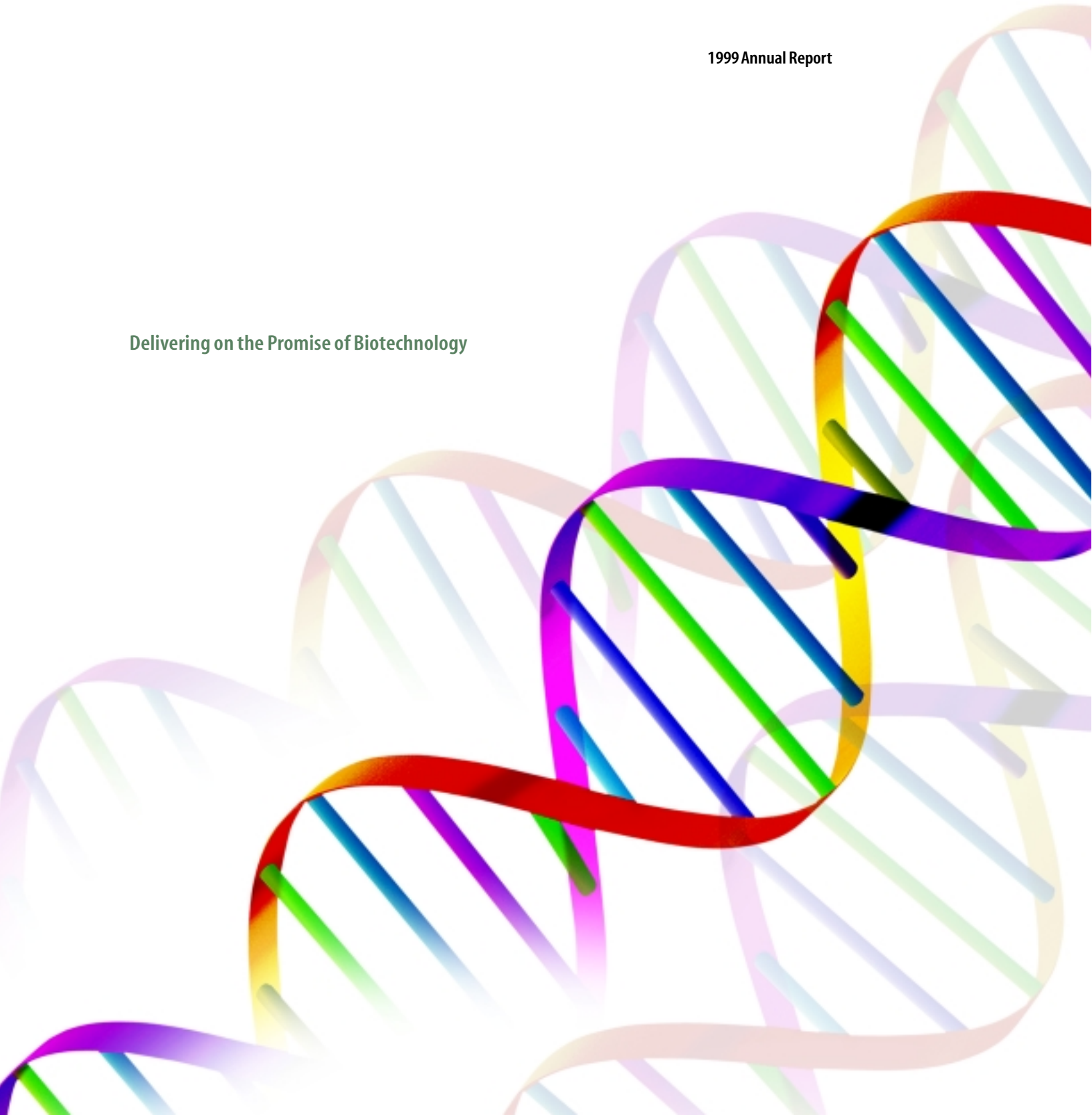
BIOGEN

1999 Annual Report

Delivering on the Promise of Biotechnology



BIOGEN

IMPORTANT NOTE TO SHAREHOLDERS

In addition to historical information, this Annual Report contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Reference is made in particular to statements regarding the potential growth of the market for AVONEX®, the anticipated level of future earnings, product sales, licensee product sales, royalty revenue and expenses, expectations regarding the efficacy of AVONEX® in other MS indications, the potential efficacy and uses of products in development, the timing of anticipated and ongoing clinical trials, the description of the Company's plans, goals and objectives for future operations, assumptions underlying such plans, goals and objectives and other forward-looking statements included in the Letter to Shareholders, "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A") and other sections of this Annual Report. Such statements are based on management's current expectations and are subject to a number of factors and uncertainties which could cause actual results to differ materially from those described in the forward-looking statements. In particular, careful consideration should be given to cautionary statements made in MD&A, including under the heading "Outlook" and in the business section of the Company's Form 10-K under the heading "Risks Associated with Drug Development."

James L. Vincent
Chairman and
Chief Executive Officer

James C. Mullen
President and
Chief Operating Officer

To Our Shareholders

With the extremely successful global commercialization of AVONEX® (Interferon beta-1a), Biogen achieved its mission of becoming an independent, operating, global biopharmaceutical company. In 1999, we adopted a new Vision & Mission statement designed to reflect our determination to become by 2010 the world's largest biopharmaceutical company established since 1953 (the year of the Watson and Crick Nobel Prize-winning DNA research) as measured by market capitalization.

This will be a significant challenge, requiring both long-term vision and short-term strategy. Our key goals for 2000 are listed in a separate box and are the important next steps toward achieving our new vision. These next steps will be taken under the leadership of James Mullen, who will become Chief Executive Officer on June 16, 2000. This important senior executive transition ensures strong leadership for Biogen in the decade to come. In order to reach these goals, we will build on our significant accomplishments of the past year.

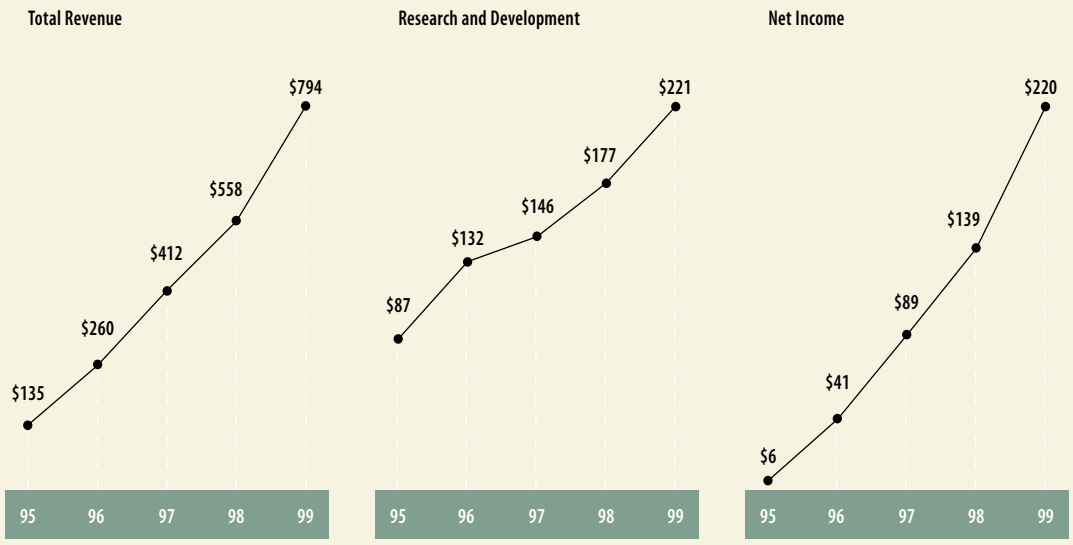
AVONEX®: "A Brand of the Century"

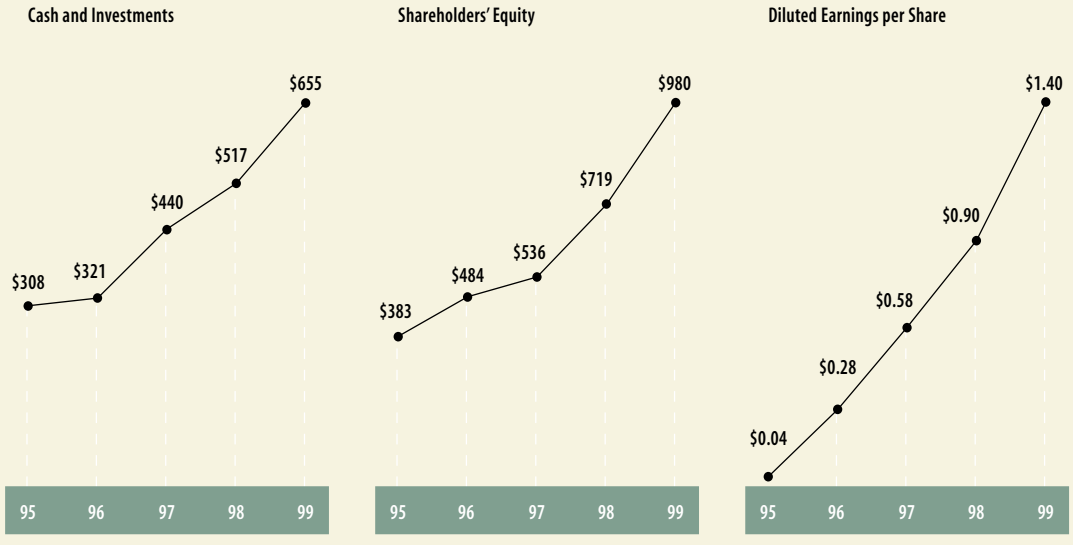
AVONEX (Interferon beta-1a) was cited as a "brand of the century" by MedAd News, a pharmaceutical industry trade publication. Since its introduction in the U.S. marketplace in 1996, AVONEX has become the global market leader among MS treatments. Neurologists are now more experienced with the drug and patients are better educated and more aware of its many benefits. In addition, there has been an increasing amount of new scientific data released during the past year that underscores the importance of treating MS patients as soon as possible.

In February 2000, an independent Data Safety Monitoring Board recommended early termination of the CHAMPS study of AVONEX because AVONEX had shown a statistically significant positive impact on delaying development of clinically definite MS in monosymptomatic patients at high risk of developing clinically definite MS. Data will be announced at a scientific congress later this year. We are proceeding with a filing for an expanded label based on these data.

Selected Financial Information

Biogen, Inc. and Subsidiaries





Dollars in Millions, except for Diluted Earnings per Share

AVONEX: Continued Growth Potential

We believe there is considerable room for market expansion and expect the growth rate for MS therapies will continue to accelerate, with AVONEX gaining a significant share of new patients.

More than 61,000 U.S. patients, and more than 21,000 patients internationally were on AVONEX therapy at year-end 1999. In the U.S., this represents a 55-to-60 percent market share. In an important 1999 decision, the U.S. Food and Drug Administration upheld the Orphan Drug status of AVONEX, which means a competitive drug from Ares-Serono cannot enter the U.S. market until 2003. We believe this decision is in the best interests of the entire multiple sclerosis community and a safeguard of future drug development. We continue to face competitive pressures in Europe, particularly in the European Union, but feel we are up to the challenges we face there. Market share in Europe is in the same range as Betaferon (Interferon beta-1b), a competitive product that was introduced earlier.

With more than 82,000 patients on AVONEX worldwide, we are within reach of accomplishing the goal we set a year ago of breaking through the 100,000 patient ceiling before the end of 2000. The changing attitude of neurologists toward prescribing MS therapies has resulted in a considerable increase in the size of the patient population. When we began marketing AVONEX, estimates of the number of patients were less than 200,000 in the U.S., with an additional 350,000 in Europe. Since product introduction, we have revised our estimates several times. According to current estimates, there are approximately 400,000 MS patients in the U.S. and more than 450,000 in Europe. Out of this million-patient population, approximately 150,000 people are now on drug. Fewer than half of potential patients in the U.S., and only about a quarter of appropriate patients in Europe, are on therapy.

AMEVIVE™ Enters Phase III Trials

AMEVIVE (Human LFA-3/IgG1 fusion protein, LFA3TIP) is Biogen's lead product development candidate. It is a recombinant fusion protein that selectively modulates T-cell activity with a low-binding affinity.

This mechanism of action may be appropriate for autoimmune diseases like psoriasis, rheumatoid arthritis, ulcerative colitis, Crohn's disease and MS. More than 10 million patients in the U.S. and Europe suffer from T-cell mediated autoimmune disorders.

Based on our successful Phase II trial, we began a Phase III trial of AMEVIVE in moderate-to-severe chronic plaque psoriasis in December 1999. Psoriasis is an inflammatory disorder of the skin characterized by raised, red, inflamed lesions covered with a scale and infiltrated by lymphocytes. For patients with severe psoriasis, a large percentage of body surface is covered by lesions, often including the palms and soles of the feet, causing varying degrees of disability. The disease can have a significant negative impact on the quality of life and there is no cure as yet.

Biogen Product Portfolio

PROPRIETARY DRUGS	RESEARCH	PRE-CLINICAL	CLINICAL TRIALS	ON THE MARKET
AVONEX® (INTERFERON BETA 1-A) Relapsing Forms of MS				65+ countries including U.S., Europe, Canada
Combination Trials MS			Phase IV	
Monosymptomatic MS (CHAMPS)			Phase III*	
Multidose MS			Phase III	
Open Label MS			Phase IV	
Secondary Progressive MS			Phase III	
Primary Progressive MS			Phase II	
Glioma			Phase II	
Idiopathic Pulmonary Fibrosis			Phase II	
AMEVIVE™ (HUMAN LFA3/IgG$_1$ FUSION PROTEIN,LFA3TIP) Moderate-to-Severe Psoriasis			Phase III	
ANDENOSINE A$_1$ ANTAGONIST Congestive Heart Failure		Preclinical		
ANTOVA™ (HU5C8) Various autoimmune diseases			Clinical hold	
HEDGEHOG PROTEINS CNS Diseases		Preclinical		
VLA-4 INHIBITOR Inflammation	Research			
LT BETA		Preclinical		
GENE THERAPY		Preclinical		

*Trial completed; to be filed with FDA

PARTNERED DRUGS		PRE-CLINICAL	CLINICAL TRIALS	PENDING REGULATORY APPROVAL	ON THE MARKET
INTRON® A (INTERFERON ALFA-2B, RECOMBINANT) Hepatitis B and C, certain cancers, and others	**SCHERING PLOUGH**				Global
HEPATITIS B VACCINES	**SMITHKLINE BEECHAM, MERCK**				Global
HEPATITIS B DIAGNOSTICS	**ABBOTT AND OTHERS**				Global
ANGIOMAX™ *(formerly Hirulog®)* Angioplasty Acute coronary syndromes	**THE MEDICINES COMPANY**			Awaiting U.S. and European Regulatory Review	New Zealand
VLA-4 INHIBITOR Asthma	**MERCK**	Preclinical			

We announced the data from our Phase II AMEVIVE trial at the annual Gene to Clinic meeting in London in December and at the American Academy of Dermatology conference in March. This was a placebo-controlled, randomized, double-blinded trial of AMEVIVE involving more than 200 patients. The trial was designed to determine the relationship of clinical response to dose. We assessed three doses and a placebo for a 12-week treatment period and 12-week observation period.

The trial was successful. We achieved our primary objective and demonstrated serum concentration and dose response. At two weeks post dosing, which was the pre-specified endpoint, more than 50 percent of patients in the AMEVIVE dose arms showed a 50 percent or greater improvement in PASI score, the standard measurement. A significant portion of patients showed disease improvement, with 20 percent of patients experiencing complete clearing with long remission times.

Other Clinical Developments

We successfully completed a Phase II clinical trial of Adenosine A1 antagonist/CVT-124 in patients with moderate-to-severe Congestive Heart Failure (CHF). This Phase II trial validates the potential of this pathway in the cardio-renal syndrome that makes CHF such a deadly disease. We achieved statistical significance on key endpoints and are very pleased with what we have learned about this pathway in our studies during the past three years. We are proceeding with studies on our lead backup molecule and believe that, based on our extensive experience with this pathway, we can make significant progress with this program as we move through the clinic.

We suspended all Phase II clinical trials of ANTOVA™ (humanized anti-CD40 ligand monoclonal antibody) in late 1999 due to a series of thrombo-embolic adverse events. We are currently in the process of determining whether these events are related to the drug itself, to other ingredients in the formulation, or to the underlying disease of the individual patients involved. While we do not yet have a decision or timeline for returning to the clinic, we remain enthusiastic about the pathway based on our preliminary clinical data in ITP, transplantation and lupus.

Commitment to Shareholder Value

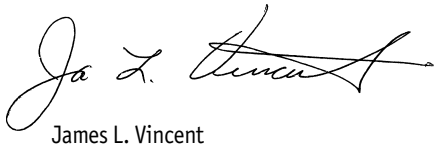
We have reached critical mass in terms of our reinvestment in Research & Development activities. Our 2000 budget calls for an R&D investment approaching $300 million, bringing us to the point where we have a sustainable investment plan comparable to those of more mature pharmaceutical companies. In 1999, Biogen put 28 percent of its revenues back into R&D, compared to an industry norm of 18 percent based on an eight-company composite. We are also keeping the pressure on expenses, including cost of goods and SG&A. In 1999, our SG&A expense line was just 18 percent, compared to an industry composite of 32 percent.

Even with this philosophy of investment for high long-term growth, we are still looking for high current returns. AVONEX is the current revenue driver, with total 1999 sales of $621 million, compared to $395 million in 1998, a year-over-year increase of more than 55 percent.

During the past year, Thomas Bucknum was named Vice President-General Counsel and Secretary and Robert Hamm was named Vice President-Manufacturing. Both Tom and Bob have been with Biogen for several years in other capacities and we are delighted that they have joined our senior management team. We were pleased to welcome Kees Been as our new Vice President-Business and Market Development. Most recently, we announced the election of Michael Gilman, Ph.D. to the position of Vice President-Research, replacing Joseph M. Davie, M.D., Ph.D., who has announced his retirement. Alexander Bearn, M.D., a key member of our Board of Directors, has also announced his retirement. We are delighted that Alick and Joe will remain active on our Scientific Board.

The early days of 2000 have been characterized by increasing volatility in the stock market and in the number of critical issues facing the pharmaceutical industry. One involves Medicare benefits for senior citizens. We support providing Medicare benefits to senior citizens, but it is critical that this be done in a way in which market mechanisms are used to determine drug pricing, as opposed to single payor or government-run reimbursement systems that are a major step toward price controls. One example of this is the legislation introduced by Senators Breaux, Frist and others. We support this kind of approach toward the Medicare issue. Allowing the government, rather than the marketplace, to determine the price of drugs would severely damage our industry - and ultimately reduce the flow of new products.

The many changes in our industry and healthcare system reinforce the importance of innovative and creative approaches to providing good medicine to people throughout the world. Biogen is proud of our two decades of achievement. We look forward to the millennium with confidence and enthusiasm.



James L. Vincent
Chairman & Chief Executive Officer

James C. Mullen
President & Chief Operating Officer

March 25, 2000

Goals for 2000

We enter the new century facing a changing healthcare environment and a rapidly evolving industry. As an historic leader in the biopharmaceutical industry, Biogen is well positioned to meet the challenges of the future and to build a successful independent global pharmaceutical company dedicated to discovering, developing and marketing novel therapies for underserved medical conditions.

In order to accomplish this, we are focused on several clear immediate objectives:

- Grow the market for AVONEX and retain market leadership.
- Bring several new drugs to the marketplace within the next few years.
- Maintain momentum on our research activities, from which the next generation of drugs will come.
- Generate superior returns for shareholders.
- Establish the industry leadership paradigm in all areas of our organization, gaining a significant competitive advantage by recruiting and developing leaders at all levels.

Biogen is characterized by a unique combination of critical capabilities that puts us in a position to accomplish these aggressive goals. They include the ability to develop innovative therapies, grow new markets at home and abroad, sustain a dynamic research pipeline and build and manage a strong infrastructure.

AVONEX®

CRITICAL CAPABILITY: GROWING NEW MARKETS FOR INNOVATIVE THERAPIES

Since the U.S. launch of AVONEX® in 1996, neurologists have changed their view about when to begin prescribing drug therapy. Early on, some physicians recommended therapy only for MS patients who were "sick enough" to need medication. Today, there is consensus on the importance of diagnosing and treating early in the course of the disease that is supported by key medical and advocacy organizations in the U.S. and Europe. This greater awareness is based on the positive experience of thousands of patients and physicians and the growing amount of information that shows the usefulness of therapy.

For example, in February 2000, we stopped our CHAMPS study ahead of schedule based on the recommendation of an independent Data Monitoring Committee, which determined at the interim analysis that AVONEX was showing a beneficial effect on the primary endpoint. The success of the study reconfirms the importance of treating MS as early as possible.

"As a neurologist, I know that diseases like MS have a major impact on the lives of entire families, not just individual patients.

It is extremely gratifying to see the positive impact AVONEX is having on the quality of life of thousands of people affected by MS."

Nancy Simonian, M.D.
Director of Medical Research

CHAMPS stands for Controlled High Risk Subjects AVONEX Multiple Sclerosis Prevention Study. Its primary objective was to determine whether AVONEX is beneficial in delaying the onset of clinically definite MS in people who are considered at high risk for the disease. Clinically definite MS is identified by the presence of at least two demyelinating events, separated by time and location in the central nervous system. The CHAMPS study focused on patients who had experienced the recent onset of a first demyelinating event and were considered at high risk of developing clinically definite disease.

In another study, to be published this year, AVONEX was shown to have demonstrated a positive impact on the slowing of the loss of cognitive function in MS patients based on a retrospective analysis of data generated during the original Phase III AVONEX trial. Cognitive function consists of the executive functions of memory and information processing. Its loss begins early in the course of MS and is one of the most troubling manifestations of the disease.

As a result of the trend toward earlier diagnosis and treatment, there has been a considerable increase in the estimated size of the MS patient population. When we entered the U.S. market in 1996, there were an estimated 200,000 MS patients in the U.S. and an additional 350,000 in Europe. During the past four years, we have increased our estimate of market size several times. Today, we estimate there are 400,000 MS patients in the U.S. and an additional 450,000 in Europe. Only about 150,000 people with MS are currently on drug therapy worldwide. This represents ongoing potential for this drug, with significant room for continued market growth.

Right: AVONEX user Dr. John Irons (left) is an allergist who maintains an active medical practice. His entire family is dedicated to helping find a cure for MS. Son Nick (right) has swum the length of the Mississippi River and is now riding his bike across the United States – all to raise disease awareness and funds to support MS research.


BIOGEN
GOING
BEAM TECHNOLOGY
ROADWING
TEAM
SOFTR

AMEVIVE™

CRITICAL CAPABILITY: DEVELOPING NOVEL DRUGS EFFICIENTLY AND COST EFFECTIVELY

AMEVIVE™, Biogen's lead development product candidate, is in Phase III clinical trials in moderate-to-severe psoriasis.

Psoriasis is a T-cell mediated inflammatory disorder of the skin that is characterized by raised, red, inflamed lesions covered with a scale and infiltrated by lymphocytes. Patients with severe psoriasis have lesions over a large percentage of their body surface, including particularly painful lesions on their palms and soles of their feet. Psoriasis has a significant negative impact on quality of life. Existing treatments are sometimes highly toxic.

The Phase II clinical trial was a placebo-controlled, randomized, double-blinded trial of AMEVIVE in patients with moderate-to-severe chronic plaque psoriasis. We assessed three doses and placebo in more than 200 patients during a 12-week treatment period and a 12-week follow up period. The primary study objective was to determine the relationship of clinical response to the dose of AMEVIVE. We achieved this primary objective and demonstrated a serum concentration and dose response.

In the trial, AMEVIVE demonstrated a drug response significantly greater than placebo in all treatment groups. It also showed a clinical effect within four weeks of initiation of dosing followed by sustained clinical response, as well as selective reduction in memory-effector T cells. No adverse effects were associated with this selective reduction. AMEVIVE showed low immunogenicity, no evidence of cytokine release or capillary leak syndromes, and no increased frequency of infection.

We are working to develop AMEVIVE as a first-line therapy that achieves clearance of disease in a significant subset of patients, and is characterized by rapid onset of action, a favorable safety profile and lasting duration. We believe that such a product can provide an attractive combination of improved safety and reduced toxicity that would be extremely compelling for patients and doctors. Our goal is to launch AMEVIVE for a psoriasis indication in 2002 and to continue developing the drug in other indications.

"Even though more than 10 million people throughout the world have psoriasis, it remains a largely underserved disease. Many people do not discuss it, although it has severe negative impact on their lives.

With a promising drug like AMEVIVE, we have an opportunity to provide a novel therapy for this patient population."

Gunther Winkler, Ph.D.
AMEVIVE Program Executive

Richard Langley, M.D. (right) of Massachusetts General Hospital in Boston, MA, poses with a volunteer in the Phase III clinical trial of AMEVIVE™ in patients with moderate-to-severe chronic plaque psoriasis.

In Phase III trials, AMEVIVE demonstrated a drug response significantly greater than placebo in all treatment groups.

CRITICAL CAPABILITY: HISTORIC EXCELLENCE IN BIOLOGY + NEW TECHNOLOGIES

Biology has entered the "post-genomics" era. We believe the potential of the mapping of the entire human genome will equal or surpass that of the original genetic-engineering revolution of the 1970s. This will lead to more efficient and targeted drug design from which the next generation of biopharmaceutical drugs will emerge.

Currently, scientists understand the function and importance of only about 10 percent of the genes in the human genome. During the next decade, we anticipate that an extraordinary amount of new information will become available.

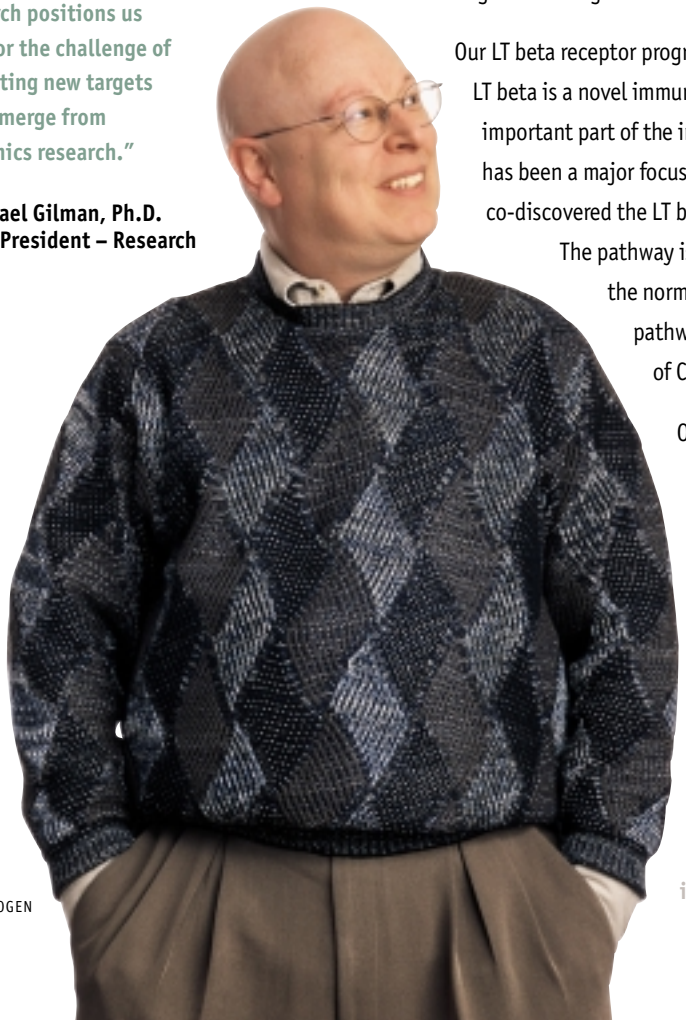
There is no way that any one company will be able to access all these genes quickly. That means there will be winners and losers, and the winners will be those companies that figure out which genes are therapeutically useful and commercially viable before everyone else does. We believe that Biogen, with its extraordinary depth of experience in biological research, is uniquely positioned to be among the winners.

Biogen is intensifying its investment in leading genomics technologies with the goal of developing a pool of genetically selected leads to feed our biological research capability, and then applying multiple approaches to filter the growing amount of available information on gene structure into a strategic pool of promising genes. We believe our investment in this important new area will enhance our research productivity, as the application of genomics creates multiple opportunities for breakthroughs in biological discovery. We are working with partners like Incyte Genomics, CuraGen and Genetica, through which we access databases, software and other technologies used in gene discovery and screening.

"The decoding of the human genome is a turning point for the biological sciences and the biotechnology industry. With the catalogue of human genes complete, the focus shifts to understanding what these genes do.

Biogen's tradition of excellence in biological research positions us well for the challenge of validating new targets that emerge from genomics research."

Michael Gilman, Ph.D.
Vice President – Research



Our LT beta receptor program represents another important area of pre-clinical research. LT beta is a novel immunomodulatory compound that is directed to a critically important part of the immune system known as dendritic cell function. This pathway has been a major focus of research at Biogen for several years. Biogen scientists co-discovered the LT beta ligand and were among the first to study its receptor. The pathway is important to cell mediated immunity and is necessary to the normal development of the lymphoid system. Blockage of the pathway with LT beta receptor has been effective in animal models of Crohn's disease, arthritis and other cell mediated diseases.

Other research projects at Biogen focus on immuno-inflammatory disease, oncology, neurological disease and fibrosis. We actively seek appropriate partnerships with other companies to augment our own research, pre-clinical and clinical development activities.

Right: Biogen scientists Richard Cate, Ph.D. (left), Mi Sha, Ph.D., Senior Scientist and John McCoy, Ph.D., are part of the Company's distinguished tradition of scientific excellence.

Biogen received the 1998 U.S. National Medal of Technology for excellence in developing and commercializing its many scientific discoveries.

MANUFACTURING

CRITICAL CAPABILITY: **LEADERSHIP IN MANUFACTURING**

Some of the most important decisions an emerging company must make involve creating a balance between product development and expansion of physical infrastructure.

Biogen has determined to make our bulk manufacturing program a core center of excellence. We are one of a handful of biopharmaceutical companies that has two licensed and dedicated biological bulk-manufacturing facilities that are fully validated and approved to meet worldwide requirements. In addition, a new large-scale manufacturing facility is now under construction in Research Triangle Park, North Carolina. When completed, this 214,000 square-foot facility will further enhance our capacity to manufacture bulk protein and will be the second largest cell culture facility in the world. Our production facility in Cambridge, Massachusetts will then focus on manufacturing drugs for use in our clinical trial pipeline.

"Biogen's excellence in manufacturing gives us a key competitive advantage.

With validated production facilities in both Cambridge, Massachusetts, and Research Triangle Park, North Carolina, we can manufacture AVONEX as well as our research and pipeline drugs. This gives us greater control over our own destiny."

Ian Hirst, Ph.D.
Director of Manufacturing

We can produce both AVONEX and AMEVIVE at our manufacturing facility in Cambridge, Massachusetts, where we also formulate and fill our clinical trial supply. AVONEX is also manufactured in RTP, where we expect to be manufacturing clinical trial supplies of AMEVIVE and other compounds by 2001. Biogen has an outstanding construction and validation record. The RTP facility was fully validated after 18 months from the start of construction and received FDA licensure within 33 months, meeting or exceeding industry standards.

In mid 2000, we will dedicate our first European operations facility, a packaging and distribution center in Hoofddorp, The Netherlands.

It is particularly difficult to identify and hire qualified manufacturing employees in the current tight labor market. In response to this challenge, we work closely with local colleges and training programs in both of our manufacturing locations and have established internships and other specialized training programs designed to provide hands-on experience to interested students and encourage qualified workers to join Biogen.

Right: Biogen has an outstanding construction record. Our RTP manufacturing facility was fully validated in 18 months and received FDA licensure within 3 months, meeting or exceeding industry standards.

Expansion of manufacturing capacity is now underway in both RTP and Cambridge.


PT 1051

CRITICAL CAPABILITY: UNIQUE INTERNATIONAL EXPERIENCE AND INSIGHT

Most emerging biopharmaceutical companies have chosen to focus on domestic sales and out-license their drugs for international marketing. Biogen is unique in deciding to manage its own operations in more than 65 markets. We sell directly in the U.S., Canada and 13 European countries, and manage a distributors' network in more than 50 other countries. We are meeting the many competitive challenges of marketing AVONEX outside the U.S. and hold the number one or number two position in more than75 percent of our markets.

We learned many valuable lessons about global management of a highly focused, high-end product from our experience registering and launching AVONEX throughout the world. These included how to manage global regulatory and marketing activities, how to resolve diverse and complicated issues relating to registration and reimbursement, and how to manage other aspects of the global value chain, such as manufacturing and product presentation. In developing our unique partnership network, we learned the importance of knowing when to self-market and when to partner, how to identify quality partners and how to manage those relationships productively.

In mid-1999, for example, the merger of our local distributor with another pharmaceutical company caused us to reassess our distribution process in the Nordic countries. We determined to establish our own regional operations. During a 90-day period, we established new Biogen offices in Denmark, Finland, Norway and Sweden. This included establishing four separate legal entities, equipping four offices, selecting headquarters, recruiting staff for the new organization and drawing up employment contracts in four languages. A cross-functional team worked around the clock for several months to meet the challenge. As a result, we were able to provide an uninterrupted supply of AVONEX to patients in the Nordics.

This kind of experience will be critical to the successful launch of our next products. We are currently planning our registration strategy for AVONEX in Japan, where the MS market is relatively small. We expect our next product to warrant more aggressive efforts in the Far East and Latin America. The worldwide incidence of other autoimmune diseases like psoriasis gives us a new opportunity to help meet unmet medical needs on an even greater global scale.

"Biogen has made a unique commitment of time, effort and personnel to meet the diverse needs of its patients. In addition, it has developed extraordinary know-how in building solid business partnerships. I am pleased and proud to work closely with this outstanding young company."

Sergio Dompé
Chief Executive Officer
Dompé Biotec

Dompé Biotec is Italy's leader in biotechnology-derived pharmaceuticals and Biogen's partner in the Italian marketplace. The two companies have formed Dompé-Biogen AG, a new company created to market AVONEX in Switzerland.

Right: Biogen's Nordic team, led by Jim Kirkness, Director for Northern Europe and Distributors (left) – shown here with Mark Leuchtenberger, Vice President-International – and Karen Sorensen, Head of Nordic Region, successfully established a regional operation in just 90 days, with no interruption of supply to patients.

Biogen is the only biopharmaceutical company to commercialize its first proprietary drug globally.

BIOGEN®

Biogen, Inc. and Subsidiaries

Selected Financial Data

Biogen, Inc. and Subsidiaries

(in thousands, except per share amounts)

Years Ended December 31,	1999	1998	1997	1996	1995
Product revenue	$ 620,636	$ 394,863	$ 239,988	$ 78,202	$ –
Royalties revenue	173,799	162,724	171,921	181,502	134,653
Total revenues	794,435	557,587	411,909	259,704	134,653
Total costs and expenses	478,184	366,948	285,787	234,541	138,245
Income before income taxes	329,016	210,193	148,968	40,829	7,445
Net income	220,450	138,697	89,167	40,530	5,660
Diluted earnings per share	1.40	0.90	0.58	0.28	0.04
Cash, cash equivalents and short-term marketable securities	654,539	516,914	440,088	321,381	307,948
Total assets	1,277,973	924,715	813,825	634,572	469,201
Long-term debt, less current portion	52,073	56,960	61,846	62,254	32,826
Shareholders' equity	979,530	718,613	536,293	484,370	382,980
Shares used in calculating diluted earnings per share	157,788	154,270	152,999	146,442	145,780

Overview

Biogen, Inc. (the "Company" or "Biogen") is a biopharmaceutical company principally engaged in the business of developing, manufacturing and marketing drugs for human health care. The Company currently derives revenues from sales of its AVONEX® (Interferon beta-1a) product for the treatment of relapsing forms of multiple sclerosis ("MS"). The Company also derives revenue from royalties on worldwide sales by the Company's licensees of a number of products covered under patents controlled by the Company, including alpha interferon and hepatitis B vaccines and diagnostic products.

Results of Operations 1999 As Compared to 1998

Revenues

Total revenues in 1999 were $794.4 million, as compared to $557.6 million in 1998, an increase of $236.8 million or approximately 42%.

Product sales in 1999 were $620.6 million as compared to $394.9 million in 1998, an increase of $225.7 million or approximately 57%. Product sales from AVONEX® represent approximately 78% of the Company's total revenues in 1999 as compared to 71% in 1998. The growth in 1999 was primarily attributable to an increase in the sales volume of AVONEX® in the United States and in the fifteen member countries of the European Union ("EU"). AVONEX® sales outside of the United States were approximately $178.4 million in 1999 as compared to $92 million in 1998.

Revenues from royalties in 1999 were $173.8 million, an increase of $11.1 million or approximately 7% as compared to $162.7 million of royalty revenue in 1998. Revenues from royalties represented approximately 22% of total revenues in 1999 as compared to 29% in 1998. The increase in royalty revenues in 1999 over the comparable period in 1998 is primarily the result of royalties received on increased sales of alpha interferon.

The Company expects product sales as a percentage of total revenues to continue to increase in the near term as the Company continues to market AVONEX® worldwide, and expects sales from AVONEX® outside the United States to continue to increase as a percentage of total product sales. The Company, however, expects to face increasing competition in the MS marketplace from existing and new MS treatments that may impact sales of AVONEX®. Commencing in 2000, the Company expects to experience declining royalty revenues as a result of patent expirations. In 2000, the Company expects the decline in royalty revenues to be partially offset by increasing overall sales of licensed products. In addition, sales levels of products sold by the Company's licensees may also fluctuate from quarter to quarter due to the timing and extent of major events such as new indication approvals or government sponsored programs. For a discussion of some of the factors that may affect royalty revenues in the future, see "Outlook - Competition", "Outlook – Royalty Revenue" and "Outlook – Patents and Other Proprietary Rights".

Costs and expenses

Total costs and expenses in 1999 were $478.2 million as compared to $366.9 million in 1998, an increase of approximately 30%.

Cost of revenues in 1999 totaled $111 million, an increase of $36.5 million or 49% as compared to 1998. The increase in cost of revenues was attributable to the higher sales volume of AVONEX®. Included in cost of revenues in 1999 and 1998 is $96.9 million and $62.1 million, respectively, from product sales and $14.1 million and $12.4 million, respectively, relating to royalty revenue. Gross margins on product sales remained constant at approximately 84% for the period ended December 31, 1999 compared to the same period in 1998. Gross margins on royalty revenue remained constant at approximately 92% for the period ended December 31, 1999 compared to the same period in 1998. The Company expects that gross margins on royalty revenue will fluctuate in the future based on changes in sales volumes for specific products.

Research and development expenses in 1999 were $221.2 million, an increase of $44 million or 25% as compared to $177.2 million in 1998. The increase was primarily due to an increase in clinical trial costs, the costs associated with an increase in the Company's other development efforts related to its ongoing research and development programs and the funding of collaboration agreements. The Company expects that, in the near and long-term, research and development expenses will increase as the Company continues to expand its development efforts with respect to new products, conducts clinical trials of these products and continues work on new formulations and delivery methods for AVONEX®.

Selling, general and administrative expenses in 1999 were $146 million, an increase of $30.8 million or 27% as compared to 1998. This increase was primarily due to an increase in selling and marketing expenses related to the sale of AVONEX®. The Company expects that selling, general and administrative expenses will continue to increase in the near term as the Company continues to expand its sales and marketing organizations necessary to sell AVONEX® worldwide.

Other income, net

Other income, net consists primarily of interest income, partially offset by interest expenses and other non-operating income and expenses. Other income, net in 1999 was $12.8 million as compared to $19.6 million in 1998, a decrease of $6.8 million or approximately 35%. Interest income in 1999 was $35.4 million compared to $28.3 million in 1998, an increase of $7.1 million or 25% due to an increase in funds invested. Interest expense decreased $1.3 million or 22% in 1999 from 1998. Other expense increased by $15.2 million in 1999 from 1998, due primarily to a $15 million write-down related to certain non-current marketable securities in the second quarter of 1999. The Company expects interest income to vary based on changes in the amount of funds invested and fluctuations in interest rates.

As part of its strategic product development efforts, the Company invests in equity securities of certain biotechnology companies with which it has collaborative agreements. In December of 1996, Biogen purchased approximately 1.5 million shares of Creative BioMolecules, Inc. common stock for $18 million. In March of 1997, Biogen purchased approximately 670,000 shares of CV Therapeutics, Inc. common stock for $7 million. In March of 1998, the Company purchased approximately 435,000 shares of CuraGen common stock for $5 million and converted 100,000 shares of CuraGen Series E Preferred Stock valued at $1 million to CuraGen common stock. Each of these small emerging companies is principally engaged in researching, developing or manufacturing drugs for human health care.

As a matter of policy, Biogen determines on a quarterly basis whether a decline in the fair value of a marketable security is other than temporary. Unrealized gains and losses on marketable securities are included in other comprehensive income in shareholders' equity, net of related tax effects. If a decline in the fair value of a marketable security below the Company's cost basis is determined to be other than temporary, such marketable security is written down to its estimated fair value with a charge to current earnings.

Up through and including the assessment at June 30, 1999, the Company concluded that substantial evidence existed suggesting that the value of the investments described above would recover to at least the Company's purchase price. Such evidence included the prospects for favorable clinical trial results, new product initiatives and new collaborative agreements. However, given the lack of any substantial price recovery during the quarter ended June 30, 1999, and the amount of time elapsed since the decline in value began, the Company concluded that it had become unclear over what period such price recovery would take place. As a result, it was determined that the positive evidence suggesting that the investments would recover to at least the Company's purchase price was not sufficient to overcome the presumption that the current market price of the investments was the best indicator of value at June 30, 1999. Accordingly, the related unrealized losses of approximately $15 million were recognized as other expense in the second quarter of 1999.

Income taxes

The Company's effective tax rate in 1999 was 33%. Income tax expense for 1999 varied from the amount computed at the U.S. federal statutory rates primarily due to increased European sales and to the utilization of research and development tax credits. The Company's effective tax rate outside the U.S. is lower than the U.S. tax rate, and the Company expects that the U.S. tax rate will decline as a percentage of its total tax rate as international sales increase.

Results of Operations 1998 As Compared to 1997

Revenues

Total revenues in 1998 were $557.6 million, as compared to $411.9 million in 1997, an increase of $145.7 million or approximately 35%.

Product sales in 1998 were $394.9 million as compared to $240 million in 1997, an increase of $154.9 million or approximately 65%. Product sales from AVONEX® represented approximately 71% of the Company's total revenues in 1998 as compared to 58% in 1997. AVONEX® sales outside of the United States were approximately $92 million in 1998 as compared to $19.1 million in 1997. The Company began selling AVONEX® in the United States in May 1996. In March 1997, the Company received regulatory approval to market AVONEX® in the EU. By the end of 1997, AVONEX® had received reimbursement approval and was on the market in all of the EU countries. In April of 1998, the Company received approval and began marketing AVONEX® in Canada.

Revenues from royalties in 1998 were $162.7 million, a decrease of $9.2 million or 5% as compared to $171.9 million of royalty revenue in 1997. Revenues from royalties represented approximately 29% of total revenues in 1998 as compared to 42% in 1997. In May 1998, the Company and Schering Corporation, a subsidiary of Schering-Plough Corporation ("Schering-Plough"), amended the terms of the license agreement under which Schering-Plough pays the Company royalties on worldwide sales of Schering-Plough's alpha interferon product, Intron® A. Under the terms of the amendment, Schering-

Plough acquired the Biogen alpha interferon patent application which was the subject of a lawsuit filed by the Company against Hoffman-LaRoche Inc. and Genentech Inc. related to an interference involving the Biogen patent application and a patent application jointly-owned by the two defendants. The lawsuit has since been settled. As consideration for the acquisition of the Biogen patent application, Schering-Plough agreed to pay certain sums on U.S. sales of alpha interferon products from July 2002 until the expiration of the alpha interferon patent expected to be issued to Hoffman-LaRoche Inc. and Genentech Inc. as a result of the settlement. See "Outlook – Royalty Revenue".

Costs and expenses

Total costs and expenses in 1998 were $366.9 million as compared to $285.8 million in 1997, an increase of approximately 28%.

Cost of revenues in 1998 totaled $74.5 million, an increase of $24.3 million or 48% as compared to 1997. The increase in cost of revenues was attributable to the higher sales volume of AVONEX®. Included in cost of revenues in 1998 and 1997 is $62.1 million and $37.1 million, respectively, from product sales and $12.4 million and $13.1 million, respectively, relating to royalty revenue.

Research and development expenses in 1998 were $177.2 million, an increase of $31.7 million or 22% as compared to $145.5 million in 1997. The increase was primarily due to the costs associated with the funding of collaboration agreements, an increase in clinical trial costs and an increase in the Company's other development efforts related to its ongoing research and development programs.

Selling, general and administrative expenses in 1998 were $115.2 million, an increase of $25.1 million or 28% as compared to 1997. This increase was primarily due to a rise in selling and marketing expenses related to the sale of AVONEX® and an increase in legal fees.

Other income, net

Other income, net consists primarily of interest income, partially offset by interest and other financing expenses, and other non-operating income and expenses. Interest income increased $6.2 million from $22.1 million in 1997 to $28.3 million 1998. This increase was offset by increases in financing related and other non-operating expenses. The increase in interest income was a result of increased funds invested.

Income taxes

The Company's effective tax rate in 1998 was 34%. Income tax expense for 1998 varied from the amount computed at the U.S. federal statutory rates primarily due to the benefit of research and development and investment tax credits. The Company's effective tax rate outside the U.S. is lower than the U.S. tax rate.

Financial Condition

At December 31, 1999, cash, cash equivalents and short-term marketable securities were $654.5 million compared with $516.9 million at December 31, 1998, an increase of $137.6 million. Working capital increased $156.5 million to $720 million. Net cash from operating activities for the year ended December 31, 1999 was $272.3 million compared with $167.8 million in 1998. Cash outflows during 1999 included investments in property and equipment and patents of $86.3 million and investments in collaborative partners of $10 million. Significant cash outflows from financing activities included $197.7 million for purchases of the Company's common stock under its stock repurchase program and $4.9 million for repayments on loan agreements with banks. Cash inflows included $149.8 million from common stock option exercises and related tax benefits and employee stock purchase plan activity and $22.1 million in proceeds from written put warrants.

In August 1995, the Company entered into a loan agreement with a bank for financing the construction of its biological manufacturing facility in North Carolina (the "Construction Loan"). During 1997, the Company completed construction of the facility and the funds advanced under the Construction Loan were converted to a floating rate ten-year term loan with principal and interest payable quarterly. As of December 31, 1999, the Company had $39.5 million outstanding under the Construction Loan. The Construction Loan is secured by the underlying building. The Company also entered into an interest rate swap agreement with the same bank, fixing its interest rate on the Construction Loan at 7.75% during the remaining term of the loan with interest payable quarterly. In addition, as of December 31, 1999, the Company also had $17.5 million outstanding under a floating rate loan with a bank (the "Term Loan"). The Term Loan is secured by the Company's laboratory and office building in Cambridge, Massachusetts. The Company has fixed its interest rate on the Term Loan at 7.5% under the terms of an interest rate swap agreement. Terms of the Company's loan agreements include various covenants, including financial covenants which require the Company to maintain minimum net worth, cash flow and various financial ratios.

On February 22, 1999, the Company announced that its Board of Directors had authorized the repurchase of up to 8 million shares of the Company's common stock. The repurchased stock will provide the Company with treasury shares for general corporate purposes, such as stock to be issued under employee stock option and stock purchase plans. Stock purchases are expected to occur from time to time through 2000. The stock repurchase program may be discontinued at any time. During 1999, the Company repurchased approximately 3.4 million shares of its common stock at a cost of $197.7 million. Under a previous stock repurchase program, the Company in 1998 repurchased 1.8 million shares of its common stock at a cost of $65.6 million.

To enhance the 1999 stock repurchase program, the Company sold put warrants to and purchased call options from independent third parties for a total of 4 million shares of which 2.2 million shares were outstanding at December 31, 1999, at a strike price of $49.47. Additionally, during 1999 in a separate put warrant program to facilitate its purchase of common stock, the Company sold put warrants for total proceeds of $22.1 million. The Company had put warrants to purchase 1.6 million shares outstanding at December 31, 1999, at an average strike price of $68.99 relating to this put warrant program. All of the Company's put warrants outstanding are exercisable only at the date of expiration, with expiration dates ranging from January through November of 2000. The outstanding put warrants permit a net-share settlement at the Company's option and, therefore, did not result in a put obligation liability on the Company's Consolidated Balance Sheets. The put warrants sold in connection with the Company's stock repurchase program did not have a significant additional dilutive effect.

On October 4, 1999, the Company began construction of its new research and development center in Cambridge, Massachusetts. The new 224,000 square foot building is expected to be completed in the spring of 2001 at a total cost of approximately $95 million, of which $35 million had been committed at December 31, 1999. Additionally, the Company is completing plans to build a large scale manufacturing plant in Raleigh, North Carolina. The Company expects that construction will be completed at the end of 2001 at a total cost of approximately $175 million of which $67 million had been committed at December 31, 1999.

In October 1997, the Company signed a research and option agreement (the "CuraGen Agreement") with CuraGen Corporation ("CuraGen") under which the Company and CuraGen collaborate in the discovery of novel genes using CuraGen's functional genomics technologies. In March of 1998, under the terms of the CuraGen Agreement, the Company purchased approximately 435,000 shares of CuraGen common stock at the then fair value for a total of $5 million. Additionally, 100,000 shares of CuraGen Series E Preferred Stock purchased by Biogen in 1997 for $1 million were automatically converted into 100,000 shares of CuraGen common stock. In October 1999, CuraGen drew down $10 million on a line of credit, previously extended to CuraGen pursuant to the terms of the CuraGen Agreement and simultaneously converted the borrowings into approximately 611,000 shares of CuraGen common stock at the then fair value of $16.37 per share. The investment in CuraGen common stock is classified as available-for-sale and is included in long-term marketable securities as of December 31, 1999. The Company provided CuraGen with research and development funding of $1.1 million and $1.9 million in 1999 and 1998, respectively. The Company expects to fund research activities of CuraGen related to the collaboration of up to $750,000 in 2000, and in return, has an option to acquire an exclusive license to certain discoveries arising out of the collaborative efforts. During the first quarter of 2000, the Company partially liquidated its holdings in CuraGen common stock generating proceeds of $70.5 million.

In March 1997, the Company signed a research collaboration and license agreement (the "CVT Agreement") with CV Therapeutics, Inc. ("CVT") under which Biogen obtained rights under CVT's patents and know-how to develop and market molecules that act as highly selective antagonists of the adenosine A1 receptor, for the treatment of congestive heart failure. Under the terms of the CVT Agreement, the Company purchased approximately 670,000 shares of CVT common stock at the then fair value for $7 million and paid a one-time license fee of $5 million, which was charged to research and development expense. The investment in CVT is classified as available-for-sale and is included in long-term marketable securities. In addition, pursuant to the terms of the CVT Agreement, the Company established a $12 million line of credit that CVT may use for operating purposes. At December 31, 1999, the Company had advanced $8 million under the line of credit to CVT.

In December 1996, the Company signed a research collaboration and license agreement (the "CBM Agreement") with Creative BioMolecules, Inc. ("CBM") under which Biogen obtained rights to develop and market CBM's morphogenic protein, OP-1, for the treatment of renal disorders. Under the CBM Agreement, the Company purchased 1.5 million shares of CBM common stock for $18 million. The payment for the common stock included a $1.2 million premium over the fair value of the common stock which was charged to research and development expense. As of December 31, 1999, the investment is classified as available-for-sale and is included in long-term marketable securities. The Company provided $10 million in

research and development funding, which was charged to expense as provided in 1998. The CBM Agreement terminated at the end of 1999. During the first quarter of 2000 the Company liquidated its holdings of CBM common stock, generating proceeds of $7.5 million.

In July 1996, the Company signed a collaborative research and commercialization agreement (the "Ontogeny Agreement") with Ontogeny, Inc. ("Ontogeny"), a private biotechnology company, for the development and commercialization of three specific hedgehog cell proteins, a class of novel human proteins, that are responsible for reducing the formation or regeneration of tissue. Under the Ontogeny Agreement, the Company purchased 400,000 shares of preferred stock of Ontogeny for $1 million and acquired certain exclusive, worldwide rights related to products based on the hedgehog proteins for most disease areas. The Company accounts for its investment in Ontogeny, which is included in other assets, using the cost method of accounting. In November 1998, the Company extended and expanded its collaboration with Ontogeny and provided to Ontogeny a $4 million convertible loan. In June 1999, the loan was converted into 800,000 shares of Ontogeny Convertible Preferred Stock. The Company provided $2.8 million and $3.6 million of research funding to Ontogeny in 1999 and 1998, respectively. The Company has agreed to fund up to an additional $6 million in research funding over the next two years unless the agreement is terminated. If the Company exercises its option to proceed with development and commercialization of a hedgehog protein, the Company would be committed to additional funding in the form of license fees, equity investments and lines of credit.

In August 1995, the Company signed a collaborative research agreement (the "Genovo Agreement") for the development of human gene therapy treatments with Genovo, Inc. ("Genovo"), a gene therapy research company. Under the Genovo Agreement, the Company acquired 380,000 shares of Genovo Series A Preferred stock for $4.5 million and acquired certain licensing rights. The Company accounts for this investment, which is included in other assets, using the equity method of accounting. The Company recorded its proportion of Genovo's net losses as research and development expense in the amounts of $7.6 million, $9 million, and $7.7 million in 1999, 1998 and 1997, respectively. At December 31, 1999, the Company had remaining research funding commitments to Genovo of approximately $2.4 million.

The Company believes that existing funds and cash generated from operations are adequate to satisfy its working capital and capital expenditure requirements in the foreseeable future. However, the Company may raise additional capital to take advantage of favorable conditions in the market or in connection with the Company's development activities.

Legal Matters

On July 3, 1996, Berlex Laboratories, Inc. ("Berlex") filed suit against Biogen in the United States District Court for the District of New Jersey alleging infringement by Biogen of Berlex's "McCormick" patent (U.S. Patent No. 5,376,567) in the United States in the production of Biogen's AVONEX® (Interferon beta-1a). In November 1996, Berlex's New Jersey action was transferred to the United States District Court in Massachusetts and consolidated for pre-trial purposes with a related declaratory judgment action previously filed by Biogen. On August 18, 1998, Berlex filed a second suit against Biogen alleging infringement by Biogen of a patent which was issued to Berlex in August 1998 and which is related to the McCormick patent (U.S. Patent No. 5,795,779). On September 23, 1998, the cases were consolidated for pre-trial and trial purposes. Berlex seeks a judgment granting it damages, a trebling of any damages awarded and a permanent injunction restraining Biogen from the alleged infringement. An unfavorable ruling in the Berlex suit could have a material adverse effect on the Company's results of operations and financial position. The Company believes that it has meritorious defenses to the Berlex claims, but the ultimate outcome is not currently determinable. As a result, an estimate of any potential loss or range of loss cannot be made at this time. A hearing on the parties' summary judgment motions was completed in March 2000. Biogen moved for summary judgement of non-infringement of certain claims of the '567 patent, non-infringement of the '779 patent, as well as a determination of the invalidity of certain claims of the '567 patent and all of the claims of the '779 patent. Berlex moved to dismiss Biogen's inequitable conduct defenses and counterclaims. Berlex also moved for a declaration of literal infringement of certain claims of the '567 and the '779 patents. No decisions have been rendered to date. The Company expects a trial to occur in the second half of 2000.

In 1995, the Company filed an opposition with the Opposition Division of the European Patent Office to oppose a European patent (the "Rentschler I Patent") issued to Dr. Rentschler Biotechnologie GmbH ("Rentschler") relating to compositions of matter of beta interferon. In 1997, the European Patent Office issued a decision to revoke the Rentschler I Patent. Rentschler has appealed that decision and the appeal is still pending. On October 13, 1998, the Company filed another opposition with the Opposition Division of the European Patent Office to oppose a second European patent issued to

Rentschler (the "Rentschler II Patent") with certain claims regarding compositions of matter of beta interferon with specific regard to the structure of the glycosylated molecule. While Biogen believes that the Rentschler II Patent will be revoked and that the revocation of the Rentschler I Patent will be upheld on appeal, if either the Rentschler I Patent or the Rentschler II Patent were to be upheld and if Rentschler were to obtain, through legal proceedings, a determination that the Company's sale of AVONEX® in Europe infringes a valid Rentschler patent, such result could have a material adverse effect on the Company's results of operation and financial position.

New Accounting Pronouncements

In December 1999, the United States Securities and Exchange Commission issued Staff Accounting Bulletin 101, "Revenue Recognition in Financial Statements", ("SAB 101"). SAB 101 provides the staff's views in applying generally accepted accounting principles to selected revenue recognition issues, as well as examples of how the staff applies revenue recognition guidance to specific circumstances. The Company is currently assessing the impact, if any, however, the Company does not currently anticipate that SAB 101 will have a material effect on the Company's financial position and results of operations.

Outlook

Safe Harbor Statement under Private Securities Litigation Reform Act of 1996

In addition to historical information, this annual report contains forward-looking statements that involve risks and uncertainties that could cause actual results to differ materially from those reflected in such forward-looking statements. Reference is made in particular to forward-looking statements regarding the anticipated level of future product sales, royalty revenues, expenses and profits, statements regarding the timing of clinical trials and predictions as to the anticipated outcome of pending litigation and patent-related proceedings and the Company's expectations as to the value of its investments in certain marketable securities. These and all other forward-looking statements are made based on the Company's current belief as to the outcome and timing of such future events. Factors which could cause actual results to differ from the Company's expectations and which could negatively impact the Company's financial condition and results of operations are discussed below.

Dependence on AVONEX® Sales

The Company's ability to sustain increases in revenues and profitability for the next several years will be primarily dependent on the level of revenues and profitability from AVONEX® sales. The Company's ability to sustain profitability from sales of AVONEX® will depend on a number of factors, including: continued market acceptance of AVONEX® worldwide; the Company's ability to maintain a high level of patient satisfaction with AVONEX®; the nature of regulatory and pricing decisions related to AVONEX® worldwide; the extent to which AVONEX® receives reimbursement coverage; the impact of competitive products; and the impact of adverse decisions in patent-related proceedings. The extent of the profitability from AVONEX® sales is also dependent on the successful resolution of the Berlex suit, which is described above under "Legal Matters".

Competition

The Company faces increasing competition from other products for the treatment of relapsing forms of MS. AVONEX® competes with interferon beta-1b which is sold in the United States under the brand name Betaseron® by Berlex Laboratories, Inc., a United States affiliate of Schering AG, Germany ("Schering AG"), and is sold in Europe under the brand name Betaferon® by Schering AG. AVONEX® also faces competition from Copaxone® glatiramer acetate (also known as copolymer-1). In the United States Copaxone® is marketed by a partnership between Teva Pharmaceutical Industries, Ltd. and Hoechst Marion Roussel, Inc. In addition, in most other countries, AVONEX® also competes with Rebif®, a recombinant interferon beta-1a product sold by Ares Serono S.A. ("Serono"). In response to an application from Serono for approval of Rebif® in the United States for relapsing multiple sclerosis, the FDA, in March 1999, upheld its earlier ruling that, based on the data from existing clinical trials, Serono cannot market Rebif® in the United States for relapsing multiple sclerosis while the orphan drug status afforded to AVONEX® and Betaseron® for that indication is still in effect. AVONEX®'s orphan drug status for relapsing forms of the disease expires in 2003. The ruling by the FDA prompted Serono to recently initiate a 12-month head-to-head study of Rebif® and AVONEX® to determine if Serono can show whether Rebif® is clinically superior to AVONEX®. The results of this study may help Serono in its attempts to get the orphan drug status of AVONEX® removed. Biogen expects Serono to release the results of the study in the first quarter of 2001.

Royalty Revenue

The Company receives royalty revenues which contribute a significant amount to its overall profitability. Commencing in 2000, the Company expects to experience declining royalty revenues as a result of patent expirations. In 2000, the Company expects the decline in royalty revenues to be partially offset by increasing overall sales of licensed products. There are a number of other factors which could also cause the actual level of royalty revenue to differ from the Company's expectations. For example, pricing reforms, health care reform initiatives, other legal and regulatory developments and the introduction of competitive products may have an impact on product sales by the Company's licensees. In addition, sales levels of products sold by the Company's licensees may fluctuate from quarter to quarter due to the timing and extent of major events such as new indication approvals or government sponsored programs. Since the Company is not involved in the development or sale of products by its licensees, the Company can not be certain of the timing or potential impact of factors which may affect sales by the Company's licensees. In the long term, the Company expects its royalty revenue to be affected most significantly by patent expirations. See "Outlook - Patents and Other Proprietary Rights."

In 1998, Schering-Plough received marketing clearance in the United States from the FDA for REBETRON® for the treatment of chronic hepatitis C. REBETRON® is a combination product containing the Intron® A injection product and REBETOL® (ribavirin, USP capsules). In late 1998, Biogen filed for arbitration against Schering-Plough in a dispute over the amount of royalties payable to Biogen on sales of REBETRON®. A hearing in connection with the arbitration was conducted in January 2000. In March 2000, the arbitration panel found in favor of Schering-Plough, and rejected Biogen's claim that royalty payments should be based on the higher rate for combination products called for under the 1979 agreement between the parties, and not on the Intron® A component alone. Biogen does not expect to suffer any financial impact as a result of the arbitration panel's decision since Schering-Plough is presently paying royalties only on the Intron® A component, and the decision will have no effect on those royalties.

In December 1996, Schering-Plough filed suit in its own name, as Biogen's exclusive licensee, against Amgen, Inc. ("Amgen") to enforce Biogen's United States alpha interferon patent claiming it to be infringed by Amgen's consensus interferon product known as Infergen®. In July 1998, the federal judge in the case issued a narrow pre-trial interpretation of the claims of the Biogen patent. This decision was appealed. A hearing in connection with the appeal was held in December 1999. A decision is expected in the first half of 2000.

During the arbitration proceedings between Biogen and Schering-Plough related to REBETRON® royalties, Schering-Plough alleged that the federal judge's decision in the Amgen case narrowed the scope of the claims in Biogen's United States alpha interferon patent such that the patent no longer covers Schering-Plough's Intron® A product. If the Amgen appeal is unsuccessful, Schering-Plough might argue that royalties on sales of Intron® A are not payable during the period commencing after expiration of the EU patent in January 2001 (which currently covers all product manufactured in the EU, including all product sold in the United States) until commencement in July 2002 of the royalty obligation tied to the term of the Roche/Genentech alpha interferon patent rights. See "Outlook - Patents and Other Proprietary Rights." Biogen intends to vigorously oppose any attempt by Schering-Plough to discontinue payment of royalties during any period.

Patents and Other Proprietary Rights

The Company has numerous issued patents and patent applications pending on a number of its processes and products. The Company has also obtained rights to certain patents under licenses with third parties which provide for the payment of royalties. There can be no assurances that Biogen's existing patents or others, if obtained, will be of substantial protection or commercial benefit to Biogen. In addition, it is not known to what extent Biogen's pending patent applications or patent applications licensed from third parties will be granted or whether any of the Company's patents will prevail if they are challenged in litigation. There is also no assurance that third parties will not be granted patents claiming subject matter necessary to Biogen's business.

Biogen has granted an exclusive worldwide license to Schering-Plough under Biogen's alpha interferon patents, and receives royalties from Schering-Plough on sales of its Intron® A brand of alpha interferon.

Schering-Plough's royalty obligation to Biogen on sales of alpha interferon in Japan and Europe will terminate upon expiration of Biogen's alpha interferon patent in such territories in 2001, except in France and Italy where Biogen has obtained supplemental protection certificates extending the coverage in France until 2003 and in Italy until 2007. In consideration of assignment to Schering-Plough by Biogen of a Biogen patent application claiming recombinant mature human alpha interferon, Schering-Plough has agreed to pay to Biogen certain sums on sales by Schering-Plough of alpha

interferon products in the United States from July 2002 (when Biogen's existing United States alpha interferon patent expires) until expiration of an alpha interferon patent expected to be issued to Hoffman-LaRoche Inc. ("Roche") and Genentech, Inc. ("Genentech"). The Roche/Genentech patent was the subject of a lawsuit brought by Biogen which was ultimately settled. Schering-Plough entered into an agreement with Roche as part of the settlement matter.

Biogen has licensed its recombinant hepatitis B antigen patent rights to manufacturers and marketers of hepatitis B vaccines and diagnostic test kits, and receives royalties on sales of the vaccines and test kits by its licensees. The obligation of SmithKline Beecham plc and Merck & Co., Inc. to pay royalties on sales of hepatitis B vaccines and the obligation of Biogen's other licensees under its hepatitis B patents to pay royalties on sales of diagnostic products will terminate upon expiration of Biogen's existing hepatitis B patents. Biogen's existing United States hepatitis B patents will expire in 2004. Biogen's European hepatitis B patents expired at the end of 1999, except in those countries in which Biogen has or is able to obtain supplemental protection certificates. To date, Biogen has received supplemental protection certificates in Austria, Belgium, France, Ireland, Italy, Luxembourg, The Netherlands, Sweden, and Switzerland, and has a number of additional applications pending. The additional coverage afforded by supplemental protection certificates ranges from two to six years. There can be no assurance as to the extent of coverage available under the supplemental protection certificates, or that protection will be available in additional countries.

There has been, and Biogen expects that there may continue to be significant litigation in the industry regarding patents and other intellectual property rights. Such litigation could create uncertainty and consume substantial resources. See also "Legal Matters".

Products

AVONEX® is currently the only product sold by the Company. The Company's long-term viability and growth will depend on the successful development and commercialization of other products from its research activities and collaborations. The Company continues to expand its development efforts related to other potential products in its pipeline. The expansion of the pipeline may include increases in spending on internal projects, the acquisition of third-party technologies or products or other types of investments. Product development involves a high degree of risk. Only a small number of research and development programs result in the commercialization of a product. Success in preclinical and early clinical trials does not ensure that later stage or large scale clinical trials will be successful. Many important factors affect the Company's ability to successfully develop and commercialize drugs, including the ability to obtain and maintain necessary patents and licenses, to demonstrate safety and efficacy of drug candidates at each stage of the clinical trial process, to overcome technical hurdles that may arise, to meet applicable regulatory standards and to receive required regulatory approvals, to be capable of producing drug candidates in commercial quantities at reasonable costs, to compete successfully against other products and to market products successfully. There can be no assurance that the Company will be successful in its efforts to develop and commercialize new products.

Market Risk

The Company has exposure to financial risk in several areas including changes in foreign exchange rates and interest rates. The Company attempts to minimize its exposures by using certain financial instruments, for purposes other than trading, in accordance with the Company's overall risk management guidelines. Further information regarding the Company's accounting policies for financial instruments and disclosures of financial instruments can be found in Notes 1, 2 and 3 to the Company's Consolidated Financial Statements.

Foreign Exchange

The Company has operations in several European countries in connection with the sale of its product AVONEX®. The Company also receives royalty revenues based on worldwide product sales by its licensees. As a result, the Company's financial position, results of operations and cash flows can be affected by fluctuations in foreign currency exchange rates (primarily the Euro, British pound, Japanese yen and Canadian dollar).

The Company uses foreign currency forward contracts to manage foreign currency risk and does not engage in currency speculation. The Company uses these forward contracts to hedge certain forecasted transactions denominated in foreign currencies. A hypothetical adverse 10% movement in foreign exchange rates compared to the U.S. dollar across all maturities would result in a hypothetical loss in fair value of approximately $13 million. The Company's use of this methodology to quantify the market risk of such instruments should not be construed as an endorsement of its accuracy or the accuracy of the related assumptions. The quantitative information about market risk is necessarily limited because it does not take into account operating transactions.

Interest Rates

The Company is exposed to risk of interest rate fluctuations in connection with its variable rate long-term debt. The Term Loan requires annual principal payments of $1.7 million through 2004, with the balance due in 2005. The Construction Loan requires annual principal payments of $3.2 million through 2006, with the balance due in 2007. At December 31, 1999, the carrying values of the Term Loan and the Construction Loan approximated fair value.

The Company has fixed its interest rates on the Term Loan and Construction Loan by entering interest rate swap agreements under which the Company exchanges the difference between 7.5% and 7.75%, respectively, and a floating rate. The notional principal balances on the interest rate swap agreements is exactly equal to the principal on the underlying debt agreements. All other relevant terms of the interest rate swap agreements (including the index rate, reset period, etc.) exactly match the underlying loan agreements. The fair value of the interest rate swap agreements at December 31, 1999, representing the cash the Company would receive to settle the agreements, was approximately $366,000. Terms of the Company's loan agreements include various covenants, including financial covenants which require the Company to maintain minimum net worth, cash flow and various financial ratios.

The fair value of the Company's long-term debt and interest rate swap agreements are subject to change as a result of potential changes in market interest rates. The potential change in fair value for interest rate sensitive instruments has been assessed on a hypothetical 100 basis point adverse movement across all maturities. The Company estimates that such hypothetical adverse 100 basis point movement would not have materially impacted net income.

Stock Price

The stock prices of biotechnology companies are subject to significant fluctuations. The stock price may be affected by a number of factors including, but not limited to clinical trial results and other product development events, the outcome of litigation, the financial impact of changes in the value of investments, including investments in other biotechnology companies, the decisions relating to intellectual property rights and the entrance of competitive products into the market, changes in reimbursement policies or other practices related to the pharmaceutical industry or other industry and market changes or trends. In addition, if revenues or earnings in any quarter fail to meet the investment community's expectations, there could be an immediate adverse impact on the Company's stock price.

Year 2000 Issues

The Year 2000 problem resulted from the use of a two-digit date field to identify the year in computer software. Consequently, there was a concern that certain computer programs may not accurately reflect the appropriate date after December 31, 1999, confusing "00" as the year 1900 rather than the year 2000. The Year 2000 problem was a pervasive issue affecting many information technology systems and embedded technologies (e.g. microprocessors in communications systems) in all companies, in all industries.

The Company developed a plan to address the Year 2000 issues. The plan was segregated into four phases:

1. Information Collection – Identify all Year 2000 risk areas and assign accountability.
2. Assess Risk – Assign each item a category of risk:
   - Commercial Risk – Has a significant impact on sale, delivery and support of AVONEX® or a significant impact on the Company's financial position or results of operations.
   - Operational Risk – Has a significant impact on productivity but does not materially impact the Company's financial position or results of operations.
   - Convenience Risk – Has a minor impact on productivity.
3. Remediate – Fix or replace, test and implement changes required for Year 2000 compliance.
4. Contingency Plan – Define procedures to be implemented should a disruption due to Year 2000 occur.

The Company completed all phases of the project by December 31, 1999, including the testing and upgrading of all individual software applications and equipment that fell within the Commercial Risk category. Additionally, approximately 100% of the software applications and equipment in the Operational and Convenience Risk categories had been remediated. All of the Company's major software applications have been purchased from major software vendors and the Company performs only minor customizations to those applications. The Company's major software providers have attested to Year 2000 compliance. Subsequent to December 31, 1999, the Company has not experienced any significant problems related to the Year 2000 issue. The Company therefore believes that its principal information technology systems correctly define the Year 2000. The Company's Year 2000 costs were immaterial and the Company believes that future costs will also be immaterial.

Consolidated Statements of Income

Biogen, Inc. and Subsidiaries

(in thousands, except per share amounts)

Years Ended December 31,	**1999**	**1998**	**1997**
Revenues:			
Product	$620,636	$394,863	$239,988
Royalties	173,799	162,724	171,921
Total revenues	794,435	557,587	411,909
Costs and expenses:			
Cost of revenues	111,005	74,509	50,188
Research and development	221,153	177,228	145,501
Selling, general and administrative	146,026	115,211	90,098
Total costs and expenses	478,184	366,948	285,787
Income from operations	316,251	190,639	126,122
Other income, net	12,765	19,554	22,846
Income before income taxes	329,016	210,193	148,968
Income taxes	108,566	71,496	59,801
Net income	$220,450	$138,697	$ 89,167
Basic earnings per share	$ 1.47	$ 0.94	$ 0.60
Diluted earnings per share	$ 1.40	$ 0.90	$ 0.58
Shares used in calculating:			
Basic earnings per share	149,921	147,537	147,624
Diluted earnings per share	157,788	154,270	152,999

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

Biogen, Inc. and Subsidiaries

(in thousands, except share amounts)

As of December 31,	1999	1998
Assets		
Current assets		
Cash and cash equivalents	$ 56,920	$ 25,445
Marketable securities	597,619	491,469
Accounts receivable, less allowances of $1,642	137,363	101,281
Deferred tax assets	50,565	26,584
Other current assets	67,759	49,365
Total current assets	910,226	694,144
Property and equipment, net	239,777	182,551
Patents, net	13,871	15,869
Marketable securities	98,017	12,668
Other assets	16,082	19,483
	$ 1,277,973	$ 924,715
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable	$ 30,125	$ 24,896
Current portion of long-term debt	4,888	4,888
Accrued expenses and other	155,257	100,879
Total current liabilities	190,270	130,663
Long-term debt, less current portion	52,073	56,960
Other long-term liabilities	56,100	18,479
Commitments and contingencies	–	–
Shareholders' equity		
Common stock, par value $0.01 per share (375,000,000 shares authorized; 150,684,586 and 148,298,782 shares issued in 1999 and 1998, respectively)	1,507	1,483
Additional paid-in capital	676,673	538,105
Retained earnings	352,016	213,507
Accumulated other comprehensive income	45,618	(13,165)
Treasury stock, at cost, 669,651 and 579,931 shares in 1999 and 1998, respectively	(96,284)	(21,317)
Total shareholders' equity	979,530	718,613
	$ 1,277,973	$ 924,715

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

Biogen, Inc. and Subsidiaries

(in thousands)

Years Ended December 31,	1999	1998	1997
Cash Flows from Operating Activities			
Net income	$ 220,450	$ 138,697	$ 89,167
Adjustments to reconcile net income to net cash provided from operating activities:			
Depreciation and amortization	31,099	24,590	19,296
Other	5,162	(888)	2,695
Deferred income taxes	(23,981)	7,486	22,462
Write-down of non-current marketable securities	15,287	–	–
Changes in:			
Accounts receivable	(36,082)	(14,479)	(43,850)
Other current and other assets	(41,372)	(25,638)	(8,643)
Accounts payable, accrued expenses and other current and long-term liabilities	101,725	38,077	16,505
Net cash flows from operating activities	272,288	167,845	97,632
Cash Flows from Investing Activities			
Purchases of marketable securities	(1,120,218)	(574,021)	(481,783)
Proceeds from sales and maturities of marketable securities	1,006,465	453,952	373,130
Investment in collaborative partners	(10,000)	(5,000)	(11,000)
Acquisitions of property and equipment	(82,528)	(29,049)	(28,896)
Additions to patents	(3,799)	(4,562)	(6,654)
Net cash flows from investing activities	(210,080)	(158,680)	(155,203)
Cash Flows from Financing Activities			
Proceeds from note payable	–	–	24,817
Repayments on note payable	–	(24,817)	–
Proceeds from issuance of long-term debt	–	–	4,545
Repayments on long-term debt	(4,887)	(4,886)	(4,082)
Purchases of treasury stock	(197,717)	(65,550)	(7,000)
Proceeds from put warrants	22,086	–	–
Issuance of common stock, and option exercises and related tax benefits	149,785	41,175	47,617
Net cash flows from financing activities	(30,733)	(54,078)	65,897
Net increase (decrease) in cash and cash equivalents	31,475	(44,913)	8,326
Cash and cash equivalents, beginning of year	25,445	70,358	62,032
Cash and cash equivalents, end of year	$ 56,920	$ 25,445	$ 70,358
Supplemental Cash Flow Data			
Cash paid during the year for:			
Interest	$ 4,598	$ 5,909	$ 5,940
Income taxes	$ 4,787	$ 35,828	$ 3,783

See accompanying notes to consolidated financial statements.

Consolidated Statements of Shareholders' Equity

Biogen, Inc. and Subsidiaries

(in thousands)	Common Stock	Additional Paid-in Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income	Total Shareholders' Equity
Balance, December 31, 1996	$ 1,451	$470,897	$ –	$ 12,831	$ (809)	$ 484,370
Net income				89,167		89,167
Unrealized losses on marketable securities, net of tax of $ 942					(1,490)	(1,490)
Translation adjustment					29	29
Total comprehensive income						87,706
Reclassification of put option obligation				(76,671)		(76,671)
Treasury stock purchased			(7,000)			(7,000)
Exercise of options and related tax benefits	32	43,989	2,548			46,569
Issuance of common stock		981	67			1,048
Compensation expense related to stock options		271				271
Balance, December 31, 1997	$ 1,483	$516,138	$ (4,385)	$ 25,327	$ (2,270)	$ 536,293
Net income				138,697		138,697
Unrealized losses on marketable securities, net of tax of $ 4,476					(7,072)	(7,072)
Unrealized losses on interest rate swaps, net of transition adjustment (see Note 1)					(4,132)	(4,132)
Translation adjustment					309	309
Total comprehensive income						127,802
Exercise of options and related tax benefits		19,745	48,618	(27,188)		41,175
Reclassification of put option obligation				76,671		76,671
Treasury stock purchased			(65,550)			(65,550)
Compensation expense related to stock options		2,222				2,222
Balance, December 31, 1998	$ 1,483	$538,105	$ (21,317)	$213,507	$(13,165)	$ 718,613
Net income				220,450		220,450
Unrealized gains on marketable securities, net of tax of $25,013					48,555	48,555
Unrealized gains on foreign currency forward contracts, net of tax of $2,490					6,654	6,654
Unrealized gains on interest rate swaps, net of tax of $137					4,501	4,501
Translation adjustment					(927)	(927)
Total comprehensive income						279,233
Exercise of options and related tax benefits	24	108,952	122,750	(81,941)		149,785
Proceeds from sale of put warrants		22,086				22,086
Treasury stock purchased			(197,717)			(197,717)
Compensation expense related to stock options		7,530				7,530
Balance, December 31, 1999	$ 1,507	$676,673	$ (96,284)	$352,016	$ 45,618	$ 979,530

See accompanying notes to consolidated financial statements.

1. Summary of Significant Accounting Policies

Business

Biogen, Inc. ("Biogen" or the "Company") is a biopharmaceutical company principally engaged in the business of developing, manufacturing and marketing drugs for human health care. The Company currently derives revenues from sales of its AVONEX® (Interferon beta-la) product for the treatment of relapsing forms of multiple sclerosis and from royalties on worldwide sales by the Company's licensees of a number of products covered under patents controlled by the Company, including alpha interferon and hepatitis B vaccines and diagnostic products.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All material intercompany balances and transactions have been eliminated. Certain items in prior years' financial statements have been reclassified to conform with the current year's presentation.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and use assumptions that affect certain reported amounts and disclosures; actual amounts may differ.

Translation of Foreign Currencies

The functional currency for most of the Company's foreign subsidiaries is the local currency. Assets and liabilities are translated at current rates of exchange. Income and expense items are translated at the average exchange rates for the year. Adjustments resulting from the translation of the financial statements of the Company's foreign operations into U.S. dollars are excluded from the determination of net income and are accumulated in a separate component of shareholders' equity. The U.S. dollar is the functional currency for certain foreign subsidiaries. The Company's subsidiaries which have the U.S. dollar as the functional currency are remeasured into U.S. dollars using current rates of exchange for monetary assets and liabilities and historical rates of exchange for nonmonetary assets. Foreign exchange transaction gains and losses are included in the results of operations in other income, net. Foreign exchange gains totaled $2.5 million, $2.5 million and $8.2 million in 1999, 1998 and 1997, respectively.

Cash and Cash Equivalents

The Company considers only those investments which are highly liquid, readily convertible to cash and which mature within three months from date of purchase to be cash equivalents.

Fair Value of Financial Instruments

The carrying amounts reflected in the consolidated balance sheets for cash and cash equivalents, accounts receivable, other current assets, accounts payable, and accrued expenses and other approximate fair value due to the short-term maturities of these instruments. Marketable securities are carried at fair value based on quoted market prices, consistent with the requirements of Statement of Financial Accounting Standards No. 115, "Accounting for Certain Investments in Debt and Equity Securities". The fair values of trading securities, interest rate swaps, foreign currency forward contracts and options on non-marketable instruments are based on quoted market prices or pricing models using current market rates. The Company's long-term debt approximates fair value based on dealer quotes.

Inventories

Inventories are stated at the lower of cost or market with cost determined under the first-in/first-out ("FIFO") method and are included in other current assets. Included in inventory are raw materials used in the production of pre-clinical and clinical products which are expensed as research and development costs when consumed. The components of inventories for the periods ending December 31, are as follows:

(in thousands)	1999	1998
Raw materials	$ 5,679	$ 4,878
Work in process	15,110	17,585
Finished goods	19,242	13,402
	$ 40,031	$ 35,865

Marketable Securities

The Company invests its excess cash balances in short-term marketable securities, principally corporate notes and government securities. At December 31, 1999, substantially all of the Company's securities were classified as "available-for-sale". All available-for-sale securities are recorded at fair market value and unrealized gains and losses are included in accumulated other comprehensive income in shareholders' equity, net of related tax effects. Realized gains and losses and declines in value, if any, judged to be other than temporary on available-for-sale securities are reported in other income or expense.

As part of its strategic product development efforts, the Company also invests in equity securities of certain biotechnology companies with which it has collaborative agreements. Such investments, which are included in long-term marketable securities and other assets, are classified as available-for-sale if a readily determinable market value exists. These investments are accounted for under the cost or equity method, depending on the facts and circumstances of the investment, and are reviewed regularly for impairment.

On a quarterly basis, as of the end of the quarter, the Company determines whether a decline in fair value of a marketable security is other than temporary. Unrealized gains and losses on marketable securities are included in other comprehensive income in shareholders' equity, net of related tax effects. If a decline in the fair value of a marketable security below the Company's cost basis is determined to be other than temporary, such marketable security is written down to its estimated fair value with a charge to current earnings. The Company has concluded that all unrealized losses on marketable securities at December 31, 1999 are temporary in nature. The Company expects that the market value of such investments will recover to at least the Company's cost basis within a reasonable period of time. Should any portion of these unrealized losses subsequently be determined to be other than temporary, the Company would be required to record the related amount as a charge to current earnings.

Property and Equipment

Property and equipment is carried at cost, subject to review of impairment for significant assets whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Depreciation is calculated on the straight-line basis over the estimated useful lives of the assets. Leasehold improvements are amortized over the lesser of the useful life or the term of the respective lease. Maintenance of computer systems, including maintenance to make software Year 2000 compliant, is expensed as incurred. Buildings and equipment are depreciated over estimated useful lives ranging from 30 to 40 and 3 to 10 years, respectively. The Company capitalizes certain incremental costs associated with the validation effort required for licensing by the FDA of manufacturing equipment for the production of a commercially approved drug. These costs include primarily direct labor and material and are incurred in preparing the equipment for its intended use. Net capitalized validation costs were $4.7 million and $5 million at December 31, 1999 and 1998, respectively. The validation costs are amortized over the life of the related equipment.

Patents

The costs associated with successful patent defenses and patent applications are capitalized and amortized on a straight-line basis over estimated useful lives up to 15 years. Accumulated amortization of patent costs was $20.1 million and $15.5 million as of December 31, 1999 and 1998, respectively. The carrying value of patents is regularly reviewed by the Company and impairments are recognized when the expected future operating cash flows derived from the patent are less than their carrying value.

Derivatives and Hedging Activities

On June 15, 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities", ("SFAS 133"). The Company elected to adopt SFAS 133 in the fourth quarter of 1998. All derivatives are recognized on the balance sheet at their fair value. Changes in the fair value of derivatives are recorded each period in current earnings or other comprehensive income, depending on whether a derivative is designated as part of a hedge transaction and, if it is, the type of hedge transaction. The Company assesses, both at its inception and on an on-going basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting the changes in cash flows of hedged items. The Company assesses hedge ineffectiveness on a quarterly basis and records the gain or loss related to the ineffective portion to current earnings to the extent significant. If the Company determines that a cash flow hedge is no longer probable of occurring, the Company discontinues hedge accounting for the affected portion of the forecasted transaction, and any unrealized gain or loss on the contract is recognized in current earnings.

Comprehensive Income

Statement of Financial Accounting Standards No. 130, "Reporting Comprehensive Income", ("SFAS 130") requires the display of comprehensive income and its components as part of the Company's full set of financial statements. Comprehensive income is comprised of net income and other comprehensive income. Other comprehensive income includes certain changes in equity that are excluded from net income, such as translation adjustments and unrealized holding gains and losses on available-for-sale marketable securities and certain derivative instruments. The Consolidated Statements of Shareholders' Equity reflect comprehensive income for years ended December 31, 1999, 1998 and 1997 which were $279.2 million, $127.8 million and $87.7 million, respectively.

Upon adoption of SFAS 133, on October 1, 1998, the Company recorded an adjustment to other comprehensive income to recognize at fair value all derivatives that were designated as cash flow hedging instruments, which comprised unrealized losses related to the Company's interest rate swaps of $5.4 million. This unrealized loss decreased by $1.3 million during the fourth quarter of 1998 and as of December 31, 1998, the cumulative unrealized losses on the Company's interest rate swaps were $4.1 million. During 1999, the Company recorded $4.5 million of unrealized gains to other comprehensive income reflecting the increase in the fair value of the interest rate swaps and at December 31, 1999 had a cumulative unrealized gain of $366,000.

The Company entered into foreign currency forward contracts in October 1998. At December 31, 1998, these contracts had unrealized gains of $3,000, which were aggregated with the unrealized losses associated with the Company's interest rate swaps in comprehensive income. During 1999, the fair value of the Company's foreign currency forward contracts increased by $6.7 million in unrealized gains. At December 31, 1999, the Company had cumulative unrealized gains of $6.7 million on its foreign currency forward contracts.

Segment Information

Statement of Financial Accounting Standards No. 131, "Disclosures about Segments of an Enterprise and Related Information", ("SFAS 131") establishes standards for reporting information on operating segments in interim and annual financial statements. The Company's chief operating decision makers review the profit and loss of the Company on an aggregate basis and manage the operations of the Company as a single operating segment. Accordingly, the Company operates in one segment, which is the business of developing, manufacturing and marketing drugs for human health care.

Revenues

Revenues from product sales are recognized when product is shipped and are net of applicable allowances for returns, rebates and other applicable discounts and allowances. The Company prepares its estimates for sales returns and allowances, discounts and rebates quarterly based primarily on historical experience updated for changes in facts and circumstances, as appropriate.

The Company receives royalty revenues under license agreements with a number of third parties that sell products based on technology developed by the Company or to which the Company has rights. The license agreements provide for the payment of royalties to the Company based on sales of the licensed product. The Company records these revenues based on estimates of the sales that occurred during the relevant period. The relevant period estimates of sales are based on interim data provided by licensees and analysis of historical royalties paid to the Company (adjusted for any changes in facts and circumstances, as appropriate). The Company maintains regular communication with its licensees in order to gauge the reasonableness of its estimates. Differences between actual royalty revenues and estimated royalty revenues are reconciled and adjusted for in the following quarter. Historically, adjustments have not been material based on actual amounts paid by licensees. There are no future performance obligations on the part of the Company under these license agreements.

Research and Development Expenses

Research and development costs, including amounts funded in research collaborations, are expensed as incurred.

Earnings per Share

The Company calculates earnings per share in accordance with Statement of Financial Accounting Standards No. 128, "Earnings per Share" ("SFAS 128"). SFAS 128 requires the presentation of "basic" earnings per share and "diluted" earnings per share. Basic earnings per share is computed by dividing the net income available to common shareholders by the weighted average number of shares of common stock outstanding. For purposes of calculating diluted earnings per share the denominator includes both the weighted average number of shares of common stock outstanding and the number of dilutive common stock equivalents such as stock options and warrants.

Dilutive securities include outstanding options under the Company's stock option plans. Options to purchase 276,000 shares were outstanding at December 31, 1999 but not included in the computation of diluted earnings per share because the options' exercise prices were greater than the average market price during the period. The put warrants sold in connection with the Company's stock repurchase program in 1999 did not have a significant additional dilutive effect. Shares used in calculating basic and diluted earnings per share for the periods ending December 31, are as follows:

(in thousands)	**1999**	**1998**	**1997**
Weighted average number of shares of common stock outstanding	149,921	147,537	147,624
Dilutive stock options	7,867	6,733	5,375
Shares used in calculating diluted earnings per share	157,788	154,270	152,999

On June 11, 1999, the Board of Directors declared a two-for-one stock split to be effected in the form of a stock dividend of one share of common stock for each share outstanding. The stock dividend was payable on June 25, 1999 to shareholders of record at the close of business on June 11, 1999. All references to number of shares and per share amounts in the financial statements have been restated to give effect to the stock split for all periods presented.

2. Financial Instruments

Financial instruments that potentially subject the Company to concentrations of credit risk are accounts receivable and marketable securities. Wholesale distributors and large pharmaceutical companies account for the majority of the accounts receivable and collateral is generally not required. To mitigate the risk, the Company monitors the financial performance and credit worthiness of its customers. The Company invests its excess cash balances in marketable debt securities, primarily U.S. government securities and corporate bonds and notes, with strong credit ratings. The Company limits the amount of investment exposure as to institution, maturity and investment type.

The average maturity of the Company's marketable securities as of December 31, 1999 and 1998 was 24 months and 21 months, respectively. Proceeds from maturities and other sales of marketable securities, which were primarily reinvested, for the years ended December 31, 1999, 1998 and 1997 were approximately $1,007 million, $454 million and $373 million, respectively. The cost of securities sold is determined based on the specific identification method. Realized gains and (losses) on these sales for the years ended December 31, 1999, 1998 and 1997 were $(1,442,000), $645,000 and $(510,000), respectively.

The following is a summary of marketable securities:

(in thousands)	Fair Value	Unrealized Gains	Unrealized Losses	Amortized Cost
December 31, 1999:				
U.S. Government securities	$ 295,046	$ –	$ 4,656	$ 299,702
Corporate debt securities	302,573	–	3,717	306,290
	$ 597,619	$ –	$ 8,373	$ 605,992
Marketable securities, noncurrent	$ 98,017	$ 75,263	$ –	$ 22,754
December 31, 1998:				
U.S. Government securities	$ 259,411	$ 627	$ 57	$ 258,841
Corporate debt securities	232,058	3,810	–	228,248
	$ 491,469	$ 4,437	$ 57	$ 487,089
Marketable securities, noncurrent	$ 12,668	$ –	$ 16,192	$ 28,860

The Company uses interest rate swap agreements to mitigate the risk associated with its floating rate debt. The fair value of the interest rate swap agreements at December 31, 1999, representing the cash the Company would receive to settle the agreements, was approximately $366,000. The fair value of the interest rate swap agreements at December 31, 1998, representing the cash requirements of the Company to settle the agreements, approximated $4.1 million. The Company has designated the interest rate swaps as cash flow hedges. There were no amounts of hedge ineffectiveness related to the

Company's interest rate swaps during 1999 and 1998, and no gains or losses were excluded from the assessment of hedge effectiveness. The Company records the differential to be paid or received on the interest rate swaps as incremental interest expense. The Company expects approximately $376,000 in losses related to its interest rate swaps to affect earnings in 2000.

The Company has foreign currency forward contracts to hedge specific transactions denominated in foreign currencies. All foreign currency forward contracts have durations of ninety days to 21 months. These contracts have been designated as cash flow hedges and accordingly, to the extent effective, any unrealized gains or losses on these foreign currency forward contracts are reported in other comprehensive income. Realized gains and losses for the effective portion are recognized with the underlying hedge transaction. The Company assesses hedge ineffectiveness on a quarterly basis and records the gain or loss related to the ineffective portion to current earnings to the extent significant. If the Company determines that a cash flow hedge is no longer probable of occurring, the Company discontinues hedge accounting for the affected portion of the forecasted transaction and any unrealized gain or loss on the contract is recognized in current earnings. The notional settlement amount of the foreign currency forward contracts outstanding at December 31, 1999 was approximately $181.3 million. These contracts had a fair value of approximately $6.7 million, representing an unrealized gain, and were included in other current assets at December 31, 1999.

In 1999, there were no significant amounts recognized in earnings due to hedge ineffectiveness or as a result of the discontinuance of cash flow hedge accounting because it was probable that the original transaction would not occur. The Company recognized $7.4 million of gains in product revenue and $2.7 million of gains in royalty revenue for the settlement of certain effective cash flow hedge instruments during the year ended December 31, 1999. These settlements were recorded in the same period as the related forecasted transactions affecting earnings. The Company expects approximately $5.3 million of unrealized gains at December 31, 1999 to affect earnings in 2000 related to its foreign currency forward contracts.

During 1998, the Company recognized $686,000 in other expense as a result of the discontinuance of cash flow hedges upon determining that it was no longer probable that the original forecasted transaction would occur. The Company also recognized a $322,000 gain in product revenue and a $485,000 loss in royalty revenue for the settlement of certain cash flow hedge instruments during the period. These settlements were recorded in the same period as the related forecasted transactions affecting earnings.

3. Borrowings

As of December 31, 1999, the Company had $17.5 million outstanding under a floating rate loan with a bank (the "Term Loan"). The Term Loan is secured by the Company's laboratory and office building in Cambridge, Massachusetts. The Term Loan provides for annual principal payments of $1.7 million in each of the years 1996 through 2004 with the balance due May 8, 2005. The Company also entered into an interest rate swap agreement, with the same bank, fixing its interest rate at 7.5% during the remaining term of the loan, payable semi-annually.

As of December 31, 1999, the Company had $39.5 million outstanding under a floating rate loan agreement with a bank for financing the construction of its biological manufacturing facility in North Carolina (the "Construction Loan"). The Construction Loan is secured by the facility. Payments of $805,000 are due quarterly through 2006 with the balance due in 2007. The Company also entered into an interest rate swap agreement, with the same bank, fixing its interest rate at 7.75% during the remaining term of the loan, payable quarterly.

The Term Loan and Construction Loan agreements include various covenants, including financial covenants, which require the Company to maintain minimum net worth, cash flow and various financial ratios. The Company's long-term debt obligations are carried at face value, which approximates fair market value.

Long-term debt at December 31, consists of the following:

(in thousands)	**1999**	**1998**
Term Loan due 2005	$ 17,501	$ 19,167
Construction Loan due 2007	39,460	42,681
	56,961	61,848
Current portion	(4,888)	(4,888)
	$ 52,073	$ 56,960

4. Consolidated Balance Sheet Details

(in thousands)	December 31, 1999	1998
Property and equipment:		
Land	$ 12,349	$ 8,359
Buildings	92,462	87,190
Leasehold improvements	54,946	52,602
Equipment	191,809	120,887
Total cost	$ 351,566	$ 269,038
Less accumulated depreciation	111,789	86,487
	$ 239,777	$ 182,551

Depreciation expense was $25.9 million, $21.4 million and $15.9 million for 1999, 1998 and 1997, respectively.

(in thousands)	December 31, 1999	1998
Accrued expenses and other:		
Royalties and licensing fees	$ 34,914	$ 23,029
Income taxes	64,545	28,056
Other	55,798	49,794
	$ 155,257	$ 100,879

5. Pensions

The Company has a defined benefit pension plan which provides benefits to substantially all of its employees. The Company also has a supplemental retirement benefit plan which covers certain employees. The pension plans are noncontributory with benefit formulas based on employee earnings and credited years of service. The Company's funding policy for its pension plans is to contribute amounts deductible for federal income tax purposes. Funds contributed to the plans are invested in fixed income and equity securities.

The components of net periodic pension cost for each of the three years ended December 31 are summarized below:

(in thousands)	1999	1998	1997
Service cost	$ 2,923	$ 2,225	$ 1,873
Interest cost	1,307	1,041	876
Expected return on plan assets	(994)	(722)	(497)
Amortization of transition asset	–	(21)	(21)
Amortization of prior service cost	43	43	43
Amortization of net actuarial loss	22	–	40
Net pension cost	$ 3,301	$ 2,566	$ 2,314

Reconciliations of projected benefit obligations, fair value of plan assets and the funded status of the plans as of December 31, are presented below:

(in thousands)	**1999**	**1998**
Change in projected benefit obligation		
Net projected benefit obligation at the beginning of the year	$ (16,003)	$ (12,727)
Service cost	(2,923)	(2,225)
Interest cost	(1,307)	(1,041)
Actuarial gain (loss)	697	(341)
Gross benefits paid	159	331
Net projected benefit obligation at the end of the year	$ (19,377)	$ (16,003)
Change in plan assets		
Fair value of plan assets at the beginning of the year	$ 11,773	$ 8,393
Actual return on plan assets	2,021	2,142
Employer contributions	1,500	1,557
Gross benefits paid	(43)	(213)
Administrative expenses	(190)	(106)
Fair value of plan assets at the end of the year	$ 15,061	$ 11,773
Funded status at the end of the year		
Funded status at the end of the year	$ (4,316)	$ (4,230)
Unrecognized net actuarial (gain) loss	(1,833)	(173)
Unrecognized prior service cost	315	358
Unrecognized net transition asset	–	–
Net amount recognized at the end of the year	$ (5,834)	$ (4,045)
Weighted average assumptions at the end of the year		
Discount rate	7.50%	6.75%
Expected return on plan assets	8.00%	8.00%
Rates of compensation increase	5.00%	5.00%

The Company has an unfunded supplemental retirement plan. As of December 31, 1999 the projected benefit and the accumulated benefit obligations were $3.8 million and $2.8 million, respectively. As of December 31, 1998 the projected benefit and the accumulated benefit obligations were $3.2 million and $2.3 million, respectively.

6. Other Income, Net

Other income, net consists of the following:

	December 31,		
(in thousands)	**1999**	**1998**	**1997**
Interest income	$ 35,407	$ 28,339	$ 22,135
Interest expense	(4,639)	(5,944)	(5,309)
Other income (expense)	(18,003)	(2,841)	6,020
Total other income, net	$ 12,765	$ 19,554	$ 22,846

Other income (expense) for the period ended December 31, 1999 included a $15 million write-down of certain non-current marketable securities.

As part of its strategic product development efforts, the Company invests in equity securities of certain biotechnology companies with which it has collaborative agreements. In December of 1996, Biogen purchased approximately 1.5 million shares of Creative BioMolecules, Inc. common stock for $18 million. In March of 1997, Biogen purchased approximately 670,000 shares of CV Therapeutics, Inc. common stock for $7 million. In March of 1998, the Company purchased approximately 435,000 shares of CuraGen common stock for $5 million and converted 100,000 shares of CuraGen Series E Preferred Stock valued at $1 million into CuraGen common stock. Each of these small emerging companies is principally engaged in researching, developing or manufacturing drugs for human health care.

As a matter of policy, Biogen determines on a quarterly basis whether a decline in the fair value of a marketable security is other than temporary. Unrealized gains and losses on marketable securities are included in other comprehensive income in shareholders' equity, net of related tax effects. If a decline in the fair value of a marketable security below the Company's cost basis is determined to be other than temporary, such marketable security is written down to its estimated fair value with a charge to current earnings.

Up through and including the assessment at June 30, 1999, the Company concluded that substantial evidence existed suggesting that the value of the investments described above would recover to at least the Company's purchase price. Such evidence included the prospects for favorable clinical trial results, new product initiatives and new collaborative agreements. However, given the lack of any substantial price recovery during the quarter ended June 30, 1999 and the amount of time elapsed since the decline in value began, the Company concluded that it had become unclear over what period such price recovery would take place. As a result, it was determined that the positive evidence suggesting that the investments would recover to at least the Company's purchase price was not sufficient to overcome the presumption that the current market price of the investments was the best indicator of value at June 30, 1999. Accordingly, the related unrealized losses of approximately $15 million were recognized as other expense in the second quarter of 1999.

7. Income Taxes

The components of income (loss) before income taxes and of income tax expense (benefit) for each of the three years ended December 31, are as follows:

(in thousands)	**1999**	**1998**	**1997**
Income (loss) before income taxes:			
Domestic	$ 253,303	$ 200,181	$172,973
Foreign	75,713	10,012	(24,005)
	$ 329,016	$ 210,193	$148,968
Income tax expense:			
Current			
Federal	$ 112,499	$ 58,152	$ 33,688
State	15,587	3,937	2,735
Foreign	4,206	887	916
	$ 132,292	$ 62,976	$ 37,339
Deferred			
Federal	$ (20,863)	$ 8,314	$ 21,416
State	(2,863)	206	1,046
	$ (23,726)	$ 8,520	$ 22,462
Total income tax expense	$ 108,566	$ 71,496	$ 59,801

The Company's foreign subsidiaries generated operating losses in 1997 reflecting the costs of building a commercial infrastructure in Europe and the foreign subsidiaries' investment in the Company's research and development efforts.

Deferred tax assets (liabilities) are comprised of the following at December 31:

(in thousands)	1999	1998
Tax credits	$ 35,089	$ 13,454
Inventory and other reserves	14,927	10,762
Other	549	2,368
Deferred tax assets	50,565	26,584
Depreciation, amortization and other	(9,943)	(7,095)
Unrealized gain on investments	(27,640)	–
Deferred tax liabilities	(37,583)	(7,095)
	$ 12,982	$ 19,489

A reconciliation of the U.S. federal statutory tax rate to the effective tax rate for the periods ending December 31 is as follows:

	1999	1998	1997
Statutory rate	35.0 %	35.0 %	35.0 %
State taxes	3.3	3.0	2.7
Foreign taxes	(2.6)	–	6.3
Credits and net operating loss utilization	(2.6)	(4.2)	(3.8)
Other	(0.1)	0.2	(0.1)
Effective tax rate	33.0 %	34.0 %	40.1 %

At December 31, 1999, the Company had tax credits of $35.1 million, most of which expire at various dates through 2014.

As of December 31, 1999, undistributed foreign earnings of non-U.S. subsidiaries included in consolidated retained earnings aggregated $113 million, exclusive of earnings that would result in little or no tax under current U.S. tax law. The Company intends to reinvest these earnings indefinitely in operations outside the United States. It is not practicable to estimate the amount of additional tax that might be payable if such earnings were remitted to the United States.

8. Research Collaborations

In October 1997, the Company signed a research and option agreement (the "CuraGen Agreement") with CuraGen Corporation ("CuraGen") under which the Company and CuraGen collaborate in the discovery of novel genes using CuraGen's functional genomics technologies. In March of 1998, under the terms of the CuraGen Agreement, the Company purchased approximately 435,000 shares of CuraGen common stock at the then fair value for a total of $5 million. Additionally, 100,000 shares of CuraGen Series E Preferred Stock purchased by Biogen in 1997 for $1 million were automatically converted into 100,000 shares of CuraGen common stock. In October 1999, CuraGen drew down $10 million on a line of credit, previously extended to CuraGen pursuant to the terms of the CuraGen Agreement and simultaneously converted the borrowings into approximately 611,000 shares of CuraGen common stock at the then fair value of $16.37 per share. The investment in CuraGen common stock is classified as available-for-sale and is included in long-term marketable securities as of December 31, 1999. The Company provided CuraGen with research and development funding of $1.1 million and $1.9 million in 1999 and 1998, respectively. The Company expects to fund research activities of CuraGen related to the collaboration of up to $750,000 in 2000, and in return, has an option to acquire an exclusive license to certain discoveries arising out of the collaborative efforts.

In March 1997, the Company signed a research collaboration and license agreement (the "CVT Agreement") with CV Therapeutics, Inc. ("CVT") under which Biogen obtained rights under CVT's patents and know-how to develop and market molecules that act as highly selective antagonists of the adenosine A1 receptor, for the treatment of congestive heart failure. Under the terms of the CVT Agreement, the Company purchased approximately 670,000 shares of CVT common stock at the

then fair value for $7 million and paid a one-time license fee of $5 million, which was charged to research and development expense. The investment in CVT is classified as available-for-sale and is included in long-term marketable securities. In addition, pursuant to the terms of the CVT Agreement, the Company established a $12 million line of credit that CVT may use for operating purposes. At December 31, 1999, the Company had advanced $8 million under the line of credit to CVT.

In December 1996, the Company signed a research collaboration and license agreement (the "CBM Agreement") with Creative BioMolecules, Inc. ("CBM") under which Biogen obtained rights to develop and market CBM's morphogenic protein, OP-1, for the treatment of renal disorders. Under the CBM Agreement the Company purchased 1.5 million shares of CBM common stock for $18 million. The payment for the common stock included a $1.2 million premium over the fair value of the common stock which was charged to research and development expense. As of December 31, 1999, the investment is classified as available-for-sale and is included in long-term marketable securities. The Company provided $10 million in research and development funding, which was charged to expense as provided in 1998. The CBM Agreement terminated at the end of 1999.

In July 1996, the Company signed a collaborative research and commercialization agreement (the "Ontogeny Agreement") with Ontogeny, Inc. ("Ontogeny"), a private biotechnology company, for the development and commercialization of three specific hedgehog cell proteins, a class of novel human proteins, that are responsible for reducing the formation or regeneration of tissue. Under the Ontogeny Agreement, the Company purchased 400,000 shares of preferred stock of Ontogeny for $1 million and acquired certain exclusive, worldwide rights related to products based on the hedgehog proteins for most disease areas. The Company accounts for its investment in Ontogeny, which is included in other assets, using the cost method of accounting. In November 1998, the Company extended and expanded its collaboration with Ontogeny and provided to Ontogeny a $4 million convertible loan. In June 1999, the loan was converted into 800,000 shares of Ontogeny Convertible Preferred Stock. The Company provided $2.8 million and $3.6 million of research funding to Ontogeny in 1999 and 1998, respectively. The Company has agreed to fund up to an additional $6 million in research funding over the next two years unless the agreement is terminated. If the Company exercises its option to proceed with development and commercialization of a hedgehog protein, the Company would be committed to additional funding in the form of license fees, equity investments and lines of credit.

In August 1995, the Company signed a collaborative research agreement (the "Genovo Agreement") for the development of human gene therapy treatments with Genovo, Inc. ("Genovo"), a gene therapy research company. Under the Genovo Agreement, the Company acquired 380,000 shares of Genovo Series A Preferred stock for $4.5 million and acquired certain licensing rights. The Company accounts for this investment, which is included in other assets, using the equity method of accounting. The Company recorded its proportion of Genovo's net losses as research and development expense in the amounts of $7.6 million, $9 million, and $7.7 million in 1999, 1998 and 1997, respectively. At December 31, 1999, the Company had remaining research funding commitments to Genovo of approximately $2.4 million.

9. Commitments and Contingencies

The Company rents laboratory and office space and certain equipment under noncancellable operating leases. The rental expense under these leases, which terminate at various dates through 2015, amounted to $11.9 million in 1999, $9.4 million in 1998 and $7.5 million in 1997. The lease agreements contain various clauses for renewal at the option of the Company and, in certain cases, escalation clauses linked generally to rates of inflation.

At December 31, 1999, minimum annual rental commitments under noncancellable leases were as follows:

Year	*(in thousands)*
2000	$ 12,984
2001	10,245
2002	10,009
2003	8,447
2004	7,910
Thereafter	66,657
Total minimum lease payments	$ 116,252

On October 4, 1999 the Company began construction of its new research and development center in Cambridge, Massachusetts. The new 224,000 square foot building is expected to be completed in the spring of 2001. At December 31, 1999, $35 million had been committed for construction costs. Additionally, the Company is completing plans to build a large scale manufacturing plant in Raleigh, North Carolina. The Company expects that construction will be completed at the end of 2001. At December 31, 1999, $67 million had been committed for construction costs.

On July 3, 1996, Berlex Laboratories, Inc. ("Berlex") filed suit against Biogen in the United States District Court for the District of New Jersey alleging infringement by Biogen of Berlex's "McCormick" patent (U.S. Patent No. 5,376,567) in the United States in the production of Biogen's AVONEX® (Interferon beta-1a). In November 1996, Berlex's New Jersey action was transferred to the United States District Court in Massachusetts and consolidated for pre-trial purposes with a related declaratory judgment action previously filed by Biogen. On August 18, 1998, Berlex filed a second suit against Biogen alleging infringement by Biogen of a patent which was issued to Berlex in August 1998 and which is related to the McCormick patent (U.S. Patent No. 5,795,779). On September 23, 1998, the cases were consolidated for pre-trial and trial purposes. Berlex seeks a judgment granting it damages, a trebling of any damages awarded and a permanent injunction restraining Biogen from the alleged infringement. An unfavorable ruling in the Berlex suit could have a material adverse effect on the Company's results of operations and financial position. The Company believes that it has meritorious defenses to the Berlex claims, but the ultimate outcome is not currently determinable. As a result, an estimate of any potential loss or range of loss cannot be made at this time. A hearing on the parties' summary judgment motions was completed in March 2000. Biogen moved for summary judgment of non-infringement of certain claims of the '567 patent, non-infringement of the '779 patent, as well as a determination of the invalidity of certain claims of the '567 patent and all of the claims of the '779 patent. Berlex moved to dismiss Biogen's inequitable conduct defenses and counterclaims. Berlex also moved for a declaration of literal infringement of certain claims of the '567 and the '779 patents. No decisions have been rendered to date. The Company expects a trial to occur in the second half of 2000.

In 1995, the Company filed an opposition with the Opposition Division of the European Patent Office to oppose a European patent (the "Rentschler I Patent") issued to Dr. Rentschler Biotechnologie GmbH ("Rentschler") relating to compositions of matter of beta interferon. In 1997, the European Patent Office issued a decision to revoke the Rentschler I Patent. Rentschler has appealed that decision and the appeal is still pending. On October 13, 1998, the Company filed another opposition with the Opposition Division of the European Patent Office to oppose a second European patent issued to Rentschler (the "Rentschler II Patent") with certain claims regarding compositions of matter of beta interferon with specific regard to the structure of the glycosylated molecule. While Biogen believes that the Rentschler II Patent will be revoked and that the revocation of the Rentschler I Patent will be upheld on appeal, if either the Rentschler I Patent or the Rentschler II Patent were to be upheld and if Rentschler were to obtain, through legal proceedings, a determination that the Company's sale of AVONEX® in Europe infringes a valid Rentschler patent, such result could have a material adverse effect on the Company's results of operation and financial position.

10. Shareholders' Equity

Convertible Exchangeable Preferred Stock

The Company has authority to issue 20,000,000 shares of $.01 par value preferred stock.

Shareholder Rights Plan

In 1989, the Company's Board of Directors declared a dividend to holders of the Company's common stock of rights (the "Old Rights") to purchase shares of Series A Junior Participating Preferred Stock (the "Old Preferred Stock"). Each Old Right entitled the registered holder to purchase from the Company one one-hundredth of a share of Old Preferred Stock upon the terms and subject to the conditions set forth in a Rights Agreement, dated as of May 8, 1989, between the Company and The First National Bank of Boston (the "Old Plan"). The Old Plan and the Old Rights expired on May 8, 1999. Consequently, on April 16, 1999, the Board of Directors declared a dividend to holders of the Company's common stock of one new preferred share purchase right (a "New Right") for each outstanding share of common stock. The New Rights were

granted on May 8, 1999 pursuant to a new Rights Agreement, dated May 8, 1999, between the Company and State Street Bank and Trust Company, as Rights Agent (the "New Plan"). Each New Right entitles the registered holder to purchase from the Company one one-thousandth of a share of Series A-1 Junior Participating Preferred Stock, par value $.01 per share ("New Preferred Stock"), at a price of $850 per one one-thousandth of a share of New Preferred Stock, subject to adjustment. Each one one-thousandth of a share of New Preferred Stock has rights, privileges and preferences which make its value approximately equal to the value of one share of the Company's common stock. The New Rights are exercisable only if a person or group acquires 20% or more of the outstanding common stock of the Company or commences a tender or exchange offer, the consummation of which would result in the ownership of 20% or more of the outstanding common stock of the Company. Once the New Rights become exercisable, and in some circumstances if additional conditions are met, each New Right will entitle the Company's shareholders (other than the acquiror) to, among other things, purchase common stock at a substantial discount. Unless earlier redeemed or exchanged by the Company, the New Rights expire on May 8, 2009. The Company is entitled to redeem the New Rights at a price of $.001 per New Right.

The Old Preferred Stock has been eliminated and replaced with the New Preferred Stock. At December 31, 1999, the Company had 250,000 shares of New Preferred Stock authorized for use in connection with the New Plan.

Share Option and Purchase Plans

The Company has several stock-based compensation plans. The Company applies APB Opinion No. 25 "Accounting for Stock Issued to Employees" in accounting for its plans and applies Statement of Financial Accounting Standards No. 123 "Accounting for Stock Issued to Employees" ("SFAS 123") for disclosure purposes only. The SFAS 123 disclosures include pro forma net income and earnings per share as if the fair value-based method of accounting had been used. Stock issued to non-employees is accounted for in accordance with SFAS 123 and related interpretations. Included in compensation expense for the periods ending December 31, 1999, 1998 and 1997 were approximately $7.5 million, $2.2 million and $271,000, respectively, related to stock-based compensation plans.

The Company has several plans and arrangements under which it may grant options to employees, Directors and Scientific Board members to purchase common stock. Under the terms of the Company's stock-based compensation plans, approximately 47 million options may be granted. Option grants are typically made under the 1985 Non-Qualified Stock Option Plan and the 1987 Scientific Board Stock Option Plan (the "Plans"). Options under the Plans are granted at no less than 100% of the fair market value on the date of grant. Options generally become exercisable over various periods, typically 5 to 7 years for employees and 3 years for Directors and Scientific Board members, and have a maximum term of 10 years.

Activity under these plans for the periods ending December 31, is as follows (shares are in thousands):

	1999		1998		1997	
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Outstanding, Jan. 1	22,376	$15.97	22,304	$11.98	23,496	$10.39
Granted	3,099	60.24	3,618	33.88	3,112	18.83
Exercised	(5,435)	10.45	(2,612)	7.65	(3,304)	7.04
Canceled	(2,102)	22.41	(934)	13.33	(1,000)	12.20
Outstanding, Dec. 31	17,938	$24.53	22,376	$15.97	22,304	$11.98
Options exercisable	9,384		10,998		10,416	
Available for grant	2,828		3,824		2,270	
Weighted average fair value of options granted		$26.23		$14.63		$ 8.39

The table below summarizes options outstanding and exercisable at December 31, 1999 (shares are in thousands):

	Options Outstanding			Options Exercisable	
Range of Exercise Price	Number Outstanding	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
$0.00-$10.00	3,809	3.53	$ 7.77	3,359	$ 7.72
$10.01-$20.00	8,163	6.15	15.51	4,586	14.76
$20.01-$30.00	976	8.00	22.93	180	22.38
$30.01-$40.00	281	8.77	33.85	69	33.52
$40.01-$50.00	2,703	8.98	41.25	890	41.12
$50.01-$60.00	352	9.39	54.27	–	–
$60.01-$70.00	17	9.63	66.14	–	–
$70.01-$80.00	1,485	9.91	72.27	300	71.63
Over $80.00	152	9.72	85.37	–	–
Total	17,938		$ 24.53	9,384	

The Company also has two employee stock purchase plans covering substantially all of its employees. The plans allow employees to purchase common stock at 85% of the lower of the fair market value at either the date of the beginning of the plan period or the purchase date. Purchases under the plans are subject to certain limitations and may not exceed an aggregate of 1,120,000 shares during the term of the plans; no shares may be issued after December 31, 2007. Through December 31, 1999, 365,690 shares have been issued under the stock purchase plans.

If compensation cost for the Company's 1999, 1998 and 1997 grants under the stock-based compensation plans had been determined based on SFAS 123, the Company's pro forma net income, and pro forma diluted earnings per share for the years ending December 31, would have been as follows (in thousands except per share data):

	1999	1998	1997
Pro forma net income	$ 196,965	$ 122,342	$ 83,244
Pro forma diluted earnings per share	$ 1.25	$ 0.79	$ 0.54

The fair value of options granted is estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions.

	1999	1998	1997
Expected dividend yield	0%	0%	0%
Expected stock price volatility	36 %	36%	36%
Risk-free interest rate	5.5%	5.5%	5.5 - 5.9%
Expected option term in years	5.6	5.6	5.8

The effects of applying SFAS 123 in this pro forma disclosure are not indicative of future amounts. SFAS 123 did not apply to awards prior to 1995, and additional awards in future years are anticipated.

Stock Repurchase Program

On February 22, 1999, the Company announced that its Board of Directors had authorized the repurchase of up to 8 million shares of the Company's common stock. The repurchased stock will provide the Company with treasury shares for general corporate purposes, such as stock to be issued under employee stock option and stock purchase plans. Stock

purchases are expected to occur from time to time through 2000. The stock repurchase program may be discontinued at any time. During 1999, the Company repurchased approximately 3.4 million shares of its common stock at a cost of $197.7 million. Under a previous stock repurchase program, the Company in 1998 repurchased 1.8 million shares of its common stock at a cost of $65.6 million.

To enhance the 1999 stock repurchase program, the Company sold put warrants to and purchased call options from independent third parties for a total of 4 million shares of which 2.2 million shares were outstanding at December 31, 1999, at a strike price of $49.47. Additionally, during 1999 in a separate put warrant program to facilitate its purchase of common stock, the Company sold put warrants for total proceeds of $22.1 million. The Company had put warrants to purchase 1.6 million shares outstanding at December 31, 1999, at an average strike price of $68.99 relating to this put warrant program. All of the Company's put warrants outstanding are exercisable only at the date of expiration, with expiration dates ranging from January through November of 2000. The outstanding put warrants permit a net-share settlement at the Company's option and, therefore, did not result in a put obligation liability on the Company's Consolidated Balance Sheets. The put warrants sold in connection with the Company's stock repurchase program did not have a significant additional dilutive effect.

11. Segment Information

The Company operates in one segment, which is the business of developing, manufacturing and marketing drugs for human health care. The chief operating decision makers review the profit and loss of the Company on an aggregate basis and manage the operations of the Company as a single operating segment. The Company currently derives product revenues from sales of its AVONEX® (Interferon beta-1a) product for the treatment of relapsing forms of multiple sclerosis. The Company also derives revenue from royalties on worldwide sales by the Company's licensees of a number of products covered under patents controlled by the Company, including alpha interferon and hepatitis B vaccines and diagnostic products. Revenues are primarily attributed from external customers to individual countries where earned based on location of the customer or licensee. As of December 31, 1999, 1998, and 1997, respectively, no material amounts of product or royalty revenue could be attributable to an individual foreign country.

The Company's geographic information is as follows:

(in thousands)	US	Europe	Asia	Other	Total
December 31, 1999:					
Product revenue from external customers	$ 442,278	$ 173,640	$ –	$ 4,718	$ 620,636
Royalty revenue from external customers	117,182	38,391	15,871	2,355	173,799
Long-lived assets	270,179	20,910	–	131	291,220
December 31, 1998:					
Product revenue from external customers	$ 303,591	$ 91,237	$ –	$ 35	$ 394,863
Royalty revenue from external customers	108,177	37,573	13,940	3,034	162,724
Long-lived assets	213,053	15,912	–	105	229,070
December 31, 1997:					
Product revenue from external customers	$ 220,385	$ 17,885	$ –	$ 1,718	$ 239,988
Royalty revenue from external customers	88,424	50,279	15,362	17,856	171,921
Long-lived assets	204,800	11,888	–	–	216,688

The Company received revenue from five unrelated parties in 1999 accounting for a total of 15%, 13%, 13%, 11% and 11% of total product and royalty revenue. The Company received revenue from five unrelated parties in 1998 accounting for a total of 16%, 13%, 11%, 11% and 10% of total product and royalty revenue. The Company received revenue from four unrelated parties in 1997 accounting for a total of 19%, 11%, 11% and 10% of total product and royalty revenue.

12. Quarterly Financial Data (unaudited)

(in thousands, except per share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
1999					
Total revenues	$ 171,720	$ 188,929	$ 208,431	$ 225,355	$ 794,435
Product revenue	131,320	145,852	163,448	180,016	620,636
Royalties revenue	40,400	43,077	44,983	45,339	173,799
Total expenses and taxes	132,220	136,271	154,494	163,765	586,750
Other income, net	6,184	(9,270)	8,092	7,759	12,765
Net income	45,684	43,388	62,029	69,349	220,450
Basic earnings per share	0.31	0.29	0.41	0.46	1.47
Diluted earnings per share	0.29	0.28	0.39	0.44	1.40
1998					
Total revenues	$ 114,472	$ 128,812	$ 145,904	$ 168,399	$ 557,587
Product revenue	76,100	87,073	107,492	124,198	394,863
Royalties revenue	38,372	41,739	38,412	44,201	162,724
Total expenses and taxes	93,623	103,602	114,024	127,195	438,444
Other income, net	6,922	6,239	5,685	708	19,554
Net income	27,771	31,449	37,565	41,912	138,697
Basic earnings per share	0.19	0.21	0.25	0.28	0.94
Diluted earnings per share	0.18	0.20	0.24	0.27	0.90

Report of Independent Accountants

Biogen, Inc. and Subsidiaries

To the Board of Directors and Shareholders of Biogen, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, of cash flows and of shareholders' equity present fairly, in all material respects, the financial position of Biogen, Inc. and its subsidiaries at December 31, 1999 and 1998, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1999, in conformity with accounting principles generally accepted in the United States. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

PricewaterhouseCoopers LLP

Boston, Massachusetts
January 14, 2000

Senior Executives and Board Members

Biogen, Inc. and Subsidiaries

Senior Biogen Executives

James L. Vincent
Chairman of the Board and
Chief Executive Officer

James C. Mullen
President and Chief Operating Officer

Burt A. Adelman, M.D.
Vice President - Medical Research

Cornelis "Kees" Been
Vice President - Business and
Market Development

Michael W. Bonney
Vice President - Sales and Marketing

Thomas J. Bucknum, Esq.
Vice President - General Counsel,
Secretary and Clerk

Frank A. Burke, Jr.
Vice President - Human Resources

Joseph M. Davie, M.D., Ph.D.
Senior Vice President - Research

Michael Gilman, Ph.D.
Vice President - Research

Sylvie L. Gregoire, Pharm.D.
Vice President - Regulatory Affairs

Robert A. Hamm
Vice President - Manufacturing

Mark W. Leuchtenberger
Vice President - International

David D. Pendergast, Ph.D.
Vice President - Product Development
and Quality Assurance

Board of Directors

James L. Vincent [2,3,5]
Chairman of the Board and Chief Executive Officer,
Biogen, Inc.

Alexander G. Bearn, M.D.[5]
Executive Director, American Philosophical Society;
Adjunct Professor, The Rockefeller University;
Professor Emeritus, Cornell University Medical College

Alan Belzer [1,5]
President, Chief Operating Officer and Director,
Allied-Signal, Inc. (retired)

Harold W. Buirkle [1,2,4]
Managing Director, The Henley Group, Inc. (retired)

Mary L. Good, Ph.D. [2]
Former Undersecretary for Technology,
U.S. Department of Commerce;
Managing Member, Venture Capital Investors, LLC;
Donaghey University Professor at University of Arkansas
at Little Rock

Thomas F. Keller, Ph.D.[1]
R.J. Reynolds Professor and
Dean, Fuqua School of Business Europe,
Duke University

Roger H. Morley [2,4]
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Former President, American Express Co.

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President and Chief Operating Officer,
Biogen, Inc.

Sir Kenneth Murray, Ph.D. [3,5]
Biogen Professor of Molecular Biology, Emeritus
University of Edinburgh;
Fellow of The Royal Society

Phillip A. Sharp, Ph.D. [2,3]
Institute Professor, Center for Cancer Research,
Massachusetts Institute of Technology;
Nobel Laureate

Alan K. Simpson[5]
Director of the Institute of Politics and Visiting Lecturer,
John F. Kennedy School of Government,
Harvard University;
Former U.S. Senator

James W. Stevens [1,5]
Former Chairman, Prudential Asset Management Group

1 Member of the Finance and Audit Committee
2 Member of the Compensation and Management Resources Committee
3 Member of the Project Share Committee
4 Member of the Stock and Option Plan Administration Committee
5 Member of the Nominating Committee

Scientific Board

Phillip A. Sharp, Ph.D.
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Institute Professor, Center for Cancer Research,
Massachusetts Institute of Technology;
Nobel Laureate

Sir Kenneth Murray, Ph.D.
Vice Chairman of the Scientific Board;
Biogen Professor of Molecular Biology, Emeritus
University of Edinburgh;
Fellow of The Royal Society

Alexander G. Bearn, M.D.
Executive Director, American Philosophical Society;
Adjunct Professor, The Rockefeller University;
Professor Emeritus, Cornell University Medical College

Max D. Cooper, M.D.
Investigator,
Howard Hughes Medical Institute;
Professor of Medicine,
Pediatrics, Microbiology and Pathology,
University of Alabama at Birmingham

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Biogen, Inc.

Richard A. Flavell, Ph.D.
Professor and Chairman,
Immunobiology Section,
Howard Hughes Medical Institute,
Yale University School of Medicine;
Fellow of The Royal Society

Daniel H. Rich, Ph.D.
Professor of Medicinal Chemistry
and Organic Chemistry,
University of Wisconsin – Madison

Kai L. Simons, M.D., Ph.D.
Professor of Cell Biology,
European Molecular Biology Lab,
Heidelberg, Germany

Thomas P. Stossel, M.D.
Co-Director,
Division of Hematology,
Brigham and Women's Hospital

Daniel I.C. Wang, Ph.D.
Institute Professor of Chemical Engineering
Massachusetts Institute of Technology

Shareholder Information

Biogen, Inc. and Subsidiaries

Corporate Headquarters:

Biogen, Inc.
14 Cambridge Center
Cambridge, MA 02142
Telephone: (617) 679-2000
Fax: (617) 679-2617

Annual Meeting

Friday, June 16, 2000 at 10:00 a.m.
at the Company's offices at 12 Cambridge Center.
All shareholders are welcome.

Market for Securities

Biogen's securities are quoted on the NASDAQ National Market System.
Common stock symbol: BGEN.

As of March 20, 2000, there were approximately 2,667 holders of record of the Company's Common Stock. The Company has not paid any cash dividends on its Common Stock since its inception, and does not intend to pay any dividends in the foreseeable future. On June 25, 1999 the Company effected a two-for-one stock split of its Common Stock. The quarterly high and low closing sale prices (adjusted to reflect the stock split) of the Company's Common Stock on the NASDAQ National Market System for 1999 and 1998 are as follows:

	High	Low
Fiscal 1999		
First Quarter	58 19/32	39 19/32
Second Quarter	64 5/16	46 3/16
Third Quarter	89 3/16	63 1/16
Fourth Quarter	88 1/16	64 3/8
Fiscal 1998		
First Quarter	24 27/32	16 5/8
Second Quarter	24 27/32	20 17/32
Third Quarter	34	23 1/8
Fourth Quarter	43 7/16	31

SEC Form 10-K

A copy of the Company's annual report to the Securities and Exchange Commission on Form 10-K is available without charge upon written request to the:
Corporate Communications Department
Biogen, Inc.
14 Cambridge Center
Cambridge, MA 02142.

Transfer Agent

For shareholder questions regarding lost certificates, address changes and changes of ownership or name in which the shares are held, direct inquiries to:
State Street Bank and Trust Company
P.O. Box 8200
Boston, MA 02266-8200
Telephone: (800) 426-5523

Independent Accountants

PricewaterhouseCoopers LLP
160 Federal Street
Boston, MA 02110

U.S. Legal Counsel

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111

News Releases

As a service to our shareholders and prospective investors, copies of Biogen news releases issued in the last 12 months are now available almost immediately 24 hours a day, seven days a week, on the Internet's World Wide Web at http://www.prnewswire.com and via automated fax by calling "Company News On Call" at 1 800 758-5804, ext. 101550. Biogen news releases are usually posted on both systems within one hour of being issued and are available at no cost.

Biogen, Inc. and Subsidiaries

Offices Worldwide

Biogen,Inc.
14 Cambridge Center
Cambridge, MA 02142
United States
Tel 617 679-2000
Fax 617 679-2617

Biogen European Headquarters
Le Capitole
55 avenue des Champs Pierreux
92012 Nanterre
France
Tel 33 1 41 37 95 95
Fax 33 1 41 37 24 00

RTP-Biogen, Inc.
P.O. Box 14627
5000 Davis Drive
Research Triangle Park
NC 27709-4627
Tel 919 941-1100
Fax 919 941-1112

Biogen GmbH
Effingergasse 21
1160 Vienna
Austria
Tel 43 1 48 44 61 3
Fax 43 1 48 44 61 311

Biogen Belgium S.A.
Avenue de Tyras 111
1120 Neder-Over-Heembeek
Belgium

Biogen Canada, Inc.
3-Robert Speck Parkway
Mississauga, Ontario L4Z 2G5
Canada
Tel 1 888 456-2263

Biogen (Denmark) A/S
Lyngbyvej 28
2100 Copenhagen
Denmark
Tel 45 39 16 91 91
Fax 45 39 16 91 99

Biogen Finland Oy
Pakkalankuja 6
SF-01510 Vantaa
Finland
Tel 358 9 77 43 700
Fax 358 9 77 43 70 40

Biogen France S.A.
Le Capitole
55 avenue des Champs Pierreux
92012 Nanterre
France
Tel 33 1 41 37 95 95
Fax 33 1 40 97 00 53

Biogen GmbH
Carl-Zeiss Ring 6
85737 Ismaning
Germany
Tel 49 89 99 61 70
Fax 49 89 99 61 71 99

Biogen International B.V.
Robijnlaan 8
2132 WX Hoofddorp
The Netherlands
Tel 31 23 566 81 81
Fax 31 23 566 81 82

Biogen Norway AS
Karenslyst Allé 8b
N-0277 Oslo
Norway
Tel 47 23 12 06 38
Fax 47 23 12 05 98

Biogen Sweden AB
Kanalvägen 10C/12
S-194 61 Upplands Väsby
Stockholm, Sweden
Tel 46 8 590 041 70
Fax 46 8 590 042 02

Biogen Limited
5d Roxborough Way
Foundation Park
Maidenhead, Berkshire SL6 2UD
United Kingdom
Tel 44 1628 501000
Fax 44 1628 501010

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Biogen, Inc.
14 Cambridge Center
Cambridge, MA 02142

Telephone 617 679 2000

Biogen European
Headquarters
Le Capitole
55 avenue des Champs Pierreux
92012 Nanterre
France

Telephone 33 1 41 37 95 95

www.biogen.com