Options are issued with an exercise price equal to the market value of the shares or ADSs on the grant date. 25% of the options vest immediately on the grant date, and 25% vest each year thereafter or upon retirement. The options expire 10.5 years after the date of grant.

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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

*Executive IPO option plan*

In connection with the Transactions, Converium granted certain executives options to purchase shares in Converium Holding AG (the Executive IPO Option Plan). Under the Executive IPO Option Plan, 420,000 options to purchase shares in Converium Holding AG were awarded. The exercise prices were equal to the market value of the shares or ADSs on the grant date. Executive IPO Options are now fully vested and expire 10.5 years after the date of grant.

Table 15.2 summarizes the status of Converium's outstanding stock options for 2004, 2003 and 2002.

Table 15.2	2004		2003		2002	
	Options	Weighted average exercise price	Options	Weighted average exercise price	Options	Weighted average exercise price
Outstanding at beginning of year	1,728,744	CHF 71.17	1,115,424	CHF 79.28	732,329	CHF 82.00
Granted	1,238,640	17.75	699,555	58.14	442,514	74.66
Exercised	39,806	68.64	23,450	60.10	3,574	78.85
Forfeited	567,624	59.90	62,785	74.31	55,845	80.40
Outstanding at end of year	2,359,954	45.88	1,728,744	71.17	1,115,424	79.28
Options exercisable at end of year	1,311,491	61.38	901,933	75.74	423,509	80.47

The fair value of options granted was estimated on the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

Table 15.3 Weighted average	2004	2003	2002
Risk-free rate	2.11%	1.51%	1.87%
Expected life	3 years	3 years	3 years
Expected volatility	31.74%	27.24%	31.27%
Dividend yield	2.00%	1.78%	0.80%
Fair value of options granted	US\$ 3.38	US\$ 7.43	US\$ 11.11

Table 15.4 summarizes information about stock options outstanding at December 31, 2004:

Range of exercise prices	Number outstanding	Options outstanding		Options exercisable	
		Weighted average remaining contractual life	Weighted average exercise price	Number exercisable	Weighted average exercise price
CHF 8.64 25.56	958,765	10.4	CHF 9.72	252,494	CHF 9.96
CHF 56.05 62.50	734,017	9.0	59.44	413,604	59.30
CHF 82.00 89.10	667,172	7.4	82.93	645,393	82.83
CHF 8.64 89.10	2,359,954	9.1	45.88	1,311,491	61.38

#### (c) Compensation expense

The compensation expense charged to income under the share-based incentive plans was US\$ 9.6 million, US\$ 10.0 million and US\$ 24.4 million in 2004, 2003 and 2002, respectively.

#### (d) Re-pricing of options

An adjustment to the exercise price of all options outstanding prior to the Rights Offering will be made in early 2005 in order to account for the dilution of the value of the options as a result of the Rights Offering. The reduction in exercise price maintains the same Black-Scholes value of the option before and after the Rights Offering and does not reflect any other decrease in the share price. The re-pricing of options will not have a material impact on the financial condition or results of operations.

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

16. Shareholders' equity

**(a) Issued share capital**

Upon incorporation on June 19, 2001, Converium Holding AG had share capital of CHF 100,000 divided into 10,000 fully paid registered shares with a nominal value of CHF 10 each, all of which were entitled to receive dividends. On September 24, 2004, the Extraordinary General Meeting of the shareholders passed two resolutions to increase the share capital to CHF 400 million, divided into 40 million fully paid registered shares with a nominal value of CHF 10 each, all of which were entitled to receive dividends.

In addition Converium's shareholders resolved, at the Extraordinary General Meeting held on September 28, 2004, to:

Reduce the share capital of the company from CHF 400,062,170 by 200,031,085 to CHF 200,031,085 by reducing the nominal value of CHF 10 per share by CHF 5 to CHF 5 per share;

Increase the share capital by CHF 533,416,225 through the issuance of 106,683,245 fully paid registered shares with a nominal value of CHF 5 each at an issue price of CHF 5 per share; and

Amend the Articles of Incorporation as a consequence of the reduction of the nominal value.

In October 2004, Converium's share capital was increased by CHF 533,416,225 by issuing 106,683,245 shares at CHF 5 each. The additional shares were issued, and Converium's corresponding capital increase (and reduction of the nominal value) were recorded, in the Commercial Register of the Canton of Zug, Switzerland on October 12, 2004. After the registration of the shares in the Commercial Register of the Canton of Zug, Converium's issued, outstanding share capital was CHF 733,447,310, divided into 146,689,462 shares with a nominal value of CHF 5.

**(b) Authorized share capital**

At the Annual General Meeting on April 27, 2004, the shareholders resolved to create authorized share capital and amended the Articles of Incorporation, which provides that the Board of Directors is authorized, on or before April 27, 2006, to increase the share capital by the issuance of up to a maximum of four million fully paid-up registered shares each of CHF 10 nominal value amounting to a maximum of CHF 40 million.

Subsequent to the reduction of the nominal value of each of Converium's shares from CHF 10 to CHF 5 as a result of the resolution by the shareholders at the EGM of September 28, 2004, Converium's authorized capital is now CHF 20,000,000 with the Board being authorized to issue up to four million shares.

**(c) Conditional share capital**

At the Annual General Meeting on April 27, 2004, Converium Holding AG amended its Articles of Incorporation to state that the previously available conditional share capital for use in conjunction with the employee participation plans has been replaced by a conditional share capital for option rights and/or conversion rights for a number of four million shares or CHF 40,000,000 in nominal share capital.

Subsequent to the reduction of the nominal value of each of Converium's shares in October 2004, its conditional capital is now for a number of four million shares of CHF 5 nominal value each, amounting to a maximum of CHF 20,000,000 pursuant to which up to four million shares can be issued upon exercise of conversion or option rights

allotted in connection with bonds and other financial market instruments.

At December 31, 2004, none of the conditional share capital or registered shares have been exercised.

**(d) Dividend restrictions, reductions in the registered shares nominal value, and capital and solvency requirements**

Converium Holding AG is subject to legal restrictions on the amount of dividends it may pay to its shareholders under the Swiss Code of Obligations. The Swiss Code of Obligations provides that 5% of the annual profit must be allocated to the general reserve until such reserve in the aggregate has reached 20% of the paid-in share capital. Similarly, the company laws of countries in which Converium entities operate may restrict the amount of dividends payable by such entities to their parent companies.

As of December 31, 2004, Converium Holding AG had 146,689,462 registered shares with a nominal value of CHF 5 each issued. Based on Swiss company law, Converium Holding AG is entitled to reduce the nominal value of its registered shares down to CHF 0.01 by a respective payment per share to its shareholders. Other than by operation of the restrictions mentioned above, the ability of Converium entities to pay dividends may be restricted or, while dividend payments per se may be legally permitted, may be indirectly influenced by minimum capital and solvency requirements that are imposed by insurance, bank and other regulators in the countries in which the entities operate as well as by other limitations existing in certain of these countries (e.g. foreign exchange control restrictions).

In Switzerland, insurance supervisory regulations require entities to fund their statutory reserves at a minimum level of 20% of net profits until the statutory reserve fund reaches an amount equal to 50% of the statutory share capital, including freely

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## Converium Holding AG and Subsidiaries

## Notes to the consolidated financial statements (continued)

disposable reserves, if any. In the United States, restrictions on payment of dividends are imposed by the Insurance Commissioner of the state of domicile. For CRNA, dividends are payable only from earned surplus and are limited annually to the greater of 10% of the previous year's policyholders surplus or 100% of the previous year's statutory net income. Dividends paid in excess of these limitations require prior approval of the Insurance Commissioner of the state of domicile. In Germany, the minimum amount of statutory capital reserves required is 10% of the nominal value of the common stock. If the 10% criterion is met, dividends of up to 100% of current year's surplus can be paid. If the 10% criterion is not met, dividends are limited to a maximum of 95% of current year's surplus less the prior year loss carryover. Under German law, an entity's executive board in consent with the supervisory board has the authority to reclassify up to 100% of the current year surplus to retained earnings, thereby not allowing dividends to be paid (see Note 22).

## 17. Transactions with Zurich Financial Services

**Quota Share Retrocession Agreement**

In connection with the Transactions, the transfer of certain historical reinsurance business to Converium AG by ZIC and ZIB was affected by means of the Quota Share Retrocession Agreement effective July 1, 2001. The covered business consists of the business historically managed by Converium, which has an inception or renewal date on or after January 1, 1987, and consists of substantially all of the third-party assumed reinsurance business written by ZIC and ZIB, under the Zurich Re brand name. The liabilities Converium AG assumed include all net unearned premiums, net losses and loss adjustment expenses and experience account balances relating to this business.

The Quota Share Retrocession Agreement provides for the payment of premiums to Converium AG by ZIC as consideration for assuming the covered liabilities. The Quota Share Retrocession Agreement provides that these premiums are on a funds withheld basis, whereby the premium is not immediately paid, but is rather retained by ZIC and credited to a funds withheld account, which is referred to as the Funds Withheld Asset.

Because the business subject to the Quota Share Retrocession Agreement consists of business that was historically managed by Converium, this business is already reflected in the financial statements. Any reinsurance business written by ZIC or ZIB that is not part of the historically managed and operated third-party reinsurance business of Converium is not covered by the Quota Share Retrocession Agreement, and all related legal rights and obligations of this business have been retained by ZIC and ZIB. Accordingly, this business is excluded from the financial statements. Therefore, execution of the Quota Share Retrocession Agreement has no impact on results of operations as reported.

Converium AG will receive the surplus remaining with respect to the Funds Withheld Asset, if any, after all liabilities have been discharged. Any surplus or any additional cash flows will be recorded in the financial statements in the period when they occur. Additionally, Zurich Financial Services has the right to prepay to Converium AG the full amount or a portion thereof of the Funds Withheld Asset prior to termination of the agreement.

Converium AG continues to administer the transferred business on behalf of ZIC and ZIB, which remain liable to the original cedents of the business. Additionally, Converium AG manages third-party retrocessions related to the business transferred. Converium bears the credit risk for uncollectible reinsurance balances excluding those related to the September 11th terrorist attacks. Converium AG has a broad right of offset under the Quota Share Retrocession Agreement so that reinsurance balances owed to ZIC and ZIB may be offset against the Funds Withheld Asset account directly.



The Quota Share Retrocession Agreement provides for commutation and termination for special reasons, such as insolvency of a party or loss of its authorization to do business or a change of control of Converium AG. Each of the parties agrees to indemnify the other against liability or expense incurred by reason of its conduct or failure to act in appropriate circumstances. The Quota Share Retrocession Agreement contains other provisions that are customary for an agreement of this nature.

Converium has entered into various other transactions with Zurich Financial Services and its subsidiaries, the most significant of which are described below.

CRNA had an intra-Converium aggregate excess of loss reinsurance agreement in place since July 1, 1997 (the 1997 Aggregate Excess of Loss Agreement ). This agreement provided protection to CRNA for losses that exceeded a net retention after amounts recoverable from its outside retrocessionaires. Because the 1997 Aggregate Excess of Loss Agreement pre-dated the Transactions, ZIC was the formal counterparty to CRNA. In October 2001, the 1997 Aggregate Excess of Loss Agreement was amended as follows:

CRNA's coverage for net losses of US\$ 320.4 million with respect to all Amerisafe business retroceded to the Uncover Pool remains in effect, with ZIC as counterparty;

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CRNA's coverage for net losses of US\$ 307.5 million from the September 11th terrorist attacks that exceed US\$ 58.2 million remains in effect, with ZIC as counterparty; and

The remainder of the coverage under the agreement is commuted.

See Notes 7, 9, 11, 15, 18 and 21 for other transactions with Zurich Financial Services.

18. Related party transactions

*GAUM*

In 2003, Converium finalized an agreement to acquire a 25% stake in GAUM, a leading international commercial and general aviation underwriting agency, as a part of its strategy to strengthen its long-term position in the aviation and space line of business. At that same time, Converium as a shareholder provided a loan to GAUM in the amount of GBP 12.6 million (US\$ 19.8 million). In addition, Converium entered into a pool members' agreement under which it became a member of the aviation and aerospace pools run by GAUM and its subsidiary, Associated Aviation Underwriters Inc.

In February 2004, Converium AG finalized a Sale and Purchase Agreement with Royal and Sun Alliance (RSA) to acquire a further 5.1% stake in GAUM, which increased its overall stake to 30.1%. Included within the Sale and Purchase Agreement is a requirement for Converium AG to replace an existing loan from RSA in the amount of GBP 2.5 million (US\$ 4.5 million). For the 2004 underwriting year, Converium has committed 27.25% of the overall pool's capacity of the aviation risks managed by GAUM, compared to 25% for the 2003 underwriting year. Gross premiums assumed through the pools managed by GAUM were US\$ 289.0 million, US\$ 266.4 million and US\$ 64.4 million for 2004, 2003 and 2002, respectively.

The pool members' agreement with respect to GAUM provides that if a member of the pool has its financial strength rating downgraded below BBB+ by Standard & Poor's Rating Service it may be served with a notice terminating its membership in the pool upon approval by the committee of representatives of the pool. Converium believes that no formal action was taken by the pool membership committee to serve a notice terminating its membership of Converium. However, the committee has discussed Converium's downgrade and sought to take action to limit its rights to dispute the validity of any notice served on Converium. The continuation of Converium's membership at its current rating was likely to be conditional upon its entering fronting arrangements acceptable to other pool members in a timely fashion and thereafter maintaining such arrangements. Converium entered into formal written fronting arrangements, preventing the termination of its membership in the pool. The fronting arrangements require Converium to post collateral to secure its reinsurance obligations under the fronting arrangements. If Converium's membership were to be reduced to less than a 5% share, it would not be permitted to participate in future pool business and would have to collateralize by way of a letter of credit its obligations under the business written by the pool in its name prior to its termination. If Converium's membership were terminated, it also may be required to sell its shares in GAUM at an amount less than its carrying value. See Notes 3 and 8 for additional information on GAUM.

*MDU*

Converium entered into a strategic alliance with the MDU that resulted in a 49.9% participation in MDUSL. MDUSL distributes medical malpractice insurance policies to the members of the MDU. As a result of the initial FSA approval in respect of general liability business, insurance policies underwritten by Converium Insurance (UK) Ltd were issued to members of the MDU beginning July 1, 2003. These insurance policies replaced policies formerly issued in the United Kingdom by Zurich Financial Service's entities, the majority of which were reinsured by Converium. Gross

premiums written from MDU were US\$ 170.9 million, US\$ 137.3 million and US\$ 140.0 million for 2004, 2003 and 2002, respectively.

The MDU Shareholders Agreement provides that if Converium's credit rating is lowered by more than seven points, from its initial A+ rating, by a recognized credit ratings agency, the MDU may serve it with a Termination Notice. Within sixty days after service of such termination notice, MDU has the right to purchase Converium's 49.9% shareholding in MDU Services Ltd. at a price to be mutually agreed upon by the parties, or to be determined by a valuation expert. The recent ratings downgrades have not triggered the termination provisions of the MDU Shareholders Agreement. See Note 8 for additional information on MDU.

#### *SATEC*

Converium has a 48% participation in SATEC, a leading global space-underwriting agency based in Venice, Italy. Additionally, in 2002 Converium entered into a usufruct agreement with the two other owners of SATEC regarding some of their participation rights. Gross premiums assumed through the pool managed by SATEC were US\$ 10.2 million, US\$ 5.9 million and US\$ 5.0 million for 2004, 2003 and 2002, respectively. Profit distributions paid from SATEC to Converium with regards to the participation and the usufruct were US\$ 0.9 million, US\$ 0.8 million and nil for 2004, 2003 and 2002, respectively. In 2004, we have recorded an impairment charge with regard to the usufruct agreement in the amount of US\$ 2.4 million.

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Notes to the consolidated financial statements (continued)

*RISC Ventures*

Converium has retained The RISConsulting Group LLC for certain consulting services, of which Derrell J. Hendrix, a member of the Converium AG Board of Directors, is Manager and Chief Executive Officer. In addition, Derrell J. Hendrix is a manager and owner of approximately 57% of the outstanding share capital of RISC Ventures LLC, a Delaware-based limited liability company created to manage and operate companies engaged in commercializing technologies and intellectual properties developed by The RISConsulting Group LLC and its affiliates. In April 2004, Converium AG invested US\$ 2.0 million in RISC Ventures LLC for an approximate 17.5% ownership interest in the entity. For 2004, Converium paid total fees of US\$ 250,000 to The RISConsulting Group LLC.

*Managing Director*

In order to enhance the effectiveness of strategic and operational decision-making and greater collaboration between the Board of Directors and the Global Executive Committee ( GEC ), Converium established the position of Managing Director. On September 10, 2004, Terry G. Clarke was appointed as Converium's new Managing Director. The Managing Director serves on the Board and has oversight over the day-to-day management of Converium's business. The Managing Director attends all meetings of the GEC and has veto power over decisions taken by the GEC. In addition to the Managing Director's regular compensation as a member of the Board of Directors, Terry G. Clarke receives a remuneration of GBP 50,000 (US\$ 91,620) per month plus reimbursement for customary expenses. For 2004, Converium paid Terry G. Clarke GBP 190,909 (US\$ 349,822) related to this role. In February 2005, Terry G. Clarke assumed the role of Chief Executive Officer of Converium (see Note 26).

## 19. Supplemental cash flow disclosures

**Table 19.1****Supplemental cash flow disclosures**

(US\$ million)	2004	2003	2002
Income taxes paid	10.2	2.7	2.3
Interest expense paid	33.1	31.6	16.4

## 20. Fair value of financial instruments

The methods and assumptions used by Converium in estimating the fair value of financial instruments are:

*Fixed maturities securities:* fair values are generally based upon quoted market prices. Where market prices are not readily available, fair values are estimated using either values obtained from independent pricing services or quoted market prices of comparable investments.

*Equity securities:* fair values are based on quoted market prices.

*Funds Withheld Asset:* carrying value of the Funds Withheld Asset approximates fair value.

*Other investments:* for which quoted market prices are not readily available are not fair valued and are not significant to Converium.

*Cash and short-term investments:* carrying amounts approximate fair value.

*Debt:* fair values are generally based upon quoted market prices.

Table 20.1 lists the estimated fair values and carrying values of Converium's financial instruments as of December 31, 2004 and 2003.

**Table 20.1**  
**Fair value of financial instruments**

(US\$ million) As of December 31	Total fair value 2004	Total carrying value 2004	Total fair value 2003	Total carrying value 2003
Fixed maturities	5,678.7	5,685.2	4,935.9	4,928.6
Equity securities	408.5	408.5	840.2	840.2
Other investments (excluding real estate)	133.5	133.5	43.3	43.3
Short-term investments	133.3	133.3	55.8	55.8
Funds Withheld Asset	1,305.1	1,305.1	1,530.6	1,530.6
Cash and cash equivalents	664.9	664.9	280.8	280.8
Debt	330.6	390.9	428.6	390.6

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Notes to the consolidated financial statements (continued)

## 21. Commitments and contingencies

*Letter of credit facility*

In November 2004, Converium AG obtained a US\$ 1.6 billion, three-year syndicated letter of credit facility (the Syndicated Letter of Credit Facility ) from various banks. The facility provides Converium's non-US operating companies with a US\$ 1.5 billion capacity for issuing letters of credit and a US\$ 100.0 million liquidity reserve. It replaces the existing US\$ 900.0 million letter of credit facility that was signed in July 2003. As of December 31, 2004, Converium had outstanding letters of credit of US\$ 955.7 million under the facility. Investments of US\$ 1,060.8 million are pledged as collateral related to the Syndicated Letter of Credit Facility. Converium must maintain the following financial covenants in order to avoid default under the agreement: (i) consolidated total borrowings do not at any time exceed 35% of consolidated tangible net worth, which is defined as total shareholders' equity less goodwill; and (ii) consolidated tangible net worth must remain greater than US\$ 1,237.5 million at all times. Converium pays commission fees on outstanding letters of credit, which are distributed to the facility banks and can only be impacted by a change in the company's credit rating. The maximum amount of this fee is .50%.

In addition to the Syndicated Letter of Credit Facility, other irrevocable letters of credit of US\$ 639.1 million were outstanding at December 31, 2004 to secure certain assumed reinsurance contracts. Investments of US\$ 704.7 million are pledged as collateral related to certain of these letters of credit.

As of December 31, 2004, Converium Rückversicherung (Deutschland) AG, Germany had an outstanding commitment of Euro 30.0 million (US\$ 40.8 million) to fund an investment in a Morgan Stanley Real Estate Fund (the Eurozone Office Fund ), a Fonds Commun de Placement under Luxembourg law. The manager can call this commitment at any time during the commitment period to fund working capital needs or the purchase of new investments. As of December 31, 2004 the capital called totaled Euro 6.7 million (US\$ 9.1 million).

Converium has entered into various operating leases as lessee for office space and certain computer and other equipment. Rental expenses for these items totaled US\$ 15.9 million, US\$ 15.9 million and US\$ 14.8 million for the years ended December 31, 2004, 2003 and 2002, respectively.

Table 21.1 lists minimum future payments under operating leases with terms in excess of one year.

**Table 21.1**

<b>Minimum future payments under operating leases</b> (US\$ million)	<b>Rental payments</b>
2005	13.3
2006	13.3
2007	13.2
2008	13.1

2009	11.8
2010 and thereafter	20.9
Total	85.6

Converium AG leases office space from Zurich Financial Services. The lease term is fixed until 2011, with two renewal options for five-year terms each. The lease payments are fixed with annual rent escalations based on a cost of living index.

Converium Rückversicherung (Deutschland) AG leases office space from Zurich Financial Services. The lease term is for a period of ten years, with an option to renew for up to two additional ten-year terms. Lease payments have bi-annual rent escalations based on changes in local real estate price indices.

CRNA entered into a sublease with ZC Resource LLC ( ZC Resource ), a subsidiary of Zurich Financial Services, in July 2001. The sublease has a term of approximately eleven years, ending in 2012. As part of the Transactions, CRNA entered into an agreement to indemnify Global Asset Holdings Limited ( GAHL ), an indirect parent of ZC Resource and a co-guarantor of the prime lease, for losses under the prime lease or the guaranty caused by CRNA's default under the sublease that results in a default under the prime lease; GAHL, in turn, will indemnify CRNA for any losses under the guaranty caused by a default by ZC Resource under the prime lease. Centre Insurance Company, a subsidiary of Zurich Financial Services, will guaranty the punctual payment of all amounts due by GAHL under the guaranty and all expenses incurred by CRNA enforcing the guaranty. See Note 25 for additional information on guarantees. As a result of the announced run-off of CRNA, Converium is currently evaluating certain of its office leases in North America, and a plan for reduced office space is expected to be approved in 2005 (see Note 26).

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### **Converium Holding AG and Subsidiaries**

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Converium Holding AG and its subsidiaries are continuously involved in legal proceedings, claims and litigation arising, for the most part, in the ordinary course of its business operations as a reinsurer. The outcome of such current legal proceedings, claims and litigation could have a material effect on operating results or cash flows when resolved in a future period. However, in the opinion of management, these matters are not material to Converium's financial position, with the exception of the matters described below:

### **Superior National Matters**

On January 6 and January 7, 2005, CRNA and CINA, respectively, entered into a Settlement Agreement and Mutual Release (the Settlement Agreement) with the California Insurance Commissioner (the Commissioner) relating to the January 16, 2002 complaint that the Commissioner filed against a subsidiary of ZFS, Centre Insurance Company (CIC) and affiliates, as well as CRNA and CINA (see Note 26). The Commissioner had initiated this action in Superior Court of the State of California, County of Los Angeles, on behalf of the Superior National Insurance Companies in Liquidation (SNICL).

The complaint alleged several counts, including voidable preferences and fraudulent transfers, the recovery of transfers totaling US\$ 202.9 million, damages for breach of contract in the amount of US\$ 59.8 million, additional damages in an amount to be proved at trial, and punitive damages. The overwhelming bulk of the damages sought appeared to arise out of CIC transactions, not CRNA or CINA transactions. As part of the transactions which effectively spunoff CRNA and CINA from ZFS, ZFS agreed to indemnify CRNA and CINA for liabilities arising out of or related to the assets not assumed by or transferred to CRNA and CINA in the separation from ZFS. The principal claim brought against CRNA appeared to arise from CRNA's commutation of certain reinsurance obligations. In that connection, however, while the complaint did in fact reference the commutation, the payment involved was a commutation payment made by CRNA, not to CRNA. As best as could be discerned, the liquidator was apparently claiming that the amount paid by CRNA was inadequate consideration for the reinsurance obligations commuted and thus this commutation constituted a fraudulent transfer. All the claims, though, were never well defined and no discovery was ever undertaken to better elucidate them.

Neither CRNA nor CINA shall pay any amounts whatsoever in exchange for the full and final discharge of liabilities, as set forth in the Settlement Agreement, that the Commissioner has granted to both companies. Instead, CIC shall be making the full payment that will provide the complete release to CRNA and CINA, as well as all other parties in the complaint. At a hearing on February 17, 2005, the Settlement Agreement was approved by the court presiding over the liquidation of the estates of SNICL. As a result, CIC's main performance under the settlement is now due 90 days from entry of the approval order. After that period has expired and CIC has performed, dismissals of the case are expected to be entered.

### **U.S. Life Insurance Company arbitration**

The arbitration initiated on November 29, 1999 by U.S. Life Insurance Company (U.S. Life) against Superior National Insurance Company in Liquidation (SNICIL), CINA and CIC, which was previously reported, has been settled as between U.S. Life and CINA. The settlement in January 2005 followed a December 2004 decision of the arbitration panel to reject U.S. Life's claim for rescission and to instead reform the reinsurance treaty provided by U.S. Life to a 90% quota share as opposed to a 100% quota share. Life and CINA agreed to settle the matter with a full and final commutation of the treaty in exchange for a commutation payment by U.S. Life (see Note 26).

### **All American Life Insurance Company arbitration**



The arbitration initiated on December 23, 2002 by CRNA and CINA against All American Life Insurance Company ( All American ), which was previously reported, has been settled. In May 2004, the parties to the dispute, which concerned a reinsurance treaty provided by All American, agreed to settle the matter with a full and final commutation of the treaty in exchange for a commutation payment by All American. Incurred losses of US\$ 9.2 million were recorded in 2004 to reflect this commutation.

#### **Continental Casualty Company arbitration**

In December 2002, Continental Casualty Company ( Continental ) and CRNA each demanded arbitration from the other to resolve a dispute arising from a retrocessional contract pursuant to which Continental reinsured CRNA for 50% of certain accident & health exposures CRNA assumed from a third-party insurer. The dispute arose in October 2002 when Continental asserted that the third-party insurer had violated the reinsurance agreement with CRNA in such a way that might give rise to defenses under the reinsurance agreement.

Effective June 2004, Continental and CRNA entered into an Assignment of Rights, Limited Indemnity and Cooperation Agreement (the Assignment Agreement ) pursuant to which the parties agreed to withdraw their respective demands for arbitration with prejudice. The Assignment Agreement enables Continental, with the cooperation of CRNA, to assert its defenses directly against the insurer and indemnifies CRNA for monetary liability or expenses it incurs resulting from CRNA's cooperation or Continental's assertion of its defenses. Following the signing of the Assignment Agreement, Continental, CRNA and the third-party insurer have entered into a series of commutation agreements related to the exposures. These commutations are subject to the approval of the liquidation court governing the insurer, which is currently pending.

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

### **Great American Insurance Company arbitration**

The arbitration initiated on July 30, 2004 by Great American Insurance Company ( GAIC ) against CRNA, challenging CRNA's right to invoke a special termination or settlement clause under certain Automobile Residual Value Proportional Reinsurance Agreements (the Reinsurance Agreements ) with GAIC and seeking resolution of a billing dispute related to the Reinsurance Agreements, which was previously reported, has been settled. In December 2004, the parties to the dispute agreed to settle the matter with a full and final commutation of the Reinsurance Agreements in exchange for a commutation payment by CRNA.

### **Canada Life**

On December 21, 2001, The Canada Life Assurance Company, Toronto ( Canada Life ), brought an action against Converium Rückversicherung (Deutschland) AG ( Converium Germany ) in the US District Court of the Southern District of New York. Canada Life alleged that Converium Germany breached certain quota share retrocession agreements with Canada Life by failing to indemnify its full percentage of Canada Life's September 11th losses and by failing to post an US\$ 82.4 million letter of credit for its liability pursuant to the ISA facilities underlying agreements. Converium Germany is disputing this claim on the grounds that its liability under the pertinent contracts is limited and is also raising other contracts defenses. In its decision of April 11, 2002, the US District Court of the Southern District of New York dismissed Canada Life's action, ruling that The Air Transportation Safety and System Stabilization Act, which Canada Life claimed to give the court jurisdiction over the subject matter, is not applicable. The court ruled that the Act applies broadly to the actions filed by individual victims of the September 11th attacks but does not apply to disputes among reinsurers. The Second Circuit Court of Appeal affirmed the dismissal. As a result of the decision of the US District Court of the Southern District of New York, Converium Germany sent Canada Life a request to arbitrate. Following the organizational meeting of the arbitrators on October 8, 2003, the discovery and deposition began. The hearing is expected to take place in the first quarter of 2005. Meanwhile, the arbitration panel ordered Converium Germany to post pre-award security in the form of a Letter of Credit in the amount of US\$ 66.0 million, which Converium Germany has complied with.

Converium Germany has fully reserved this claim. However, arrangements entered into with Zurich Financial Services provide for the claim to be covered by the agreed-to cap for September 11th related losses provided to us by Zurich Financial Services in conjunction with Converium's Initial Public Offering.

### **Current industry issues**

To date, Converium is neither a defendant in the lawsuit that New York State Attorney General, Elliott Spitzer, filed against a leading US insurance broker on October 14, 2004, nor has Converium been contacted with respect to the lawsuit or any related investigation. There has been widespread speculation in the media regarding the potential impact and scope of the Spitzer investigation on the insurance industry. As the investigation appears to be in the preliminary phases it is difficult to predict whether it will be expanded to include other industry participants. However, CRNA has received subpoenas from each of the Securities and Exchange Commission and the New York Attorney General's Office regarding a transaction with MBIA for further information see Note 27 Review of Certain of our Reinsurance Transactions.

### **Class action lawsuits**

Commencing on October 4, 2004, seven securities class action lawsuits have been filed against Converium and certain of its officers and directors. The complaints are as follows: *Meyer v. Converium Holding AG, et al.*, 04 CV 07897, which names Converium Holding AG, Dirk Lohmann and Martin Kauer as defendants, and is purportedly brought as a class action on behalf of persons who purchased our securities between December 11, 2001 and July 20, 2004; *Criden v. Converium Holding AG, et al.*, 04 CV 8060, which names Converium Holding AG, Dirk Lohmann and Martin Kauer as defendants, and is purportedly brought as a class action on behalf of persons who purchased our securities between December 11, 2001 and July 20, 2004; *Taylor v. Converium Holding AG, et al.*, 04 CV 8038, which names Converium Holding AG, Zurich Financial Services Group, Peter C. Colombo, Georg Mehl, George G. C. Parker, Derrell J. Hendrix, Jürgen Förterer, Terry G. Clarke, Anton K. Schnyder, Dirk Lohmann, Martin Kauer, Richard E. Smith and Frank Schaar as defendants, and is purportedly brought as a class action on behalf of persons who purchased our securities between December 11, 2001 and August 30, 2004; *Jakob v. Converium Holding AG, et al.*, which names Converium Holding AG, Zurich Financial Services Group, Peter C. Colombo, Georg Mehl, George G. C. Parker, Derrell J. Hendrix, Jürgen Förterer, Terry G. Clarke, Anton K. Schnyder, Dirk Lohmann, Martin Kauer, Richard E. Smith and Frank Schaar as defendants, and is purportedly brought as a class action on behalf of persons who purchased our securities between December 11, 2001 and August 30, 2004; *Maxfield v. Converium Holding AG, et al.*, 04-CV-08994, which names Converium Holding AG, Peter C. Colombo, Martin Kauer and Dirk Lohmann, and is purportedly brought as a class action on behalf of persons who purchased our securities between December 11, 2001 and September 2, 2004; *Bassin v. Converium Holding AG, et al.*, 04 CV 08295, which names Converium Holding AG, Peter C. Colombo, Martin Kauer and Dirk Lohmann as defendants, and is purportedly brought as a class action on behalf of purchasers of our securities between December 11, 2001 and September 2, 2004 (see Note 26); and *Rubin v. Converium Holding AG, et al.*, Index No. 04-117332, which names Converium Holding AG, Zurich Financial Services Group, Peter C. Colombo, Georg Mehl, George G. C. Parker, Derrell J. Hendrix, Jürgen Förterer, Terry G. Clarke, Anton K. Schnyder, Dirk Lohmann, and Martin Kauer as defendants, and is purportedly brought as a class action on behalf of persons who purchased our securities between December 11, 2001 and August 30, 2004.

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### Converium Holding AG and Subsidiaries

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The first five complaints, each of which was filed in the Southern District of New York, assert claims for violations of Section 10(b), Rule 10b-5 promulgated thereunder, and Section 20(a) of the Securities Exchange Act of 1934, and allege, among other things, that, contrary to representations, we did not establish adequate loss reserves to cover claims by policyholders; that our announced reserve increases prior to July 20, 2004 were insufficient; and that, as a result of the foregoing, our earnings and assets were materially overstated. *Rubin v. Converium Holding AG, et al.*, Index No. 04-117332, was filed in New York State Court, and makes similar allegations directed at the Company's Registration Statement and Prospectus issued in connection with the IPO under sections 11, 12, and 15 of the Securities Act of 1933. Further, certain of the complaints allege violations of Securities and Exchange Commission reporting obligations and generally accepted accounting principles. In each case, plaintiffs are seeking unspecified compensatory damages, attorney's fees and expert fees. It is possible that additional suits alleging similar claims may be filed in the future.

We intend to defend the remaining lawsuits vigorously. The actions are in the preliminary phases; thus, the timing and outcome of these matters are not currently predictable. An unfavorable outcome could have a material effect on our financial condition, results of operations and cash flows.

### **U.S. Securities and Exchange Commission investigation**

In August 2004, CRNA received a request for voluntary production of documents and information from the enforcement staff of the U.S. Securities and Exchange Commission (the Commission). As a result of that request, Converium understands that the Commission is conducting an investigation to determine whether there have been violations of the US federal securities laws in connection with transactions in Converium's securities by certain persons, including certain of its insiders, prior to Converium's announcement on July 20, 2004 that its second quarter 2004 earnings would fall short of expectations due to higher than modeled US casualty loss emergence primarily related to the underwriting years 1997 to 2001.

CRNA has voluntarily responded to the Commission's request, and intends to continue to cooperate with the Commission.

### **Investigation by the Swiss Federal Banking Commission**

In November 2004, the Federal Banking Commission requested certain information in conjunction with the sequence of events in conjunction with Converium's announcement on July 20, 2004 that its second quarter 2004 earnings would fall short of expectations due to higher than modeled US casualty loss emergence primarily related to the underwriting years 1997 to 2001. Converium fully complied with the respective request by providing all relevant information to the Commission.

## 22. Regulation

As a result of the developments in the latter part of 2004, various regulatory actions have occurred, the most significant of which are set forth below:

### **United States**

As a result of the reserve strengthening Converium recorded in 2004 and the subsequent placement of its North American business into run-off, the Connecticut Insurance Department (the Department) has implemented additional

financial monitoring of CRNA. CRNA has entered into a letter of understanding with the Department pursuant to which CRNA will be prevented from taking a number of actions without first obtaining the Department's approval, including:

Making any material change in its management or operations;

Making any withdrawal of monies from its bank accounts, disbursements or payments outside the ordinary course of the business run-off;

Incurring any debt, obligation or liability for borrowed money not related directly to the ordinary course of the business run-off;

Writing, assuming or issuing any new insurance policies;

Making any dividend payment or other payment or distribution to or engaging in any transaction, or entering into any agreement directly or indirectly with its parent company, or any affiliated company;

Entering into any new material reinsurance agreement; and

Entering into any sales, purchases, exchanges, loans, extensions of credit or investments not in the ordinary course of its run-off business.

In addition, CRNA will be required to provide to the Department written reports on a monthly basis containing detailed information on all commutations of reinsurance treaties and related activities, including specific impact on CRNA's statutory financial statements, as well as any additional reports that the Department reasonably determines are necessary to ascertain the financial condition of the Company. The letter of understanding does not preclude the Department from initiating any further actions that it deems in its discretion to be necessary for the protection of CRNA's policyholders, reinsureds and the public.

The foregoing requirements will continue until March 15, 2005, at which time the Department will reassess the financial condition of CRNA.

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The recent ratings downgrades as well as our decision to place CRNA into run-off have triggered special funding clauses in CRNA's and CINA's reinsurance and insurance contracts. These clauses require CRNA and CINA to provide collateral for their payment obligations under those contracts. In addition, state insurance regulators may request that CRNA and CINA make special deposits in their states or provide collateral for contracts issued to residents of their states. The approval of the Department is required before we provide such collateral. If the Department withholds its approval, we would be in default under contracts that have special funding clauses unless the other party to the contract has waived the requirement. In addition, state insurance regulators that requested special deposits or collateral could seek to revoke CRNA's or CINA's licenses or initiate proceedings to take possession of the property, business and affairs of CRNA or CINA in their respective states.

**Switzerland**

By letter dated September 27, 2004 the Federal Office of Private Insurance ( FOPI ), the insurance and reinsurance regulator in Switzerland, has requested that Converium AG provide notice on certain inter-group transactions between Converium AG and its subsidiaries including loans, guarantees, cost-sharing agreements, capital injections, and investments in subsidiaries. Furthermore the FOPI requested by letter dated October 14, 2004 certain additional information including Converium's business strategy, planning, reserves, solvency and collateral issues. Converium is cooperating with the FOPI and is providing all required information and documentation.

In December 2004, per the FOPI's request, Converium AG agreed to submit for approval the following inter-group transactions: inter-group loans and capital increases to subsidiaries exceeding US\$ 100.0 million; guarantees exceeding US\$ 10.0 million; transfer of portfolios or novations involving changes in reserves exceeding US\$ 25.0 million, dividends to Converium Holding AG and all inter-group reinsurance transactions that are not at arm's length. Absent consent of the FOPI, the inter-group transactions exceeding the thresholds could not be executed, which may in turn have an impact on the funding in conjunction with inter-group transactions.

**Accounting impact of reserve strengthening and related impairment of goodwill and deferred taxes**

For accounting purposes, Converium Holding AG and Converium AG are both required to perform an annual assessment of the carrying value of investments in affiliates as part of the annual statutory financial statement process. This annual impairment assessment is conducted in the fourth quarter of each calendar year when it is considered that the best financial information is available to perform this test. In order to assess the fair value of each investment, management utilizes a number of internationally recognized valuation techniques taking into account the fair value of the existing balance sheet, current projected business plans and credit rating and foreign exchange rate assumptions. Swiss law allows companies to value assets below their economic value in their local statutory accounts.

As a result of the reserve strengthening and related impairment of goodwill and deferred taxes, CHNA recorded an impairment charge of US\$ 571.5 million in its US GAAP accounts with regards to its participation in CRNA. This impairment did not have a material impact on the consolidated financial position or results of operations. As of December 31, 2004 CHNA reported a value of US\$ 331.0 million for its investment in CRNA in its US GAAP accounts.

In respect of Converium AG's investment in CHNA, Converium AG recorded an impairment charge of US\$ 802.4 million in its US GAAP accounts and of CHF 1,332.4 million in its local statutory accounts in the fourth quarter of 2004. These impairment charges did not have a material impact on the consolidated financial position or results of operations. As of December 31, 2004 Converium AG reported a value of US\$ 133.7 million for its investment in

CHNA in its US GAAP accounts.

Similarly, Converium Holding AG performed an annual impairment test on its investment in Converium AG as well as on the note receivable from CRNA as part of its Swiss annual statutory financial statement process, adopting the valuation principles outlined above. In the fourth quarter of 2004, Converium Holding AG recorded an impairment charge of CHF 1,332.4 million in its local statutory accounts with regards to its participation in Converium AG, respectively of CHF 170.6 million with regards to the note receivable from CRNA.

## **Germany**

### **Solvency requirements**

In late 2004, in order to meet newly established solvency requirements for reinsurance companies in Germany, Converium Rückversicherung (Deutschland) AG increased its capital on a local statutory basis by Euro 100.0 million (US\$ 135.9 million). This was accomplished by means of a capital contribution from Converium AG in the amount of Euro 80.0 million (US\$ 108.7 million). In addition, Converium AG granted Converium Rückversicherung (Deutschland) AG a subordinated loan in the amount of Euro 20.0 million (US\$ 27.2 million) for a term of twenty years.

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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Establishment of branch office**

In November 2004, Converium AG established a branch office in Cologne, Germany. This move was made in response to the favorable legal regulatory environment in Germany as the rules regarding establishment of branch offices were slated to change as of January 1, 2005.

## 23. Consolidated entities

A list of operating entities and other important holdings, together with the country of incorporation, Converium's ownership interest and the share capital of each entity, is set out below.

	Country of incorporation	% of equity shares held	Currency	Share capital
Converium Rückversicherung (Deutschland) AG	Germany	100	EUR	4,601,627
Converium Finance S.A.	Luxembourg	100	EUR	31,000
Converium Holding AG	Switzerland	100	CHF	733,447,310
Converium AG	Switzerland	100	CHF	400,000,000
Converium Holdings (North America) Inc.	US	100	US\$	1
Converium Reinsurance (North America) Inc.	US	100	US\$	3,500,000
Converium Insurance (North America) Inc.	US	100	US\$	5,000,000
Converium Holding (UK) Ltd	UK	100	GBP	101
Converium Insurance (UK) Ltd	UK	100	GBP	60,000,000
Converium London Management Ltd	UK	100	GBP	1,000
Converium Underwriting Ltd	UK	100	GBP	2
Converium IP Management Ltd*	Bermuda	100	US\$	12,000
Converium Finance (Bermuda) Ltd*	Bermuda	100	US\$	12,000

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\* Converium has incorporated two new companies effective as of December 17, 2004. The scope of these companies is to effectively manage Converium's brand.



## 24. (Loss) earnings per share

Converium Holding AG purchased 368,463 shares and 377,650 shares during 2004 and 2003, respectively, related to share-based compensation plans.

The following table shows the average shares outstanding:

(in US\$ million, except per share information) For the years ended December 31	2004	2003	2002
Net (loss) income	760.8	185.1	106.8
Average shares outstanding (millions)	63.4	39.8	39.9
Average diluted shares outstanding (millions)	64.1	40.3	40.5
Basic (loss) earnings per share	12.00	2.33	1.34
Diluted (loss) earnings per share	12.00	2.32	1.33

(Loss) earnings per share and average shares outstanding for 2004 reflect the addition of the 106,683,245 new shares issued in the Rights Offering that occurred in October 2004 (see Note 16). The (loss) earnings per share calculation is based on an adjusted number of average shares outstanding and the 2003 and 2002 amounts have been restated accordingly.

Diluted (loss) earnings per share is computed similar to basic earnings per share except that the weighted average shares outstanding is increased to include potential common shares, such as shares from non-vested stock grants and the assumed exercise of stock options, if dilutive.

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## Converium Holding AG and Subsidiaries

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## 25. Subsidiary issuer information

Presented below are the consolidating balance sheets of Converium Holding AG (the parent guarantor), Converium AG (the subsidiary guarantor) (together the guarantor companies), and Converium Finance S.A. (the subsidiary issuer), for whom the Guaranteed Subordinated Notes are guaranteed, as of December 31, 2004 and 2003, and the related condensed consolidating statements of income and condensed consolidating statements of cash flows for each of the three years in the period ended December 31, 2004. The guarantor companies have jointly and severally guaranteed payments by the subsidiary issuer on these notes. The subsidiary issuer and subsidiary guarantor are wholly owned subsidiaries of the parent guarantor.

Investments in subsidiaries are accounted for by the guarantor companies under the equity method for purposes of supplemental consolidating presentation as of the effective date of the acquisition. Earnings of subsidiaries are reflected in the investment accounts of the guarantor companies as of the effective date of the acquisition.

Information for the parent guarantor and the subsidiary issuer is only included from the date of formation.

**Condensed consolidating statements of income**

(US\$ million)	Converium Holding AG	Converium AG	Converium Finance S.A.	Non-Guarantor Entities	Consolidating Adjustments	Consolidated
Year ended December 31, 2004						
<b>Revenues</b>						
Net premiums written		2,629.8		923.2		3,553.0
Net premiums earned		2,534.2		1,150.9		3,685.1
Net investment income	13.4	189.4	13.4	122.1	26.7	311.6
Net realized capital gains (losses)		12.6		33.9		46.5
Other income (loss)	23.5	41.1	19.0	4.0		2.6
Total revenues	36.9	2,695.1	32.4	1,302.9	26.7	4,040.6
<b>Benefits, losses and expenses</b>						
Losses, loss adjustment expenses and life benefits		1,968.3		1,294.8		3,263.1
Underwriting acquisition costs		655.9		186.6		842.5
Other operating and administration expenses	11.6	103.2	0.1	103.0		217.9
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Interest expense	10.6	0.4	16.5	32.3	26.7	33.1
Impairment of goodwill				94.0		94.0
Amortization of intangible assets		9.9				9.9
Restructuring costs		0.2		2.5		2.7
Total benefits, losses and expenses	22.2	2,737.9	16.6	1,713.2	26.7	4,463.2
Income (loss) before taxes	14.7	42.8	15.8	410.3		422.6
Income tax benefit (expense)	2.5	50.4	0.1	290.2		338.2
Income (loss) before equity in (loss) income of subsidiaries	17.2	93.2	15.7	700.5		760.8
Equity in (loss) income of subsidiaries	778.0	684.8			1,462.8	
Net (loss) income	760.8	778.0	15.7	700.5	1,462.8	760.8

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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Consolidating balance sheets**

(US\$ million)	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guarantor Entities	Consolidating Adjustments	Consolidated
December 31, 2004						
<b>Assets</b>						
<b>Invested assets</b>						
Fixed maturities		2,956.6	14.8	2,713.8		5,685.2
Equity securities		255.8		152.7		408.5
Investment in subsidiaries	1,661.5	559.4			2,220.9	
Notes receivable	196.7	49.2	175.0	135.9	556.8	
Short-term and other investments		306.3		99.3		405.6
Total investments	1,858.2	4,127.3	189.8	3,101.7	2,777.7	6,499.3
Funds Withheld Asset		1,305.1				1,305.1
Total invested assets	1,858.2	5,432.4	189.8	3,101.7	2,777.7	7,804.4
<b>Other assets</b>						
Cash and cash equivalents	2.1	329.2	4.2	329.4		664.9
Premiums receivable		1,890.4		285.3	2.3	2,178.0
Reinsurance assets		917.6		2,267.3	1,613.6	1,571.3
Funds held by reinsureds		1,418.1		717.9	414.7	1,721.3
Deferred policy acquisition costs		418.2		66.5		484.7
Deferred income taxes		13.0		65.3		78.3
Other assets	32.5	333.8	65.8	100.6	93.0	439.7
Total assets	1,892.8	10,752.7	259.8	6,934.0	4,896.7	14,942.6

**Liabilities and equity****Liabilities**

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Losses and loss adjustment expenses, gross		5,870.6		4,038.1	1,131.8	8,776.9
Unearned premiums, gross		1,058.9		533.6	280.2	1,312.3
Future life benefits, gross		87.7		549.6	91.5	545.8
Other reinsurance liabilities		1,382.6		105.4	112.7	1,375.3
Funds held under reinsurance contracts		226.7		567.4	414.8	379.3
Deferred income taxes		90.6		66.6		157.2
Accrued expenses and other liabilities	0.6	374.1	1.4	179.2	270.6	284.7
Notes payable	172.0			202.2	374.2	
Debt			193.6	197.3		390.9
Total liabilities	172.6	9,091.2	195.0	6,439.4	2,675.8	13,222.4
<b>Equity</b>						
Common stock and additional paid-in capital	1,977.8	1,941.2		1,286.9	3,228.1	1,977.8
Unearned stock compensation	7.5					7.5
Total accumulated comprehensive income (loss)	304.1	277.7	9.4	56.0	343.1	304.1
Retained (deficit) earnings	554.2	557.4	55.4	848.3	1,350.3	554.2
Total equity	1,720.2	1,661.5	64.8	494.6	2,220.9	1,720.2
Total liabilities and equity	1,892.8	10,752.7	259.8	6,934.0	4,896.7	14,942.6

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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Condensed consolidating statements of cash flows**

(US\$ million)	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guarantor Entities	Consolidating Adjustments	Consolidated
Year ended December 31, 2004						
Cash provided by (used in) operating activities	41.6	634.4	2.1	453.6		224.5
<b>Cash flows from investing activities</b>						
Purchases of fixed maturities held-to-maturity		214.9		13.3		228.2
Proceeds from sales and maturities of fixed maturities		936.3		3,179.7		4,116.0
Purchases of fixed maturities available-for-sale		1,663.5		2,756.7		4,420.2
Proceeds from sales of equity securities		279.6		703.5		983.1
Purchases of equity securities		61.6		479.7		541.3
Net increase in short-term investments		20.4		50.8		71.2
Proceeds from sales of other assets		54.2		28.1		82.3
Purchase of other assets		128.4		12.6		115.8
Notes receivable	46.7	49.2		135.9	231.8	
Investment in subsidiaries	355.1	108.7			463.8	
Net cash provided by (used in) investing activities	401.8	976.6		487.5	695.6	195.3
<b>Cash flows from financing activities</b>						
Capital contribution		402.9		108.7	511.6	
Notes payable	22.0	182.6		27.2	231.8	
Net purchases of common shares	6.0					6.0
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Dividends to shareholders	47.8	47.8		47.8	47.8
Proceeds from Rights Offering	428.4				428.4
Rights Offering issuance costs	25.1				25.1
Net cash provided by (used in) financing activities	371.5	537.7	135.9	695.6	349.5
Effect of exchange rate changes on cash and cash equivalents	10.4	11.8	4.0		5.4
Change in cash and cash equivalents	0.9	207.3	2.1	173.8	384.1
Cash and cash equivalents as of January 1	1.2	121.9	2.1	155.6	280.8
Cash and cash equivalents as of December 31	2.1	329.2	4.2	329.4	664.9

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Condensed consolidating  
statements of income**

(US\$ million)

Year ended December 31, 2003	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guarantor Entities	Consolidating Adjustments	Consolidated
<b>Revenues</b>						
Net premiums written		2,492.4		1,334.6		3,827.0
Net premiums earned		2,392.8		1,283.7		3,676.5
Net investment income	11.0	129.5	12.5	103.5	23.5	233.0
Net realized capital (losses) gains		10.7		29.1		18.4
Other income (loss)	35.0	30.8	39.5	5.7	35.3	2.7
Total revenues	46.0	2,480.8	52.0	1,410.6	58.8	3,930.6
<b>Benefits, losses and expenses</b>						
Losses, loss adjustment expenses and life benefits		1,588.9		1,085.3		2,674.2
Underwriting acquisition costs		522.1		251.1		803.2
Other operating and administration expenses	8.6	119.1	4.1	107.4	33.2	197.8
Interest expense	10.5		16.5	29.6	25.6	31.0
Total benefits, losses and expenses	19.1	2,260.1	12.4	1,473.4	58.8	3,706.2
Income (loss) before taxes	26.9	220.7	39.6	62.8		224.4
Income tax (expense) benefit	3.5	32.6		3.2		39.3
Income (loss) before equity in income (loss) of subsidiaries	23.4	188.1	39.6	66.0		185.1
Equity in income (loss) of subsidiaries	161.7	26.4			135.3	
Net income (loss)	185.1	161.7	39.6	66.0	135.3	185.1





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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

Consolidating balance sheets (US\$ million)	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guarantor Entities	Consolidating Adjustments	Consolidated
December 31, 2003						
<b>Assets</b>						
<b>Invested assets</b>						
Fixed maturities		1,925.5	14.8	2,984.3		4,928.6
Equity securities		441.8		398.4		840.2
Investment in subsidiaries	2,006.8	1,117.4			3,124.2	
Notes receivable	150.0		175.0		325.0	
Short-term and other investments	44.7	187.5		41.8	44.7	229.3
Total investments	2,201.5	3,676.2	189.8	3,424.5	3,493.9	5,998.1
Funds Withheld Asset		1,530.6				1,530.6
Total invested assets	2,201.5	5,206.8	189.8	3,424.5	3,493.9	7,528.7
<b>Other assets</b>						
Cash and cash equivalents	1.2	121.9	2.1	155.6		280.8
Premiums receivable		1,477.4		812.8	281.9	2,008.3
Reinsurance assets		790.7		2,221.4	1,069.5	1,942.6
Funds held by reinsureds		1,043.4		587.3	256.7	1,374.0
Deferred policy acquisition costs		293.6		86.5		380.1
Deferred income taxes		32.7		312.4		345.1
Other assets	42.7	170.2	46.1	233.9	2.1	495.0
Total assets	2,245.4	9,136.7	238.0	7,834.4	5,099.9	14,354.6
<b>Liabilities and equity</b>						
<b>Liabilities</b>						
		4,764.0		3,759.1	680.3	7,842.8

Losses and loss adjustment expenses,  
gross

Unearned premiums, gross		827.2		867.8	227.6	1,467.4
Future life benefits, gross		62.4		496.8	75.7	483.5
Other reinsurance liabilities		1,040.4		398.9	352.0	1,087.3
Funds held under reinsurance contracts		247.7		538.9	256.8	529.8
Deferred income taxes		71.4		86.9		158.3
Accrued expenses and other liabilities	12.1	116.8	0.8	240.2	58.3	311.6
Notes payable	150.0			175.0	325.0	
Debt			193.4	197.2		390.6
Total liabilities	162.1	7,129.9	194.2	6,760.8	1,975.7	12,271.3
<b>Equity</b>						
Common stock and additional paid-in capital	1,569.7	1,546.1		1,169.3	2,715.4	1,569.7
Unearned stock compensation	6.1					6.1
Total accumulated other comprehensive income	261.4	242.7	4.2	51.8	298.7	261.4
Retained earnings (deficit)	258.3	218.0	39.6	147.5	110.1	258.3
Total equity	2,083.3	2,006.8	43.8	1,073.6	3,124.2	2,083.3
Total liabilities and equity	2,245.4	9,136.7	238.0	7,834.4	5,099.9	14,354.6

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Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Condensed consolidating  
statements of cash flows**

(US\$ million)

	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guarantor Entities	Consolidating Adjustments	Consolidated
Year ended December 31, 2003						
Cash provided by (used in) operating activities	3.3	1,217.9	1.1	45.2		1,265.3
<b>Cash flows from investing activities</b>						
Purchases of fixed maturities held-to-maturity		192.4				192.4
Proceeds from sales and maturities of fixed maturities available-for-sale		904.9		2,908.5		3,813.4
Purchases of fixed maturities available-for-sale		1,828.1	14.8	3,211.1		5,054.0
Proceeds from sales of equity securities		47.8		46.5		94.3
Purchases of equity securities		178.2		66.0		244.2
Net decrease (increase) in short-term investments	3.6	256.6	42.7	25.8		277.1
Purchase of note receivable			25.0		25.0	
Investment in subsidiaries	29.9	106.8			76.9	
All other investing activity		17.1		4.9		22.0
Net cash provided by (used in) investing activities	33.5	1,113.3	2.9	352.8	101.9	1,327.8
<b>Cash flows from financing activities</b>						
Capital contribution				106.8	106.8	
Issuance of notes payable				25.0	25.0	
Net purchases of common shares	17.3					17.3
Dividends to shareholders	29.9	29.9			29.9	29.9
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Net cash (used in) provided by financing activities	47.2	29.9	131.8	101.9	47.2
Effect of exchange rate changes on cash and cash equivalents	10.8	18.7	0.5		29.0
Change in cash and cash equivalents	0.4	93.4	1.8	176.3	80.7
Cash and cash equivalents as of January 1	0.8	28.5	0.3	331.9	361.5
Cash and cash equivalents as of December 31	1.2	121.9	2.1	155.6	280.8

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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Condensed consolidating  
statements of income**

(US\$ million)

	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guaranto Entities	Consolidating Adjustments	Consolidated
Year ended December 31, 2002						
<b>Revenues</b>						
Net premiums written		1,829.6		1,492.6		3,322.2
Net premiums earned		1,622.4		1,543.1		3,165.5
Net investment income	12.6	117.0	0.1	135.8	13.7	251.8
Net realized capital (losses) gains		13.9		3.6		10.3
Other (loss) income	0.5	11.9		2.5	10.1	1.2
Total revenues	12.1	1,737.4	0.1	1,680.0	23.8	3,405.8
<b>Benefits, losses and expenses</b>						
Losses and loss adjustment expenses and life benefits		1,178.7		1,313.3		2,492.0
Underwriting acquisition costs		291.0		375.7		666.7
Other operating and administration expenses	20.7	98.6	0.2	95.6		173.3
Interest expense	10.7	1.2	0.3	28.0	23.8	16.4
Total benefits, losses and expenses	10.0	1,569.5	0.1	1,812.6	23.8	3,348.4
Income (loss) before taxes	22.1	167.9		132.6		57.4
Income tax (expense) benefit	2.2	0.5		51.1		49.4
Income (loss) before equity in income (loss) of subsidiaries	19.9	168.4		81.5		106.8
Equity in income (loss) of subsidiaries	86.9	81.5			5.4	
Net income (loss)	106.8	86.9		81.5	5.4	106.8



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## Converium Holding AG and Subsidiaries

Notes to the consolidated financial statements (continued)

**Condensed consolidating  
statements of cash flows**

(US\$ million)

	Converium Holding AG	Converium AG	Converium Finance S.A.	Non- Guarantor Entities	Consolidating Adjustments	Consolidated
Year ended December 31, 2002						
Cash provided by operating activities	2.0	635.2	1.1	232.1		870.4
<b>Cash flows from investing activities</b>						
Proceeds from sales and maturities of fixed maturities		476.6		4,096.7		4,573.3
Purchases of fixed maturities		1,054.1		4,321.2		5,375.3
Proceeds from sales of equity securities		144.1		455.1		599.2
Purchases of equity securities		284.1		367.0		651.1
Net (increase) decrease in short-term investments	3.6	264.6	42.7	82.4		228.5
Purchase of note receivable			150.0		150.0	
Investment in subsidiaries		104.8			104.8	
All other investing activity		9.9	1.8	0.8		10.9
Net cash (used in) provided by investing activities	3.6	1,096.8	194.5	53.2	254.8	1,093.3
<b>Cash flows from financing activities</b>						
Issuance of guaranteed subordinated notes			193.7			193.7
Issuance of note payable		150.0			150.0	
Capital contribution				104.8	104.8	
Purchases of common shares	14.7					14.7
Net cash (used in) provided by financing activities	14.7	150.0	193.7	104.8	254.8	179.0
		0.6		14.5		15.1
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Effect of exchange rate changes on  
cash and cash equivalents

Change in cash and cash equivalents	16.3	312.2	0.3	269.2	59.0
Cash and cash equivalents as of January 1	17.1	340.7		62.7	420.5
Cash and cash equivalents as of December 31	0.8	28.5	0.3	331.9	361.5

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26. Subsequent events

*Restructuring costs*

As a result of the transition to a run-off entity in North America, a decision was made in January 2005 to vacate our primary office space in New York, New York and consolidate in our Stamford, Connecticut office space. We expect the effective date of the transfer to be July 1, 2005. Associated costs will be recorded as restructuring costs.

*Settlement of Superior National Matters*

On January 6 and January 7, 2005, CRNA and CINA, respectively, entered into the Settlement Agreement with the Commissioner relating to the January 16, 2002 complaint that the Commissioner filed against a subsidiary of ZFS, CIC and affiliates, as well as CRNA and CINA. The Commissioner had initiated this action in the Superior Court of the State of California, County of Los Angeles, on behalf of the SNICL.

Neither CRNA nor CINA shall pay any amounts whatsoever in exchange for the full and final discharge of liabilities, as set forth in the Settlement Agreement, that the Commissioner has granted to both companies. Instead, CIC shall be making the full payment that will provide the complete release to CRNA and CINA, as well as all other parties in the complaint. At a hearing on February 17, 2005, the Settlement Agreement was approved by the court presiding over the liquidation of the estates of SNICL. As a result, CIC's main performance under the settlement is now due 90 days from entry of the approval order. After that period has expired and CIC has performed, dismissals of the case are expected to be entered (see Note 21).

*Settlement of U.S. Life Insurance Company arbitration*

The arbitration initiated on November 29, 1999 by U.S. Life against SNICIL, CINA and CIC, has been settled as between U.S. Life and CINA. The settlement in January 2005 followed a December 2004 decision of the arbitration panel to reject U.S. Life's claim for rescission and to instead reform the reinsurance treaty provided by U.S. Life to a 90% quota share as opposed to a 100% quota share. U.S. Life and CINA agreed to settle the matter with a full and final commutation of the treaty in exchange for a commutation payment by U.S. Life (see Note 21).

*Class action lawsuits*

On January 21, 2005, *Bassin v. Converium Holding AG, et al.*, 04 CV 08295, a class action lawsuit against Converium and certain officers and directors was voluntarily dismissed, without prejudice, by the plaintiff in that action (see Note 21).

*Appointment of Chief Executive Officer*

On February 23, 2005, the Board of Directors appointed Terry G. Clarke to the position of Chief Executive Officer of Converium. Terry G. Clarke will continue to be a member of the Board of Directors (see Note 18).

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27. Subsequent Events (unaudited)

*Winter Storm Erwin*

Winter storm Erwin, which swept across Northern Europe in January 2005, resulted in net pre-tax losses for Converium in the amount of US\$ 32.5 million, net of US\$ 3.0 million in reinstatement premium.

*Review of Certain of our Reinsurance Transactions*

Ongoing investigations of the insurance and reinsurance industry and certain insurance and reinsurance products are being conducted by U.S. regulators and governmental authorities, including the Securities and Exchange Commission and the New York Attorney General.

On March 8, 2005, MBIA Inc. ( MBIA ) issued a press release stating that MBIA's audit committee undertook an investigation to determine whether there was an oral agreement with MBIA under which MBIA would replace Axa Re Finance as a reinsurer to CRNA by no later than October 2005. The press release stated that it appears likely that such an agreement or understanding with Axa Re Finance was made in 1998. Thereafter, on April 19, 2005, CRNA received subpoenas from the U.S. Securities and Exchange Commission and the Office of the New York Attorney General seeking documents related to certain transactions between CRNA and MBIA.

In view of the industry investigations and the events relating to MBIA described above, we have engaged counsel to assist us in a review and analysis of certain of our reinsurance transactions, including the MBIA transactions. We are fully cooperating with the governmental authorities in connection with their investigation. The impact of our ongoing review and analysis and the ongoing regulatory investigations on us is uncertain, and there can be no assurance as to whether or not the outcome of such investigations will have a material impact on Converium.

*Retrocessional Risk Management*

As a result of its risk management monitoring process, Converium reached a decision in the first quarter of 2005 to commute the obligations of one of its retrocessionaire's due to deterioration in that company's rating and concerns about the future ownership and prospects of the company. As a result Converium commuted certain retrocession contracts with reinsurance recoverables in the amount of US\$ 100.1 million for a commutation settlement of US\$ 60.1 million, which generated a negative impact of US\$ 40.0 million on the net results in the first quarter of 2005, US\$ 38.7 million of which is in losses. This negative impact reflects the long-tail nature of the expected future claims payment patterns in respect of the line of business concerned.

*Long-Term Incentive Plan*

Effective in 2005, CRNA has established a long-term incentive plan for its senior employees needed for the run-off. The CRNA LTIP is based on CRNA's performance against target plan statutory surplus levels over a 5-year period, 2005 through 2009. Awards are payable to participants in cash, in early 2010, after performance can be determined.

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**Converium Holding AG**  
**Report of Independent Registered Public Accounting Firm**  
**On the Financial Statement Schedules**

To the Board of Directors of Converium Holding AG, Zug

Our audits of the consolidated financial statements referred to in our report dated March 4, 2005, except as to the subsequent events described in Note 27, as to which the date is June 30, 2005, also included an audit of the financial statement schedules listed in part III Item 18(b) of this Form 20-F. In our opinion, these financial statement schedules present fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements.

PricewaterhouseCoopers Ltd.

Andrew Hill      Martin Frei

Zurich, March 4, 2005

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**Table of Contents****Schedule I**

<b>Summary of investments other than investments in related parties as of December 31, 2004</b>	<b>Cost or amortized cost</b>	<b>Fair value (\$ millions)</b>	<b>Amount at which shown in the balance sheet</b>
<b>Fixed maturities:</b>			
Bonds held-to-maturity:			
US government	584.3	573.7	584.3
Other government	266.1	270.3	266.1
Total fixed maturities held-to-maturity	850.4	844.0	850.4
Bonds available-for-sale:			
US government	1,765.6	1,763.1	1,763.1
Other government	1,769.3	1,783.0	1,783.0
Public utilities	17.0	17.8	17.8
Other corporate debt securities	499.9	505.5	505.5
Unit trust	144.2	148.8	148.8
Mortgage and asset-backed securities	612.2	616.6	616.6
Total fixed maturities available for sale	4,808.2	4,834.8	4,834.8
Total fixed maturities	5,658.6	5,678.8	5,685.2
<b>Equity securities:</b>			
Common stocks:			
Public utilities	7.7	10.5	10.5
Banks, trusts, and insurance companies	37.1	47.3	47.3
Industrial, miscellaneous and all other	259.8	312.5	312.5
Unit trust	27.1	31.8	31.8
Non-redeemable preferred stocks	6.3	6.4	6.4
Total equity securities	338.0	408.5	408.5
Real estate	138.8	138.8	138.8
Policyholder, collateral and other loans	29.4	29.4	29.4
Other investments	101.6	104.1	104.1
Short-term investments	133.3	133.3	133.3

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Total investments	6,399.7	6,492.9	6,499.3
Funds Withheld Asset	1,305.1	1,305.1	1,305.1
Total invested assets	7,704.8	7,798.0	7,804.4

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**Table of Contents****Schedule II****Converium Holding AG  
Statements of (loss) income**

(\$ millions)	Year ended December 31,		
	2004	2003	2002
<b>Income</b>			
Net investment income	13.4	11.0	12.6
Other income (loss)	23.5	35.0	(0.5)
Total revenues	36.9	46.0	12.1
<b>Expenses</b>			
Other operating and administration expenses	(11.6)	(8.6)	20.7
Interest expense	(10.6)	(10.5)	(10.7)
Total expenses	(22.2)	(19.1)	10.0
Income before taxes	14.7	26.9	22.1
Income tax benefit (expense)	2.5	(3.5)	(2.2)
Income before equity in income (loss) of subsidiaries	17.2	23.4	19.9
Equity in (loss) income of subsidiaries	(778.0)	161.7	86.9
Net (loss) income	(760.8)	185.1	106.8

See notes to our 2004 consolidated financial statements.

**Table of Contents****Converium Holding AG  
Balance sheets**

	<b>December 31,</b>	
	<b>2004</b>	<b>2003</b>
<b>Assets</b>		
<b>Invested assets</b>		
Investment in subsidiaries	1,661.5	2,006.8
Notes receivable	196.7	150.0
Short-term and other investments		44.7
Total invested assets	1,858.2	2,201.5
<b>Other assets</b>		
Cash and cash equivalents	2.1	1.2
Other assets	32.5	42.7
Total assets	1,892.8	2,245.4
<b>Liabilities and equity</b>		
<b>Liabilities</b>		
Accrued expenses and other liabilities	0.6	12.1
Notes payable	172.0	150.0
Total liabilities	172.6	162.1
<b>Equity</b>		
Common stock	554.9	253.0
Additional paid-in capital	1,430.6	1,326.7
Treasury stock	(7.7)	(10.0)
Unearned stock compensation	(7.5)	(6.1)
Total accumulated other comprehensive income	304.1	261.4
Retained earnings	(554.8)	258.3
Total equity	1,720.2	2,083.3
<b>Total liabilities and equity</b>	<b>1,892.8</b>	<b>2,245.4</b>

See notes to our 2004 consolidated financial statements.





**Table of Contents****Schedule II****Converium Holding AG  
Statements of cash flows**

(\$ millions)	Year ended December 31,		
	2004	2003	2002
<b>Cash flows from operating activities</b>			
Net income (loss) before equity in income (loss) of subsidiaries	17.2	23.4	19.9
Changes in other assets and liabilities	24.4	(20.1)	(17.9)
Cash provided by operating activities	41.6	3.3	2.0
<b>Cash flows from investing activities</b>			
Issuance of note receivable	(46.7)		
Investment in Converium AG	(355.1)	29.9	
Net decrease (increase) in short-term investments		3.6	(3.6)
Net cash (used in) provided by investing activities	(401.8)	33.5	(3.6)
<b>Cash flows from financing activities</b>			
Issuance of note payable	22.0		
Net purchases of common shares	(6.0)	(17.3)	(14.7)
Dividends to shareholders	(47.8)	(29.9)	
Proceeds from 2004 rights offering	428.4		
2004 rights offering issuance costs	(25.1)		
Net cash provided by (used in) financing activities	371.5	(47.2)	(14.7)
Effect of exchange rate changes in cash and cash equivalents	(10.4)	10.8	
Change in cash and cash equivalents	0.9	0.4	(16.3)
Cash and cash equivalents, beginning of period	1.2	0.8	17.1
Cash and cash equivalents, end of period	2.1	1.2	0.8

See notes to our 2004 consolidated financial statements.

Table of Contents**Schedule IV**

(\$ millions)	<b>Gross</b>	<b>Ceded to other</b>	<b>Assumed from other</b>	<b>Net</b>	<b>% of amount assumed to net</b>
<b>Reinsurance Insurance premiums and other considerations:</b>	<b>Amount</b>	<b>Companies</b>	<b>Companies</b>	<b>Amount</b>	
<b>2004</b>	\$ 490.9	(\$287.9)	\$ 3,350.0	\$ 3,553.0	94.3%
<b>2003</b>	\$ 561.4	(\$396.9)	\$ 3,662.5	\$ 3,827.0	95.7%
<b>2002</b>	\$ 88.0	(\$213.6)	\$ 3,447.8	\$ 3,322.2	103.8%

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**GLOSSARY OF SELECTED**

**INSURANCE AND REINSURANCE TERMS**

<i>Annuity</i>	A contract that pays a periodic income benefit for the life of a person (the annuitant) or for a specified number of years, or a combination of the two, in return for a single premium payment. Immediate annuities provide income from the date the policy is taken out and deferred annuities provide income at a future specified date.
<i>Cede; ceding insurer; cession</i>	When an insurer reinsures its risk with another insurer (a cession), it cedes business and is referred to as the ceding insurer.
<i>Co-insurance</i>	Also referred to as original terms reinsurance, and refers to reinsurance contracts in which the reinsurer receives a portion of the premiums paid to the ceding company on the policies. Reinsurance premiums under a co-insurance contract will normally have the same premium arrangement as the original insurance policies, which may extend over several years.
<i>Combined ratio</i>	The sum of the loss ratio and the expense ratio for a non-life insurance company or a reinsurance company. A combined ratio below 100 generally indicates profitable underwriting. A combined ratio over 100 generally indicates unprofitable underwriting. An insurance company with a combined ratio over 100 may be profitable to the extent net investment results exceed underwriting losses. Expense ratio. The ratio of non-life insurance or reinsurance operating expenses (i.e., acquisition costs and profit participation net of reinsurance commissions) to net premiums earned plus administration expenses to net premiums written.
<i>Facultative reinsurance</i>	The reinsurance of part or all of the insurance provided by a single policy negotiated on a contract-by-contract basis.
<i>Finite risk</i>	Insurance and reinsurance policies under which the aggregate risk to the insurer or reinsurer is capped at a finite limit. Typically, such policies have maturities of several years and provide for sharing profits arising from the policy with the client at the policy maturity. The policy limit-to-premium ratio is frequently significantly lower than under traditional insurance and reinsurance policies.
<i>Gross premiums written</i>	Total premiums (whether or not earned) for insurance contracts written or assumed (including deposits for contracts with an insignificant amount of mortality or morbidity risk) during a specific period, without deduction for premiums ceded.
<i>Incurred but not yet reported (IBNR)</i>	Reserves for estimated losses and LAE which have been incurred but not yet reported to the insurer or reinsurer, including future

<i>reserves</i>	development of claims which have Incurred but not yet reported been reported to the insurer or reinsurer but where the established reserves may ultimately prove to be inadequate.
<i>Lapse</i>	Termination of a policy because of surrender, failure to pay a premium or lack of sufficient cash value to maintain in-force status.
<i>Loss</i>	An insured event that is the basis for submission or payment of a benefit under an insurance policy. Losses may be covered, limited or excluded from coverage, depending on the terms of the policy.

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<i>Loss adjustment expenses ( LAE )</i>	The expenses of investigating and settling claims, including certain legal and other fees, and the expenses of administering the claims adjustment process.
<i>Loss ratio</i>	The ratio of a non-life insurance or reinsurance company's net incurred losses and LAE to net premiums earned.
<i>Loss reserves</i>	Reserves established by an insurer or reinsurer and reflected on its balance sheet to reflect the estimated cost of payments for claims for which the insurer or reinsurer ultimately will be required to indemnify insureds or reinsureds in the future in respect of losses occurring on or prior to the balance sheet date on insurance or reinsurance it has written and that has been earned. Loss reserves are composed of individual case reserves for reported claims and IBNR reserves.
<i>National Association of Insurance Commissioners ( NAIC )</i>	An association of reinsurance regulatory officials of all 50 states and the District of Columbia organized to promote consistency of regulatory practice and statutory accounting standards throughout the United States.
<i>Net premiums written</i>	Gross premiums less premiums ceded for reinsurance.
<i>Non-proportional reinsurance</i>	Reinsurance under which the reinsurer's participation in a claim depends on the size of the claim. Also known as excess reinsurance.
<i>Premiums earned</i>	That portion of gross premiums written in current and past periods applying to the expired portion of the policy period.
<i>Proportional reinsurance</i>	Arrangement whereby the insurer cedes to the reinsurer an agreed fixed percentage of premiums and claims and other liabilities for each policy covered on a pro rata basis.
<i>Reinsurance</i>	The practice whereby one insurer, called the reinsurer, in consideration for premiums received, agrees to indemnify the ceding insurer for all or a portion of the risk under a policy or policies of insurance issued by the ceding insurer. The legal rights of the insured generally are not affected by the reinsurance transaction, and the insurance enterprise issuing the insurance contract remains liable to the insured for payment of policy benefits.
<i>Reserves</i>	Liabilities established by insurers and reinsurers to reflect the estimated cost of claims payments, benefits payments and the related expenses that the insurer or reinsurer will ultimately be required to pay in accordance with the insurance or reinsurance it has written.
<i>Retention</i>	The amount or portion of risk which a ceding insurer retains for its own account. Losses and loss expenses paid by the ceding insurer in excess of the retention level are then reimbursed to the insurer by the

reinsurer. In proportional insurance, the retention may be a percentage of the original policy's limit. In non-proportional insurance, the retention is an amount of loss, a loss ratio or a percentage.

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<i>Retrocessional Reinsurance</i>	An arrangement under which a reinsurer cedes to another reinsurer (the retrocessionaire ) all or a portion of the insurance risks reinsured by the first reinsurer. Retrocessional reinsurance generally does not legally discharge the ceding reinsurer from its liability to the original ceding company.
<i>Survival Ratio</i>	An industry measure of the number of years it would take a company to exhaust its A&E reserves for losses and loss expenses based on that company's current level of A&E claims payments. The ratio is derived by dividing the current ending losses and loss expense reserves by the average annual payments for the prior three years. The ratio is computed based on the ending reserves for losses and loss expenses over the respective claims settlements during the fiscal year.
<i>Surrender</i>	Many life insurance products permit the insured to withdraw a portion of the cash surrender value of the contract. Future benefits are reduced accordingly.
<i>Tail</i>	The period of time that elapses between the incurrence and settlement of losses under a policy. A short-tail insurance product is one where ultimate losses are known and settled comparatively quickly; ultimate losses under a long-tail insurance product are sometimes not known and settled for many years.
<i>Treaty reinsurance</i>	A type of reinsurance whereby the ceding company automatically cedes and the reinsurer automatically assumes a predetermined portion or category of specified risks underwritten by the ceding company.
<i>Underwriting</i>	The process whereby an insurer or reinsurer reviews applications submitted for insurance or reinsurance coverage and determines whether it will provide all or part of the coverage being requested for an agreed premium.
<i>Underwriting results</i>	The pre-tax profit or loss experienced by a non-life insurance company or reinsurance company after deducting incurred losses and loss expenses and operating expenses from premiums earned. This profit and loss calculation includes reinsurance assumed and ceded but excludes investment income.
<i>Unit trust</i>	Unit trusts can be invested in stocks, shares, government securities and other investment instruments. The fund is divided into units, which fluctuate in value, depending on the value of the overall fund. The unit trust is an open-ended fund which means it has a variable number of units in issue at any one time. Units are bought from and sold to the fund manager.



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**SIGNATURES**

The registrant hereby certifies that it meets all of the requirements for the filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

**CONVERIUM HOLDING AG**

By /s/ Terry G. Clarke  
Name: Terry G. Clarke  
Title: Chief Executive Officer, Converium  
Holding AG

By /s/ Andreas Zdrenyk  
Name: Andreas Zdrenyk  
Title: Chief Financial Officer, Converium  
Holding AG

Date: June 30, 2005

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**INDEX TO EXHIBITS**

<b>Exhibit Number</b>	<b>Description</b>
1.1	Articles of Incorporation of Converium Holding AG, adopted November 8, 2001.*
1.2	Bylaws of Converium Holding AG, adopted November 16, 2001.*
1.3	Articles of Incorporation of Converium Holding AG, revised October 12, 2004.
1.4	Bylaws of Converium Holding AG, revised April 11, 2005.
2.1	Form of Deposit Agreement among Converium Holding AG, The Bank of New York, as Depository, and all owners and beneficial owners from time to time of ADSs issued thereunder (including the form of ADS), incorporated by reference from the Registration Statement on Form F-6 of Converium Holding AG (File No. 333-14108), initially filed with the Commission on November 19, 2001.*
2.2	Indenture, dated as of October 20, 1993 between Zurich Reinsurance Centre Holdings, Inc. and The Bank of New York, as Trustee, relating to \$200,000,000 principal amount of 7 1/8% Senior Notes due 2023 (and assumed by Converium Holdings (North America) Inc. pursuant to the Supplement Indenture included as Exhibit 2.3 hereto).* (Previously filed as Exhibit 3.1)
2.3	First Supplemental Indenture among Zurich Reinsurance Centre Holdings, Inc., as Issuer, Converium Holdings (North America) Inc., as Guarantor, and The Bank of New York, as Trustee, dated as of November 20, 2001.* (Previously filed as Exhibit 3.2)
2.4	Form of Indenture between Converium Finance, S.A., as Issuer, Converium AG and Converium Holding AG as Guarantors and JPMorgan Chase Bank as Trustee, Calculation Agent and Paying Agent.+
2.5	Form of the \$200,000,000 principal amount of 8.25% Guaranteed Subordinated Notes Due 2032 (included in Exhibit 2.4 hereto).+
2.6	Subordinated Guarantee by Converium Holding AG and Converium AG relating to \$200,000,000 principal amount of 8.25% Guaranteed Subordinated Notes Due 2032. ^
2.7	Indenture, dated December 23, 2002 between Converium Finance S.A., Converium Holding AG, Converium AG and JP Morgan Chase Bank, as trustee, relating to \$200,000,000 principal amount of 8.25% Guaranteed Subordinated Notes Due 2032. ^
4.1	Master Agreement by and among Zurich Financial Services and Converium Holding AG, dated December 1, 2001.*
4.2	Stock Purchase Agreement between Zurich Reinsurance Centre Stock Purchase Agreement between Zurich Reinsurance Centre Holdings, Inc. and Converium Holdings (North America) Inc., dated as of October 1, 2001.*
4.3	

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Agreement for the Sale and Transfer of Shares in Zürich Rückversicherung (Köln) Aktiengesellschaft, dated September 28, 2001.\*

- 4.4 Quota Share Retrocession Agreement between Zurich Insurance Company (including its Singapore, Labuan and Bermuda branches) and Converium AG, dated October 1, 2001.\*
  - 4.5 Quota Share Retrocession Agreement between Zurich International (Bermuda) Ltd. and Converium AG, dated October 1, (and effective as of July 1, 2001).\*
  - 4.6 Asset purchase and Assumption of Liability Agreement between Zurich Insurance Company and Converium AG, dated September 28, 2001.\*
  - 4.7 Indemnity Agreement (Unicover) between Zurich Reinsurance (North America), Inc. and Zurich Insurance
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<b>Exhibit Number</b>	<b>Description</b>
	Company, dated as of October 1, 2001.*
4.8	Indemnity Agreement (September 11th Cessions) between Zurich Reinsurance (North America), Inc. and Zurich Insurance Company, dated as of October 1, 2001.*
4.9	Indemnity Agreement (September 11th Losses) between Zürich Rückversicherung (Köln) Aktiengesellschaft and Zurich Insurance Company, dated as of October 1, 2001.*
4.10	Partial Commutation Agreement between Zurich Reinsurance (North America), Inc. and Zurich Insurance Company, dated as of October 1, 2001.*
4.11	Master Novation and Indemnity Reinsurance Agreement among Zurich Reinsurance (North America), Inc., Centre Insurance Company, Centre Solutions (U.S.) Limited and Zurich Insurance Company, Bermuda Branch, dated as of October 1, 2001.*
4.12	Group Reinsurance Business Master Novation and Indemnity Reinsurance Agreement by and among Zurich Reinsurance (North America), Inc., Zurich Insurance Company and Zurich International (Bermuda) Ltd., dated as of October 1, 2001.*
4.13	Commutation Agreement (covering the Aggregate Excess of Loss Reinsurance Agreement effective January 1, 1991 through December 31, 1993) between Zurich Reinsurance (North America), Inc. and Centre Reinsurance Limited, dated as of October 1, 2001.*
4.14	Commutation Agreement (covering the Aggregate Excess of Loss Reinsurance Agreement effective January 1, 1994 through December 31, 1994) between Zurich Reinsurance (North America), Inc. and Centre Reinsurance International Company, dated as of October 1, 2001.*
4.15	Commutation Agreement (covering the Aggregate Excess of Loss Reinsurance Agreement effective January 1, 1995) between Zurich Reinsurance (North America), Inc. and Centre Reinsurance Limited, dated as of October 1, 2001.*
4.16	Commutation Agreement (covering the Obligatory Surplus Share Reinsurance Agreement effective October 1, 1995) between Zurich Reinsurance (North America), Inc. and Centre Reinsurance Limited, dated as of October 1, 2001.*
4.17	Commutation Agreement (covering the Obligatory Surplus Share Reinsurance Agreement effective November 6, 1992) between Zurich Reinsurance (North America), Inc. and Centre Reinsurance International Company, dated as of October 1, 2001.*
4.18	Agreement Amending and Terminating Centre Reinsurance Dublin Affiliated Group Tax Allocation Agreement among Orange Stone Delaware Holdings Limited, Orange Stone Reinsurance, Centre Reinsurance Holdings (Delaware) Limited, Centre Reinsurance (U.S.) Limited, Zurich Reinsurance Centre Holdings, Inc., Zurich Reinsurance (North America), Inc., ZC Insurance Company, ZC Specialty Insurance Company, Centre Risk Advisors, Inc., Constellation Reinsurance Company, Centre Re Services, Inc., Zurich Global Assets LLC, formerly known as BDA/US Services Limited, ZC Management Corporation, ZC Resource LLC, ZC Property Management, Inc. and Claims

Solutions Group, dated October 1, 2001.\*

- 4.19 Catastrophe Cover Retrocession Agreement by and between Converium AG and Zurich Insurance Company, dated December 1, 2001.\*
  - 4.20 Stock Purchase Agreement between Zurich Reinsurance (North America), Inc. and Centre Strategic Investments Holdings Limited, dated August 23, 2001.\*
  - 4.21 Run-off Services and Management Agreement between Zurich Insurance Company and Converium AG, dated December 3, 2001.\*
  - 4.22 Tax Sharing and Indemnification Agreement among Zurich Reinsurance Centre Holdings, Inc., Orange Stone Delaware Holdings Limited, Converium Holdings (North America) Inc., Zurich Reinsurance (North America), Inc. and Zurich Insurance Company, dated as of October 1, 2001. \*
  - 4.23 Tax Sharing and Indemnification Agreement between Zurich Financial Services, Zurich Insurance
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<b>Exhibit Number</b>	<b>Description</b>
	Company, Converium Holding AG and Converium AG dated December 3, 2001. *
4.24	Form of Converium Standard Stock Option Plan for Non-US Employees. *
4.25	Form of Converium Standard Stock Purchase Plan for Non-US Employees. *
4.26	Omnibus Share Plan for US Employees. *
4.27	Converium Employee Stock Purchase Plan for US Subsidiaries.*
4.28	Form of Converium Annual Incentive Deferral Plan.*
4.29	Lease, between Zurich Insurance Company and Converium AG, dated August 29, 2001.*
4.30	Sublease Support Agreement among Zurich Reinsurance (North America), Inc., Global Asset Holdings Limited and Centre Insurance Company, dated as of October 1, 2001.*
4.31	Sublease between ZC Resource LLC and Zurich Reinsurance (North America), Inc., dated as of June 20, 2001.*
4.32	Form of Letter Agreement between Converium Holding AG and The Bank of New York, relating to the pre-release of the ADRs, incorporated by reference from the Registration Statement on Form F-6 of Converium Holding AG (File No. 333-14108), initially filed with the Commission on November 19, 2001.*
4.33	Agreement dated September 2, 2002, between Converium AG and MDU Investments Ltd, regarding subscription of up to 20 million shares at £1 each. ^
4.34	Share Purchase Agreement dated November 27, 2002, between Converium AG and Northern States Agency Inc., Munich Re, Aviva and Royal and Sun Alliance regarding Global Aerospace Underwriting Managers Limited (GAUM). ^
4.35	Shareholder s Agreement dated March 12, 2003, between Converium AG and Northern States Agency Inc., Munich Re, Aviva and Royal and Sun Alliance regarding Global Aerospace Underwriting Managers Limited (GAUM). ^
4.36	Sale and Purchase Agreement and Assignment between Converium AG and Converium Finance S.A. regarding the transfer of a \$150 million loan granted to Converium Holding AG. ^
4.37	Amendment to Share Purchase Agreement dated November 27, 2002 between Converium AG and Northern States Agency Inc., Munich Re, Aviva and Royal Sun Alliance regarding Global Aerospace Underwriting Managers Limited (GAUM). ^
4.38	Agreement dated December 30, 2003, for the sale and purchase of 5.1% of Royal and Sun Alliance Insurance PLC s shareholding in Global Aerospace Underwriting Managers Limited (GAUM). #

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- 4.39 Agreement dated July 24, 2003 \$900,000,000 Credit Facility for Converium AG, Zurich arranged by ABN Amro Bank N.V., Barclay s Capital and Commerzbank Aktiengesellschaft. #
- 4.40 Agreement dated November 29, 2004, USD 1,600,000,000 Credit Facility for Converium AG, arranged by ABN AMRO Bank N.V., Barclay s Capital, BNP Paribas, Commerzbank Aktiengesellschaft, Credit Suisse First Boston and J.P. Morgan.
- 4.41 Deed of Pledge, dated December 15, 2004, Converium Rückversicherung (Deutschland) AG as the Pledgor and ABN Amro Mellon Global Securities Services as the Account Bank and ABN Amro Bank N.V. as the Pledgee.
- 4.42 Deed of Pledge, dated December 15, 2004, Converium AG, Zürich, as the Pledgor, and ABN Amro Bank N.V. as the Pledgee and ABN Amro Mello Global Securities Services as the Account Bank.
- 4.43 Guarantee, dated October 21, 2004 between Converium AG, Zürich as the Guarantor, and Converium Insurance (UK) Limited.
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<b>Exhibit Number</b>	<b>Description</b>
4.44	Guarantee, dated October 21, 2004 between Converium AG, Zürich as the Guarantor, and Converium Rückversicherung (Deutschland) AG.
4.45	Fronting and Administration Agreement relating to the Global Aerospace Underwriters Pool, dated January 7, 2005, between Global Aerospace Underwriting Managers Limited, Global Aerospace, Inc., Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft in München, National Indemnity Company and Converium AG.
7.1	Computation of ratio of earnings to fixed charges.
8.1	Subsidiaries of the Registrant.
12.1	302 Certification of Chief Executive Officer.
12.2	302 Certification of Chief Financial Officer.
13.1	906 Certification of Chief Executive Officer.
13.2	906 Certification of Chief Financial Officer.
14.1	Consent of PricewaterhouseCoopers Ltd, independent accountants.
*	Incorporated by reference to the Company's Registration Statement filed on Form F-1, on December 10, 2001.
+	Incorporated by reference to the Company's Registration Statement filed on Form F-1, on December 18, 2002.
^	Incorporated by reference to the Company's Annual Report on Form 20-F for the year ended December 31, 2002, filed on April 18, 2003.
#	Incorporated by reference to the Company's Annual Report on Form 20-F for the year ended December 31, 2003, filed on April 5, 2003.