ASTRA

ASTRA 98

ANNUAL REPORT

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PHOTO THEME: THE RESEARCHER AT WORK
Pharmaceutical research is about the search for new knowledge. Astra's researchers have made numerous discoveries that have led to medical breakthroughs. The life of a researcher, however, consists in large part of the time-consuming and patient work on repeated studies and experiments, many of which never show the desired result. The pictures in this annual report illustrate various settings from the everyday work at Astra's research laboratories.

ANNUAL MEETING

The Annual Meeting of Stockholders will be held on Tuesday, April 6, 1999, at 2 p.m. at the City Conference Centre, Folkets Hus, Barnhusgatan 12–14, Stockholm.

For further details, please refer to the notice to attend the Annual Meeting, which will be published in daily newspapers on Friday, March 19, 1999.

NOTIFICATION: Stockholders who wish to participate in the Meeting must be recorded as stockholders in the register of shareholders maintained by the Swedish Securities Register Center (Värdepapperscentralen VPC AB) not later than Friday, March 26, 1999; they must also notify the Company by mail, addressed to Astra AB, Legal Affairs, S-151 85 Södertälje, Sweden, or by calling +46 8-553 260 00, not later than 3 p.m. on Thursday, April 1, 1999.

To be entitled to participate in the Meeting, stockholders whose shares are registered under the name of a trustee must have their shares entered temporarily under their own names in the register of shareholders kept by the Swedish Securities Register Center. Stockholders must instruct their trustees accordingly in good time before March 26, 1999.

Stockholders may attend and vote at the Meeting in person or by proxy but, in accordance with Swedish practice, the Company does not send forms of proxy to its stockholders. Stockholders wishing to vote by proxy should submit their own forms of proxy to the Company.

DIVIDEND: The Board of Directors proposes Friday, April 9, 1999, as the record date. Provided that the Annual Meeting votes in favor of the proposal, dividend payments are expected to be sent from the Swedish Securities Register Center on Friday, April 16, 1999.

OTHER

Financial information and press releases from Astra AB are available on Astra's website: www.astra.com

Astra's financial performance is stated in Swedish kronor (SEK). The value of SEK on December 31, 1998, was USD 1 = SEK 8.10.

Astra complies in all essential respects with the OECD guidelines on the provision of information by internationally operating companies.

In its marketing, Astra complies with the IFPMA Code of Pharmaceutical Marketing Practices, issued by the International Federation of Pharmaceutical Manufacturers Associations (IFPMA).

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ASTRA

Astra was founded in 1913. The Company's research program, started in the early 1930s, has led over time to a number of important pharmaceuticals. These include Xylocaine (local anesthetic), Seloken and Plendil (cardiovascular agents), Bricanyl and Pulmicort (antiasthma agents), the Turbuhaler inhaler for asthma products, among others, and Losec (gastrointestinal agent).

Astra built up a worldwide network of subsidiaries, agents and licensees during the 1950s and '60s. Since the end of the 1970s the Company's operations have been concentrated mainly on pharmaceuticals. At the end of the 1980s Astra implemented a new marketing strategy. The international marketing organization was strengthened considerably, and control over marketing in major markets was gradually transferred from various licensees to Astra.

ASTRA TODAY

Astra is an international pharmaceutical company in a phase of strong expansion. The Company focuses on areas of disease in which its proficiency in research can fulfill important medical needs. Research and development activities are conducted primarily by five research units in Sweden and the U.K.

Marketing is conducted through Astra subsidiaries in about 40 countries and through agents and licensees in a large number of additional countries. In many countries Astra now ranks among the largest pharmaceutical companies in the market.

Astra has approximately 25,000 employees, 68 percent of whom are outside Sweden.

Astra's shares have been listed on the Stockholm Stock Exchange since 1955, on the London Stock Exchange since 1985, and on the New York Stock Exchange since 1996. Astra has approximately 256,400 stockholders.

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ASTRA HIGHLIGHTS 1998

The boards of Astra and the British company Zeneca propose a merger of equals to form one of the world's largest pharmaceutical companies

New agreement with Merck & Co., Inc., gives Astra management control, strategic freedom, and the right to buy out Merck's interests in the U.S. market

Astra Pharmaceuticals, L.P., USA, which includes the operations of the former companies Astra Merck and Astra USA, was established on July 1, 1998

In December Astra reacquired the rights from Schering-Plough to market Losec in Italy and Spain

Astra's new proton pump inhibitor shows promising preliminary clinical results

AstraZeneca — a winning combination

In December 1998, Astra's board of directors approved an agreement to merge with the British company Zeneca. Together the companies would form one of the world's largest pharmaceutical companies—Astra Zeneca.

Astra's and Zeneca's operations complement each other well, and the new, combined company will have a world-leading product and research program.

With SEK 17 bn. (pro forma 1998) in combined R&D expenditures, AstraZeneca would have been one of the largest research and development organizations in the pharmaceutical industry. AstraZeneca's strong marketing organization and extensive geographic coverage will give it a presence in all major markets.

Zeneca and Astra have found in each other the perfect partner with which to build up a global pharmaceutical company with strong commercial and scientific future opportunities.

SIMILAR CULTURES—COMPLEMENTARY PRODUCTS AstraZeneca will have leading positions in five therapeutic areas: gastrointestinal, cardiovascular and respiratory diseases, oncology, and anesthesia/analgesia. In the areas of cardiovascular diseases, respiratory diseases and anesthesia/analgesia, substantial coordination benefits are anticipated in research and development as well as marketing.

Like Astra, Zeneca is a research-driven organization. The company's ability to develop novel, advanced drugs is the core of its business. Above all, in cancer treatment Zeneca has built up a very strong position. Nolvadex, for example, is the world's largest selling breast cancer medicine, and Zoladex, for prostate cancer, has had strong growth throughout the 1990s.

Astra's firmly rooted management philosophy and view of the pharmaceutical business has a counterpart in Zeneca. The two companies' consensus with respect to corporate culture and working methods will facilitate the merger. AstraZeneca will be a pharmaceutical company with roots in both companies' cultures and traditions.

AN ATTRACTIVE COLLABORATION PARTNER
Through its size and strong presence in key markets, AstraZeneca will also be an attractive partner for academic institutions, biotechnology companies and other parties seeking to outlicense new substances. This creates even better opportunities to complement the company's own research and meet the market's needs.

AstraZeneca will gain the financial, scientific and marketing resources needed to be a leading pharmaceutical company worldwide. The new company is expected to be able to achieve even faster and more profitable growth than what Astra would be able to achieve alone. This development will benefit patients, shareholders and employees alike.

AstraZeneca Pro Forma 1998

FINANCIAL HIGHLIGHTS* (USD bn.)	1998	1997	Change % (constant currency)
Group sales	17.2	15.8	+ 13
Operating profit before exceptional items	3.5	3.5	+ 10
Profit before tax and exceptional items	3.5	3.4	+ 10
Earnings per share (before exceptional items), USD	1.36	1.37	+ 9
Earnings per share (FRS3), USD	1.39	1.37	n/a

* Reported in accordance with U.K. GAAP, merger accounting method. The pro forma accounts have been prepared as if the merger and the restructuring of Astra Merck had been completed as per January 1, 1997. The pro forma accounts are only for illustrative purposes. Figures above have been excerpted from the joint Astra and Zeneca press release of February 17, 1999.

- Pharmaceuticals sales increased by 15 percent, at constant currency, to USD 12.8 bn. (GBP 7.7 bn., SEK 100.8 bn.).
- U.S. pharmaceuticals sales were up 27 percent.
- Pharmaceuticals operating profit before exceptional items increased by 9 percent, at constant currency; return on sales was 23.9 percent (1997: 26.3 percent).
- Pharmaceuticals research & development expenditure increased by 12 percent to USD 2.2 bn. (GBP 1.3 bn., SEK 17.3 bn.) representing a 17.1 percent expenditure to sales ratio.

The information provided above has not been subjected to an audit. Detailed information about the merger is provided in a separate Merger Document and in Zeneca's Registration Statement on Form F-4 filed with the U.S. Securities and Exchange Commission, both dated January 1999.

ASTRA ZENECA

THE YEAR IN FIGURES

	1998	1997	Percentage change[1]
Sales, SEK m.	**57,187**	44,904	+ 27 (+ 15)
Pretax earnings, SEK m.	**16,444**	14,305	+ 15 (+ 22)
Net earnings, SEK m.	**11,803**	10,201	+ 16 (+ 21)
Earnings per share, SEK	**7.18**	6.21	+ 16 (+ 21)
Return on capital employed, %	**25**	26	–
Return on stockholders' equity, %	**26**	27	–
Research expenditures, SEK m.	**10,600**	8,746	+ 21 (+ 19)
Capital expenditures, SEK m.	**16,668**	4,650	–
Liquid assets, SEK m.	**22,473**	24,479	– 8
Equity ratio, %	**72**	74	–
Number of employees	**24,958**	22,206	+ 12
Number of stockholders, approx.	**256,400**	243,600	+ 5
Market capitalization, Dec. 31, SEK bn.	**272**	225	+ 21
Proposed dividend, SEK[2]	**1.90**	1.80	+ 6

[1] Figures in parentheses pertain to changes for comparable units, i.e., on the basis of the continuation of the joint venture structure with Merck in the U.S.

[2] The proposed dividend is set in the merger agreement between Astra and Zeneca.

CHAIRMAN OF THE BOARD

In last year's letter to the stockholders I touched upon the increasingly rapid structural transformation of the pharmaceutical industry. On how the demands for R&D resources, market presence and innovative strength are steadily rising.

I underscored how our strong financial position gave us scope to determine how we could best meet this trend through organic growth or through structural changes. It is against this background that Astra's board and management have decided to merge with the British pharmaceutical company Zeneca.

The merger is a major event—not only for Astra, but for Sweden, too. It will change many conditions for our company and affect many people—employees, owners, customers, collaboration partners, and many others. The fact that Astra, as we know it, is now taking on a new dimension has emotional as well as more tangible consequences.

The Board and management attempt in their considerations to take into account and weigh all aspects—the future for the company, for the employees, and for the stockholders.

All conceivable merger alternatives—as well as the alternative of continuing alone—have been analyzed. The Board is unanimous in its conclusion that a merger with Zeneca stands out as the best.

Together with Zeneca we gain greater opportunities to realize the potential that Astra has today. Here are two strong, growing companies that are joining together to form an even mightier combination. We are not doing this to solve acute problems, but to build value for the future.

The merger entails a widening of our competence base and a strengthening of marketing resources, which appreciably enhances the likelihood for continued success. In addition to creating value in the traditional sense, it will preserve and strengthen the base for Astra's accomplished researchers and marketing organization.

Strong research is the foundation for a successful pharmaceutical company. But it is equally important to be able to make the research results available on the market, otherwise it makes little difference how good you are in the laboratories. Moreover, being able to reach the people in need of medicines is a prerequisite for being able to finance world-class research over the long term.

Astra's successes lie in a combination of world-leading research and business savvy. Losec is a prime case in point. Losec and Astra's research have revolutionalized treatment of peptic ulcer disease. It is both a painful and menacing disease which today can be treated—and even cured—in a simple and effective manner. However, the commercial success of Losec would never have been possible were it not for Astra's ability to market and sell the Company's products.

It is here that Astra's heart and soul lie, in the ability to develop drugs on a stable ethical platform for people in need of help—but also in the ability to reach these people.

Together with Zeneca we will gain even better opportunities in these respects. AstraZeneca will have an R&D and marketing and sales organization worthy of a global pharmaceutical company.

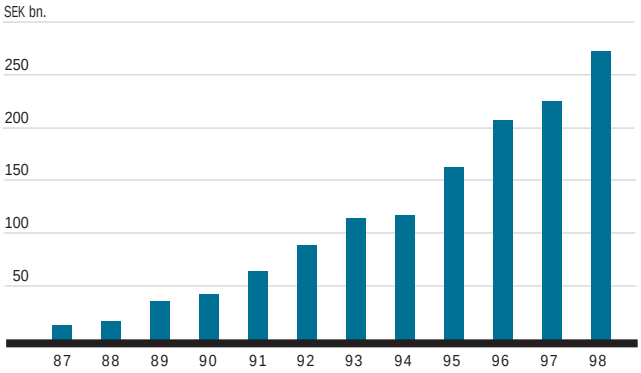
Do we see any disadvantages with the merger with Zeneca? Indeed, when a great company like Astra joins together with another company, there is a tinge of sadness. Astra is a true source of pride in Sweden.

But at the same time we must look ahead. Internationalization and technological development are constantly putting new demands on our operations. Future competitiveness depends on the ability to more quickly develop better and better products that reach more people in more markets. Not taking this into consideration would be a betrayal of the people who work at Astra and of those who, in their capacity as stockholders, entrust us with their savings.

Carrying out a merger always entails considerations of various conditions and qualities of the companies involved. From this perspective it was natural that the legal domicile for AstraZeneca should be in the financial center of London and that the R&D headquarters should be located in Södertälje, Sweden. AstraZeneca's roots in Sweden are thereby firm. Even so, a unique phase in Swedish industrial history is now giving way to another.

I am proud to have served as chairman of a company in which tens of thousands of capable employees and a foresighted and exceptionally competent management have developed such an extraordinarily fine organization.

ASTRA'S MARKET CAPITALIZATION, 1987–98



In particular, I would like to direct my thanks to Håkan Mogren, who during his 11 years as CEO has played an instrumental role in making Astra into one of Sweden's foremost industrial successes in the 1990s.

During Håkan Mogren's term as CEO, shareholder value has increased by more than 30 percent per year on average. Sales have climbed from 5 billion kronor to 57 billion kronor, and earnings from just over a billion kronor to more than 16 billion kronor. For us stockholders, Håkan Mogren's contribution as CEO has been outstanding.

Few can be better suited to meet the challenges of the new era than Astra's employees and management. The cooperation with Zeneca will give them the best conditions with which to do this—for the benefit of the millions of people who are the goal for our products and, in the final analysis, to create value for those who own stock in the Company.

With humanity as our customer, the world as our market, and shareholder value as our goal, we are exceptionally well equipped for the future.

With these words, I and the directors on the Board who are now leaving would like to wish all of Astra's employees continued success and prosperity.

Södertälje, Sweden, February 1999

Bo Berggren

THE PRESIDENT AND CEO

In 1998, our long-term strategy work achieved results in a number of areas. The proposed merger of equals between Astra and Zeneca is not a new idea. The first contacts between the two companies' managements were established back in 1996. We discussed our analyses of the ongoing structural transformation in the pharmaceutical industry, and we became convinced that Astra and Zeneca would be a very powerful combination.

There was, however, one decisive obstacle—Astra's previous agreement with Merck & Co., Inc., in the U.S., which gave Merck the right in perpetuity to a share of earnings from sales in the U.S. market of most drugs to emerge from Astra's research. This agreement between Astra and Merck presented an obstacle to acquisitions or mergers, and discussions were ceased.

The original agreement between Astra and Merck, which was signed in 1982, was highly instrumental in Astra's development during the 1980s. However, with Astra's successes and growing strength, the agreement began placing increasing restrictions on our freedom to act. On repeated occasions, Astra tried to interest Merck's management in a renegotiation. A new opportunity arose a couple of years ago. We agreed to work for a new solution that would be better for both parties. We were thus able to initiate the talks which—18 months later, on Midsummer eve 1998—resulted in a new agreement between Astra and Merck.

In the extensive arrangement with Merck, Astra achieved the three key objectives summarized below:

- management control of the entire operations in the U.S., whereby the activities of the previously half-owned Astra Merck could be combined with Astra's wholly owned subsidiary, Astra USA, in the newly formed company Astra Pharmaceuticals, L.P. The new company will account for nearly half of the Astra Group's sales. This change gave us the opportunity for cost-savings and sales synergies in the U.S.;
- the opportunity to buy out Merck's rights to all products, except for the antipeptic ulcer medications omeprazole and perprazole, based on a set formula in either 2008, 2012 or 2016. Merck's rights to omeprazole and perprazole may be terminated in 2017. In this way, a perpetual cooperation was transformed into one with a time limit;
- strategic freedom to carry out structural deals such as acquisitions and mergers. The new agreement provides for certain payments to be made to Merck in connection with a strategic transaction and contains clear terms for how the relationship between Astra and Merck would change in the event of a structural deal.

As regards the inlicensing and acquisition of products, Merck has the same rights as earlier until final payment is made in either 2008, 2012 or 2016. With the new agreement with Merck in place, contacts were resumed between Astra and Zeneca. Here I would like to summarize Astra's starting point for evaluating the opportunities for a merger with Zeneca.

For many years I have underlined my conviction that a successful pharmaceutical company must principally be built upon organic growth, based on innovations from its own research and development activities. This does not mean that I have ruled out structural deals if they provide further advantages. I have not changed my views in this respect. Astra could continue to develop on its own, even though the risk of being taken over would most likely be increasingly apparent and we would miss out on the new opportunities that a merger with Zeneca offers.

Astra and Zeneca are two companies that fit very well together. In a number of therapeutic areas, such as cardiovascular, respiratory and pain control, we see clear synergies. Moreover, both companies are each contributing a new therapeutic area to the combined company in which they have a leading position worldwide—Astra in gastrointestinal and Zeneca in oncology.

In addition, in recent years a number of factors have emerged which have made size increasingly important for pharmaceutical companies. It is largely in light of these changes in our operating environment that the consolidation of the pharmaceutical industry is now taking place.

The paradigm shift in pharmaceutical research is gaining momentum. Developments in information technology, advanced biology and chemistry are yielding entirely new conditions and opportunities. Genetic engineering, bioinformatics, high throughput screening, structural chemistry, miniaturization and robotics are just a few examples of enabling technologies that have become essential for all researching pharmaceutical companies. These technologies are changing the face of exploratory research. In the past, the major difficulty was in coming up with ideas worthy of research. With the help of technology, today we can quickly generate a multitude of research ideas. The important thing now is to have a large and qualified research organization with the capacity and ability to evaluate and process the ideas and identify the opportunities that these cost-intensive technologies can offer.

Competition in the pharmaceutical market, combined with shorter and shorter product life cycles, is making ever-larger global marketing organizations essential. When a new drug reaches the market, the head start on

the competitors must be exploited quickly—preferably with simultaneous launches in all major markets. In the U.S. the FDA is increasingly allowing pharmaceutical companies to focus their marketing directly on consumers, which requires far larger marketing resources. We expect this trend to spread to many other countries as well.

As a result of these changes in the operating environment, we believe that a larger company like AstraZeneca will be able to achieve faster and more profitable growth in the future than Astra would be able to achieve on its own. This development would benefit patients, shareholders and employees alike.

A merger between Astra and Zeneca—which is described in detail in a separate prospectus—entails two successful companies, with similar, research-based corporate cultures, strong sales growth and complementary products and research portfolios, forming one of the world's leading pharmaceutical companies. AstraZeneca will have strong positions in five therapeutic areas: gastrointestinal diseases, cardiovascular diseases, respiratory diseases, oncology, and general and local anesthesia. In addition, extensive research and development is being conducted on diseases of the central nervous system. From the onset, the research activities will comprise 55 new chemical entities.

At the end of 1998 Astra also reached an important settlement with Schering-Plough with respect to, among other things, the marketing of Losec in Italy and Spain. As a result of this agreement, on January 1, 1999, Astra reacquired the right to market the product under the Losec trademark in those countries. The agreement is expected to have major bearing on Astra's profitability, since Italy and Spain are both large pharmaceutical markets, and both have become significant parallel exporters to other European countries.

Aside from the many, important strategic decisions we made in 1998, Astra's operations have developed favorably. Our important new launches—not least Atacand, Oxis and Naropin—have met a positive reception in the market. Pulmicort Turbuhaler is gaining ground slowly but surely in the U.S. market. Astra's new proton pump inhibitor has shown positive preliminary clinical results, and we have great confidence in the products we are currently launching as well as the products in our pipeline—several of which are pioneering.

All indications now are that Astra and Zeneca will soon be merging to form the new company AstraZeneca. My role will then be changing from president and CEO to that of executive deputy chairman. In this new role I see it as my obligation to make sure the integration of the two companies takes place as smoothly as possible and that synergies are achieved. I would like to extend a large, warm thanks to all the stockholders and Astra employees for their strong show of support during the 11 wonderful years I have served as president and CEO. But the operating environment is changing, and we are now taking the steps necessary to enable us to stand—within the framework of the new AstraZeneca—in the front ranks of the pharmaceutical industry.

Södertälje, Sweden, February 1999

HÅKAN MÖGREN

GROUP REVIEW

The boards of Astra and Zeneca reached an agreement in December 1998 on a merger of equals. Full details of the proposed merger are presented in a separate Merger Document and in Zeneca's Registration statement on Form F-4 filed with the U.S. Securities and Exchange Commission, both dated January 1999.

In 1998 Astra reached an agreement with Merck & Co., Inc., pertaining to the U.S. market. The agreement gave Astra management control of the operations in the U.S. and made possible, on July 1, 1998, the combination of the operations of the previously half-owned company Astra Merck, Inc., and the wholly owned subsidiary Astra USA, Inc., in a new company, Astra Pharmaceuticals, L.P. Through this arrangement, Astra achieves strategic freedom and the right to buy out Merck's interests at certain points in time. Under the new agreement, all sales of Prilosec (Losec) and Plendil in the U.S. are included in the Astra Group's sales from July 1, 1998, and onwards. Previously, half of sales were included since the half-owned company Astra Merck, Inc., was consolidated according to the proportionate method. Sales-related compensation payable to Merck is now included in the Group's operating expenses. These changes affect comparability with previous reporting periods.

In December two agreements concerning product rights were made with Schering-Plough Corp. These agreements had a positive net impact on 1998 operating earnings of SEK 1,293 m.

The Astra Group's sales rose 27 percent to SEK 57,187 (1997: 44,904) m. For comparable units,[1] the sales increase was 15 percent. Pretax earnings rose 15 percent to SEK 16,444 (14,305) m. For comparable units, earnings rose 22 percent. The effective tax rate was 28 (29) percent. Net earnings after taxes rose to SEK 11,803 (10,201) m., or SEK 7.18 (6.21) per share, representing a 21 percent increase for comparable units.

PROPOSED MERGER WITH ZENECA The boards of Astra and Zeneca reached an agreement in December 1998 on a merger of equals. Full details of the proposed merger are presented in a separate Merger Document and in Zeneca's Registration Statement on Form F-4 filed with the U.S. Securities and Exchange Commission, both dated January 1999. An overview of the merger is presented on p. 2.

SALES The international pharmaceutical market grew by approximately 7 (6) percent in 1998, at constant exchange rates. Astra's sales rose 27 percent to SEK 57,187 (44,904) m. At constant exchange rates,[2] sales increased by 25 percent. Price changes had a positive impact on sales growth during the period of approximately 1 percentage point. For comparable units, sales increased by 15 percent, or 13 percent at constant exchange rates.

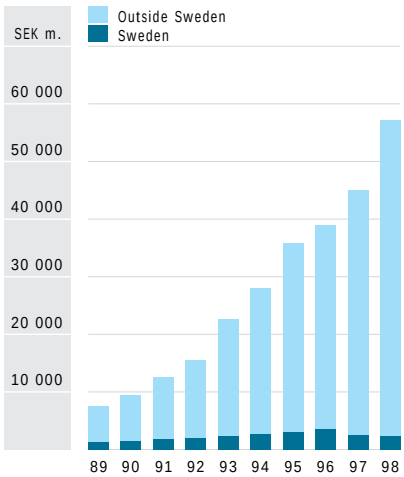
Sales outside Sweden accounted for 96 (94) percent of total Group sales and rose to SEK 54,765 (42,369) m. This corresponds to an increase of 16 percent for comparable units. The North American market was Astra's fastest-growing market.

SALES BY PRODUCT GROUP (SEK m.)	1998	1997	Percentage change	
Gastrointestinal	31,969	21,796	+ 47	(+ 43)
Cardiovascular	9,594	8,258	+ 16	(+ 16)
Respiratory	8,763	7,994	+ 10	(+ 9)
Pain control	3,829	3,700	+ 3	(+ 3)
Other products	2,235	2,466	– 9	(– 9)
Astra Tech	796	691	+ 15	(+ 14)
TOTAL	57,187	44,904	+ 27	(+ 25)

Figures in parentheses indicate percentage change at constant exchange rates.

In the *gastrointestinal* product group, the antipeptic ulcer drug Losec is the dominant product. Losec represents an important medical advance in the treatment of acid-associated disorders of the duodenum, stomach and esophagus. The product is approved in about 100 countries for short-term therapy and in some 40 countries for long-term therapy. Losec is also approved in about 40 countries in combination with various antibiotics for treatment of peptic ulcer caused by the *Helicobacter pylori* bacterium. Losec MUPS (Multiple Unit Pellet System), a new tablet formulation that

SALES



Astra has ranked among the most rapidly growing pharmaceutical companies in the world market for several years. During the period 1989–98, sales rose by an average of 25 percent per year. From July 1998 onwards, the Astra Group's sales include all sales of Losec and Plendil in the U.S. Previously, from the end of 1994, half of these sales were included.

[1] Calculations of changes for comparable units pertain to the situation according to the previous agreement between Astra and Merck.

[2] Calculations of sales trends at constant exchange rates are based on the exchange rates in effect for the corresponding period a year earlier.

offers additional patient benefits, was launched in 1998 in the first countries, including Denmark, Sweden and Germany.

Astra's sales of Losec amounted to SEK 31,619 (21,526) m., an increase of 47 percent. For comparable units the increase was 21 percent. Total sales of Losec in the world market rose to approximately SEK 40,600 (32,000) m. In Europe the market share for Losec was 45 (44) percent and in the U.S. it was 46 (38) percent. In Japan the market share was 4 (5) percent. Including sales through licensees, the global market share is estimated at 41 (36) percent.

Astra's two largest products in the *cardiovascular* product group are the beta-blocker Seloken and the vasodilator Plendil. Both products are used primarily for treatment of high blood pressure. Sales of Seloken rose 13 percent to SEK 3,568 (3,162) m. Seloken is showing particularly strong growth in the U.S., where it is marketed as Toprol-XL. Sales of Plendil rose 17 percent to SEK 2,625 (2,241) m. For comparable units the increase was 10 percent. The new anti-hypertensive agent Atacand was launched in nearly 20 countries, including France, Italy, Spain and the U.S. Astra's largest market to date for Atacand is Germany. The development of prescription volume for Atacand through January 1999 in the U.S. market is promising. Total sales of Atacand amounted to SEK 352 (8) m.

In the area of *respiratory* diseases, Astra markets several products for different indications. Sales of the asthma drug Pulmicort rose 11 percent to SEK 5,486 (4,922) m. Sales in the U.S. amounted to SEK 357 (–) m. Prescription volume for Pulmicort Turbuhaler in the U.S. rose steadily during the second half of the year. Market penetration in the U.S. has initially developed more slowly than originally anticipated. This has been due in part to the restrictive manufacturing specifications that apply for deliveries to the U.S. market. A meeting with the FDA took place in early 1999 to review the manufacturing specifications, and discussions are continuing. Sales of Rhinocort, a drug for treating allergic rhinitis and recurrent polyp formation, amounted to SEK 1,248 (1,267) m. Sales of the bronchodilator Bricanyl totaled SEK 1,222 (1,275) m. Sales of Oxis, Astra's new, long-acting bronchodilator, amounted to SEK 350 (70) m. At year-end 1998 Oxis had been launched in a total of some 30 countries, and it has been well-received by the market.

Sales in the *pain control* product group amounted to SEK 3,829 (3,700) m., an increase of 3 percent. Astra has a world-leading position in the area of local anesthetics. Sales of Xylocaine totaled SEK 1,902 (1,915) m. Sales of Marcaine, a long-acting local anesthetic, totaled SEK 636 (670) m. Sales of EMLA, a topical anesthetic cream, amounted to SEK 384 (341) m. Sales of Naropin, Astra's new analgesic and local anesthetic, totaled SEK 242 (103) m.

Among *other products* are MUSE, a new product for treatment of impotence (erectile dysfunction). The product was launched in 7 countries, including the U.K. and Sweden. In December 1998 MUSE was granted European Union mutual recognition approval. Sales of MUSE totaled SEK 86 (–) m. Astra has the marketing rights for MUSE in Europe, Australia, New Zealand, and Central and South America through an agreement with Vivus, Inc., California, USA. The decline in sales of other products was caused by the divestment of Astra's generics division in Japan.

A more detailed description of developments in the Company's major product groups appears on pp. 24–40.

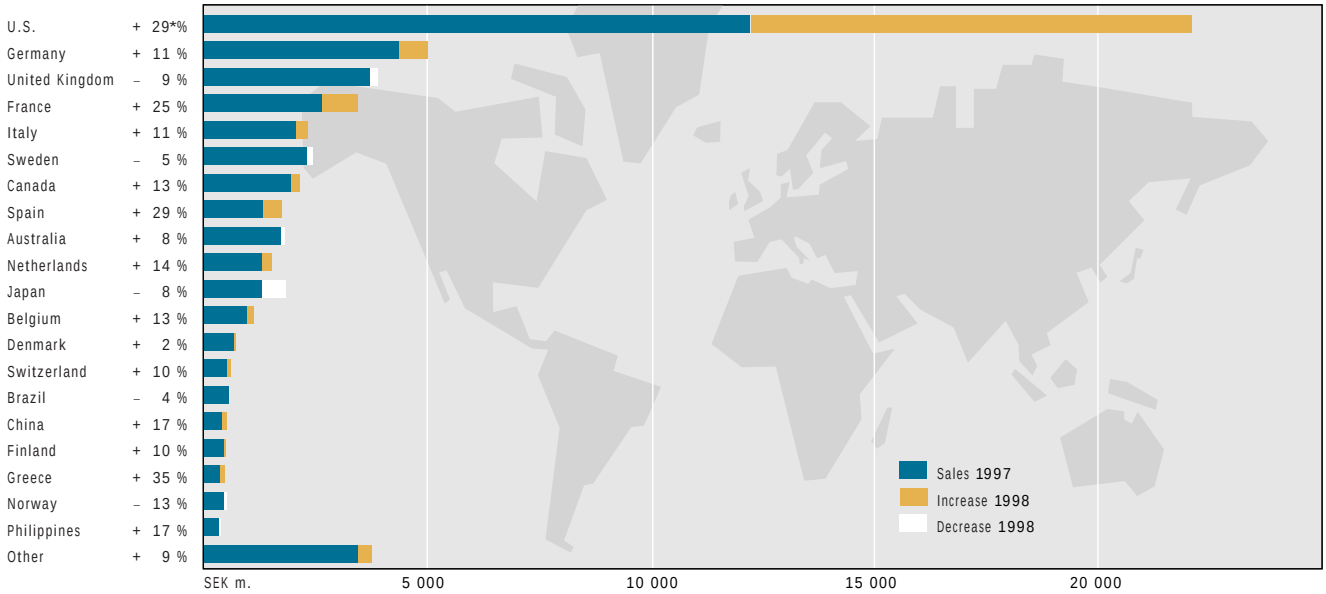
SALES—LARGEST PHARMACEUTICAL PRODUCTS (SEK m.)	1998	1997	Percentage change	
Losec	31,619	21,526	+ 47	(+ 43)
Pulmicort	5,486	4,922	+ 11	(+ 11)
Seloken	3,568	3,162	+ 13	(+ 11)
Plendil	2,625	2,241	+ 17	(+ 19)
Xylocaine	1,902	1,915	– 1	(– 1)
Rhinocort	1,248	1,267	– 2	(– 2)
Bricanyl	1,222	1,275	– 4	(– 3)
Imdur	962	913	+ 5	(+ 5)
Marcaine	636	670	– 5	(– 4)
Ramace	513	488	+ 5	(+ 3)

Figures in parentheses indicate percentage change at constant exchange rates.

GEOGRAPHIC DISTRIBUTION OF SALES (SEK m.)	1998	1997	Percentage change	
Europe	26,170	23,420	+ 12	(+ 9)
North America	24,248	14,199	+ 71	(+ 65)
Other	6,769	7,284	– 7	(+ 0)
TOTAL	57,187	44,904	+ 27	(+ 25)

Figures in parentheses indicate percentage change at constant exchange rates.

ASTRA'S PHARMACEUTICAL SALES IN VARIOUS COUNTRIES
Percentage change refers to local currency. The bars show sales development in Swedish kronor.



*Refers to changes for comparable units, i.e. the situation according to the previous agreement between Astra and Merck.

Europe The pharmaceutical market in Europe is characterized by intensive activity on the part of national authorities to limit pharmaceutical costs through various means. Market growth in Europe in 1998 is estimated at approximately 7 percent at constant exchange rates. Astra's sales in Europe rose by 9 percent at constant exchange rates. Astra was one of the largest pharmaceutical companies in the European market in 1998.

In *Germany*, Europe's largest pharmaceutical market, Astra's sales amounted to SEK 5,002 (4,375) m., an increase of 11 percent in local currency. The German pharmaceutical market grew by approximately 5 percent, and as a result Astra Germany further strengthened its position as one of the leading companies. Losec is the largest selling pharmaceutical in Germany and reached a market share of 44 (42) percent. Seloken and Pulmicort are also among the ten largest selling drugs. Sales of Atacand developed very favorably, and the product attained a market-leading position in 1998. Other products, like Oxis Turbuhaler, Entocort and Logimax, also had positive development and contributed to the favorable sales trend. Losec MUPS was launched in December.

In the *U.K.* Astra's sales amounted to SEK 3,721 (3,898) m., a decrease of 9 percent in local currency. Parallel imports from southern Europe rose, mainly of Losec, Pulmicort and Imdur. Total sales of Astra's products, i.e., including parallel imports from southern Europe, rose by only 1 percent, mainly due to a lower price level for Losec. The pharmaceutical market grew by 8 percent. In 1998 Losec was the largest selling drug in the U.K. MUSE was introduced on the British market in early 1998.

In *France*, Astra achieved major successes in 1998. Sales amounted to SEK 3,442 (2,649) m., an increase of 25 percent in local currency. Astra thus grew at a considerably faster pace than the pharmaceutical market, which grew by approximately 4 percent. Sales of Losec increased by 38 percent in local currency, and the product attained a market share of 52 (44) percent. The strong sales growth is largely attributable to the launch of Losec 10 mg. and the indication for treatment of NSAID-associated (nonsteroidal anti-inflammatory drugs) peptic ulcer. Atacand was launched during the second half of the year.

The pharmaceutical market in *Italy* increased by approximately 9 percent in 1998. Astra's sales advanced at a higher pace and amounted to SEK 2,328 (2,062) m., representing growth of 11 percent in local currency. Atacand and Oxis Turbuhaler were launched during the second half of the year.

Astra's sales in *Sweden* were negatively impacted in 1998 by the rise in parallel imports of pharmaceuticals from southern Europe. Several of Astra's most important products, such as Losec, Pulmicort and Plendil, were affected by parallel trade. Astra's sales decreased primarily as a result of parallel import by 5 percent, to SEK 2,317 (2,443) m. However, total sales of Astra's products, i.e., including parallel import, rose by 18 percent. The pharmaceutical market increased by 16 percent. Losec MUPS and MUSE were launched during

the year. Oxis Turbuhaler and Atacand, both of which were launched in 1997, showed good growth.

In *Spain*, total sales rose to SEK 1,739 (1,323) m., an increase of 29 percent in local currency. Sales of Losec and Pulmicort rose by 25 and 34 percent, respectively. In addition to underlying growth, the rise in parallel trade is a contributing factor behind these sales increases. In 1998 several new drugs were launched by Astra Spain, including Oxis Turbuhaler, Atacand and Entocort in tablet form.

North America The *U.S.* is the world's largest pharmaceutical market and Astra's largest market in terms of sales. The U.S. pharmaceutical market grew by approximately 11 percent in 1998. Astra Pharmaceuticals, L.P., Astra's new American subsidiary which includes the operations of the previously half-owned company Astra Merck, Inc., and the wholly owned company Astra USA, Inc., began operating on July 1, 1998. (See "Changed Agreement with Merck," p. 64.)

Astra's sales in the U.S. rose to SEK 21,862 (12,092) m. For comparable units, sales rose 29 percent in local currency. Prilosec (Losec) is the best-selling prescription drug in the U.S., and sales rose 35 percent for comparable units in local currency. The market share for Prilosec rose to 46 (38) percent. Both Plendil and Toprol-XL (Seloken ZOC) had favorable development. Toprol-XL is now the market-leading beta-blocker in the U.S. Pulmicort Turbuhaler was introduced in early 1998, while Atacand was launched in October.

Astra's sales in *Canada* rose 13 percent in local currency, while the pharmaceutical market grew by 11 percent. Sales totaled SEK 2,147 (1,950) m. Astra's largest product in Canada is Losec, which had a market share of 59 (59) percent. Both Oxis Turbuhaler and Atacand were introduced in 1998.

Asia/Pacific Astra's sales in *Japan* totaled SEK 1,312 (1,834) m., a decrease of 26 percent in local currency. The sales decrease is mainly attributable to the divestment of Astra Japan's generics division at the end of 1997. Adjusted for this divestment, sales decreased by 8 percent in local currency. The pharmaceutical market contracted by 1 percent and was impacted by mandatory price reductions which averaged 4 percent for the total market. Xylocaine and Losec are Astra Japan's two largest products. The market share for Losec was 4 (5) percent.

Despite the economic crisis in Asia, Astra showed continued growth in most other markets in this region, including *China* (sales growth of 17 percent in local currency), *the Philippines* (17 percent), and *Taiwan* (16 percent). Astra's sales fell in *Thailand* and *South Korea*, among other markets. Astra's total sales in Asia outside Japan amounted to SEK 1,650 (1,725) m., corresponding to 3 (4) percent of the Group's sales.

Astra's sales in *Australia* amounted to SEK 1,724 (1,807) m., an increase of 8 percent in local currency. The pharmaceutical market grew by 10 percent. Astra is the largest pharmaceutical company in Australia. Both Losec and Pulmicort are market leaders in their respective therapeutic areas. Oxis Turbuhaler was launched during the second quarter.

Latin America Astra's largest markets in Latin America are *Brazil*, *Mexico* and *Argentina*. Astra's total sales in Latin America amounted to SEK 1,155 (1,050) m., an increase of 6 percent at constant exchange rates.

EARNINGS The Astra Group's pretax earnings rose 15 percent in 1998 to SEK 16,444 (14,305) m. Earnings were impacted by the new agreement with Merck. For comparable units, i.e., the situation according to the previous agreement between Astra and Merck, earnings rose 22 percent. Earnings were favorably affected by the agreements with Schering-Plough (described below). The Schering-Plough agreements increased operating earnings by SEK 1,293 m. Adjusted also for this effect, pretax earnings rose 13 percent.

Operating earnings rose 13 percent. For comparable units, operating earnings rose 17 percent, or 8 percent when adjusted for the agreements with Schering-Plough. Research and development expenditures rose 21 percent to SEK 10,600 (8,746) m. Total operating expenses, including depreciation, rose to SEK 43,327 (31,392) m., an increase of 19 percent for comparable units.

The Group's net financial income increased to SEK 1,201 (758) m. Net interest income was SEK 886 (818) m. Financial exchange rate gains/losses totaled SEK 315 (–60) m. and were affected by the weaker Swedish krona.

The Astra Group's effective tax rate was 28 (29) percent of pretax earnings. Consolidated net earnings rose to SEK 11,803 (10,201) m., or SEK 7.18 (6.21) per share, representing an increase of 21 percent for comparable

units. The new agreement with Merck had an initial dilutive effect of 5 percentage points on the Group's net earnings, in accordance with earlier estimations.

The Group's pretax profit margin was 29 (32) percent. Excluding the effects of the new agreement with Merck and the agreements with Schering-Plough, the profit margin for 1998 was 31 percent. The pretax return on capital employed was 25 (26) percent, and the after-tax return on equity was 26 (27) percent.

RESEARCH AND DEVELOPMENT In recent years Astra has carried out a substantial expansion and internationalization of its research and development operations. Since 1994, R&D expenditure has risen by an average of 25 percent per year. During the same period, the number of R&D employees has risen from approximately 3,500 to 6,400, expressed as yearly averages. Approximately 2,000 employees have completed formal research training and hold doctorates, and more than 50 researchers serve part-time as adjunct professors at various universities.

The principal objectives of Astra's research and development activities are to maintain and strengthen research as well as product development and commercial success in the Group's main areas—respiratory diseases, cardiovascular diseases, gastrointestinal diseases, pain control and central nervous system diseases—and to achieve commercial success in at least one new area during the next 10 to 15 years.

In 1998 a new R&D organizational structure was introduced at Astra to further focus and streamline activities. The new structure is aligned to Astra's therapy areas instead of the previous geographic structure.

Most of Astra's research and development work is conducted at five major research units—four in Sweden and one in the U.K. In addition, exploratory research is conducted at a number of smaller units in the U.S., Canada, India and Australia. To broaden and deepen its research activities, Astra also collaborates with prominent academic research centers and research companies in the biomedical field.

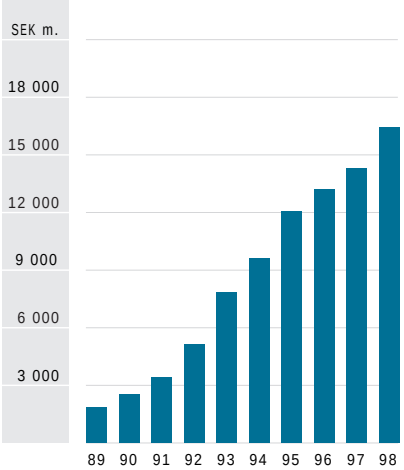
Astra is conducting a large number of R&D projects in various phases of development. Approximately 25 entirely new substances are in the clinical research phase. Additionally, considerable work surrounding clinical documentation of new indications, combination products and dosage forms related to new and established products is in progress. A large number of projects are in the early preclinical phase.

In the gastrointestinal diseases research area, high priority has been assigned to developing a successor to Losec. Preliminary results from short-term treatment of primarily reflux esophagitis (inflammation or ulceration of the esophagus) show that Astra's new-generation proton pump inhibitor, perprazole, demonstrates significant clinical superiority over Losec. Astra plans to file regulatory applications for the new product in 1999.

In the cardiovascular field, Astra is committing substantial resources to a number of promising projects focused on dissolving and preventing blood clots. In addition, Atacand—among other products—is being documented for the indication congestive heart failure.

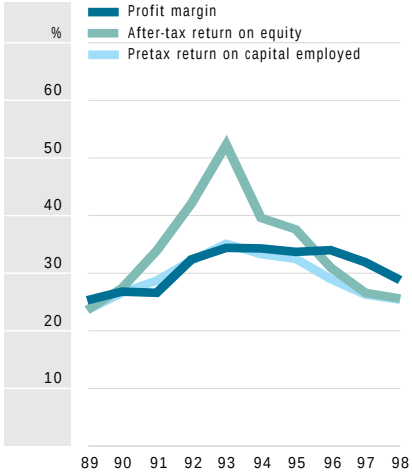
Research on respiratory diseases is focused mainly on new therapies for treating asthma—including new corticosteroids—and chronic obstructive pulmonary disease. In addition, development work is being carried out on new drug inhalation delivery systems. Astra's

PRETAX EARNINGS



Pretax earnings rose 15 percent in 1998. Adjusted for the new agreement with Merck and the agreements with Schering-Plough, the increase was 13 percent. The average annual increase in earnings during the ten-year period 1989–98 was 27 percent.

PROFITABILITY AND PROFIT MARGIN



Astra's pretax profit margin rose from 25 percent in 1989 to 29 percent in 1998. Excluding the effects of the new agreement with Merck and the agreements with Schering-Plough, the profit margin for 1998 would have been 31 percent. The return on stockholders' equity exceeded 50 percent in the extreme growth year of 1993, and since 1990 it has been above 25 percent.

application for registration of Pulmicort Turbuhaler is currently under review by the regulatory authorities in Japan.

In the area of pain control Astra is developing a new dental gel for use in cleaning gingival pockets. A new type of cell therapy is being evaluated for severe cancer pain. Long-term research is focused primarily on new substances with interesting properties related to the management of various types of chronic pain.

Astra is conducting extensive research in the area of CNS diseases. A large number of projects are being evaluated in the clinical development phase, including new substances for stroke, epilepsy, Parkinson's disease and multiple sclerosis (MS).

More detailed descriptions of research in the major product groups appear on pp. 24–40. An overview of the Astra Group's most important projects in the clinical development phase appears on pp. 22 and 23.

NEW AGREEMENT WITH MERCK Effective July 1, 1998, Astra reached an agreement with Merck & Co., Inc., pertaining to the U.S. market. The agreement gave Astra management control of the operations in the U.S. and effected the combination of the operations of the previously half-owned company Astra Merck, Inc., and the wholly owned subsidiary Astra USA, Inc., in a new, limited partnership controlled by Astra, Astra Pharmaceuticals, L.P. Under the agreement, Astra achieved strategic freedom and the right to buy out Merck's rights to all products, except Prilosec (omeprazole) and perprazole, in 2008, 2012 or 2016. Astra has the right to purchase Merck's rights to Prilosec and perprazole in 2017.

Under the new agreement, Merck will receive income based on sales in the U.S. of certain current and pipeline Astra products until at least 2008. The sales-related compensation paid to Merck for Prilosec is approximately 30 percent of sales for the product. The sales-related compensation for perprazole will be lower. The average payment for all other products is expected to be approximately 15 percent of related product sales, with a gradual decrease over time.

The cash payment for the acquisition of Merck's rights in 2008, 2012 or 2016, if exercised, will be based on a multiple of the prior three-year average of contingent payments received by Merck for all products except Prilosec and perprazole, but will be no less than USD 4.4 bn. in 2008.

If Astra merges with or is acquired by another company, according to the agreement such event would constitute a "Trigger Event," and Merck has the right to receive ongoing income from sales of then current and pipeline products, but Merck's right to income from compounds subsequently discovered or acquired will terminate and Merck will have no rights to payments with respect to the products of the company that merges with or acquires Astra. As compensation for the release of certain claims, Merck would then also be entitled to a payment of USD 675 m. to USD 1.5 bn., depending on the size of Astra's and the other company's research and development expenses, plus, as compensation for the termination of the Astra product flow, a payment of a part of the 2008 purchase price. Merck will also have the right to put its rights to all products except Prilosec and perprazole to Astra in 2008 at a higher minimum amount. If Merck does not exercise this right in 2008, Astra gains the right to purchase the corresponding product rights in 2010. In addition, Astra's rights to purchase Merck's rights to Prilosec and perprazole will become exercisable two years after the exercise of the right by Merck in 2008, or of the right by Astra in 2010. Also, in 2008 Merck will be required to repay a USD 1.4 bn. loan made by Astra to Merck on July 1, 1998, in connection with the new agreement with Merck.

Astra expects that the combination of Astra Merck and Astra USA will create opportunities to market the two companies' products more effectively, which is expected to create revenue synergies. Also, the combination is expected to lead to annual cost-savings of approximately SEK 800 m. (approximately USD 100 m.) by the year 2000.

On the whole, the changes in the Merck agreement—following a modest initial dilution—are expected to be accretive to Astra Group net earnings from the year 2000.

For additional information on the restructured Merck agreement, see p. 64. Full details on the consequences of a Trigger Event are presented in a separate Merger Document and in Zeneca's Registration Statement on Form F-4 filed with the U.S. Securities and Exchange Commission, both dated January 1999.

As a result of the restructured agreement with Merck, Astra Merck's rights to the beta-blocker bucindolol—in phase III studies—were returned to Intercardia Inc.

OTHER AGREEMENTS In December, Astra reached two agreements with Schering-Plough Corporation. As of January 1, 1999, Astra reacquired all rights to market omeprazole under the Losec trademark and felodipine under the Prevex and Perfudal trademarks in Italy and Spain. Astra will be making cash payments to Schering-Plough based on sales levels attained by Astra. These payments are expected to amount to approximately USD 800 m. (approximately SEK 6.4 bn.), to be paid in installments over at least a five-year period. The agreement enables Astra to maintain and further develop its market-leading position in the gastrointestinal area and resolves a disagreement concerning the interpretation of the previous licensing agreement between Astra and Schering-Plough. Under a separate agreement, Schering-Plough acquired an extension and widening of its marketing rights in the U.S. with respect to Imdur. Pursuant to this agreement, Astra received a payment of USD 200 m. (approximately SEK 1.6 bn.). The net effect of these agreements impacted Astra's operating earnings in 1998 by SEK 1,293 m.

In October Astra signed a collaboration agreement with the British genomics research company Oxagen Ltd. aimed at identifying hereditary causes behind the development of atherosclerosis. The research program is being conducted in collaboration with clinical research centers in the U.K., Sweden, Germany and Italy. The collaboration agreement has a term of five years and entails a commitment by Astra to pay for research support plus royalties on future products.

Also in October, Astra signed a licensing agreement with the French research company NicOx SA pertaining to NO-NSAIDs (nitric oxide nonsteroidal anti-inflammatory drugs). Under the agreement, Astra has gained exclusive worldwide rights, excluding Japan (semi-exclusive), to develop and market NO-NSAIDs in the area of pain and inflammation. Astra will cover all costs for clinical development plus royalties on future products.

During the year Astra chose the second and final pharmaceutical substance within the framework of the research collaboration initiated in 1994 with the Japanese pharmaceutical company Takeda. The substance, seratrodast—a thromboxane antagonist—is a potential drug for treatment of asthma and/or chronic obstructive pulmonary disease. Astra is currently evaluating its collaboration with Takeda on seratrodast due to an unclear risk-benefit situation with respect to this substance.

During the third quarter Astra returned all rights pertaining to ALX1-11, a recombinant parathyroid hormone (PTH) for treatment of osteoporosis, to Allelix Biopharmaceuticals, Inc., Canada.

PATENT CONFLICTS During the second quarter of 1998, Astra filed lawsuits in the U.S. against Andrx Pharmaceuticals, Inc., and against Genpharm, Inc., for patent infringement. The lawsuits are a result of Abbreviated New Drug Applications (ANDAs) filed by Andrx and Genpharm with the FDA concerning the two companies' intent to market generic omeprazole (Prilosec/Losec) products in the U.S. The basis of Astra's complaints is that the actions of Andrx and Genpharm infringe upon several patents which provide protection until at least 2001. In early 1999 Astra also filed suit against the companies Kremers Urban Development Company and Schwarz Pharma Inc., in the U.S., on similar grounds.

In Germany, the Supreme Court announced in December that it will review the German patent court's invalidation of a previously granted Supplementary Protection Certificate (SPC) for the period 1999–2003 for the substance patent for omeprazole (Losec).

YEAR 2000 Astra is conducting a Group-wide project to prevent operational disruptions related to the changeover to the year 2000. The project involves computer-based software and systems within Astra as well as at companies with which Astra has significant business contacts, and is broken down into six phases:

(1) inventorying IT and technical systems and microprocessors;

(2) assessing remediation and replacement requirements and the associated costs for date-sensitive systems and equipment;

(3) remediation and replacement of date-sensitive systems and equipment;

(4) testing of remediated or replaced date-sensitive systems;

(5) assessment of the state of readiness and Year 2000 compliance of significant business contacts; and

(6) establishment of preventative and contingency plans for the operations.

Astra estimates the external costs for its Year 2000 project, excluding payroll costs and other internal costs, to be approximately SEK 300 m. As far as Astra can tell today, there are no date-sensitive systems—which could give rise to material problems—that cannot be remediated or replaced. Even though the risk for disruptions cannot be ruled out, in the Company's opinion neither its ordinary business activities nor deliveries to customers will be materially affected. A detailed account of the project, including costs, risks and contingency plans, is provided on p. 69.

THE BOARD OF DIRECTORS AND ITS WORK

Astra's board consists of ten directors elected by the Annual Meeting, and two directors and two deputies elected by the labor unions. The president and CEO is one of the directors elected by the Annual Meeting. Aside from the union representatives, he is the only director who is employed by the Company. Astra's general counsel serves as the company secretary.

The Board had 8 (7) meetings in 1998. In connection with one of the year's meetings, a study visit was paid to Astra's subsidiary in Dunkirk, France. Another meeting was followed by a detailed presentation of Astra's research activities.

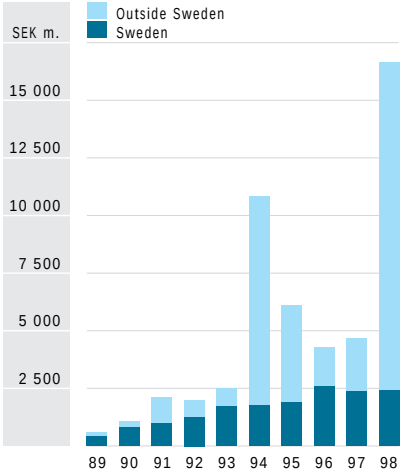
Nomination of directors prior to Astra's Annual Meeting is handled through contacts with the major stockholders and is coordinated by the largest stockholder, Investor AB.

With respect to auditing matters, Astra's independent auditors report to the Board as a whole.

Matters concerning salaries and remuneration for members of the executive management are handled by a compensation committee, consisting of Bo Berggren, Marcus Wallenberg and James M. Denny. Claes Dahlbäck was a member of the compensation committee until year-end 1998, after which he was succeeded by James M. Denny.

CAPITAL EXPENDITURES Astra's continued fast rate of growth requires major capital expenditures in plants in Sweden as well as abroad. Capital expenditures are primarily related to increased capacity need in production and the continued buildup of the international R&D operations.

CAPITAL EXPENDITURES



Total capital expenditures in 1998 amounted to SEK 16.7 bn. Capital expenditures during the year included SEK 11.4 bn. in acquired assets in the U.S., of which SEK 7.2 bn. was goodwill. Capital expenditures in 1994 included SEK 8.1 bn. in intangible rights in the U.S. and Japan. In 1995, capital expenditures included SEK 2.4 bn. pertaining to the acquisition of R&D operations, including facilities, in the U.K. and the U.S.

CAPITAL EXPENDITURES BY FUNCTION (SEK m.)	1998	1997
Research and development	1,918	1,527
Production	2,158	1,970
Marketing and other	12,592	1,153
TOTAL	16,668	4,650

Investments in buildings amounted to SEK 1,993 (1,753) m., while investments in machinery and equipment totaled SEK 3,103 (2,484) m. In addition, in connection with the formation of Astra Pharmaceuticals, L.P., Astra acquired assets in the U.S. worth a total of SEK 11,354 m., including SEK 7,170 m. in goodwill. Total capital expenditures in Sweden amounted to SEK 2,401 (2,349) m. The Parent Company's total capital expenditures, including shares in subsidiaries, amounted to SEK 11,047 (2,493) m.

Major ongoing projects In Södertälje, Sweden, and in Dunkirk, France, two investment projects for the expansion of production capacity for Turbuhaler are under way. The total cost of these projects is estimated to amount to SEK 1,200 m. In Södertälje, two projects have been initiated to create resources that will ensure product supply of current and future tablet products. The projects are estimated to have a total cost of SEK 1,800 m. The first phase of the projects is expected to be completed in 1999, and the remainder will be put in operation in 2001. In 1998 a decision was made to construct a substance plant in Dunkirk. The aim is to create sufficient manufacturing capacity to cover the market's need from the year 2000 onwards. The project is estimated to cost approximately SEK 1,000 m. A new plant in China is also under construction. The approved investment covers buildings and machinery. The plant is scheduled for completion in the year 2000. The cost of this project is estimated to amount to approximately SEK 900 m.

In research and development, construction is in progress of a new research facility in the Boston area, worth approximately SEK 850 m. At Astra Charnwood in the U.K. a development laboratory and a pharmaceutical and analytical laboratory are being built. The total cost of these projects is estimated to amount to SEK 1,200 m.

FINANCIAL POSITION Astra's financial position is very strong. Liquid assets at year-end 1998 amounted to SEK 22,473 (24,479) m., of which approximately 69 percent were in foreign currency.

The equity ratio at year-end 1998 was 72 (74) percent. Astra's total borrowing amounted to SEK 933 (1,282) m. Astra's treasury operations are described separately on pp. 17–19.

APPROPRIATION OF EARNINGS IN THE PARENT COMPANY As a result of the differing dividend payment profiles of Astra and Zeneca, Astra's dividend for the 1998 fiscal year will be equalized with Zeneca's second interim dividend for 1998, as set forth in the Merger Document and in Zeneca's Registration Statement on Form F-4 filed with the U.S. Securities and Exchange Commission.

A dividend of SEK 1.90 (1.80) per share has been proposed for Astra for 1998. The record date for payment of the dividend will be April 9, 1999.

If conversion to AstraZeneca shares takes place prior to the record date, Astra stockholders who have accepted the offer will receive a dividend corresponding to 28 pence per AstraZeneca share, and Astra stockholders who have not accepted the offer will receive the proposed dividend of SEK 1.90 per share from Astra.

Available for appropriation by the Annual Meeting:

Retained earnings from fiscal year 1997	SEK 14,520 m.
Net earnings for the year	SEK 11,127 m.
TOTAL	SEK 25,647 m.

The Board of Directors proposes the following appropriation of earnings:

Dividend to stockholders, SEK 1.90 per share	SEK 3,122 m.
To be transferred to retained earnings	SEK 22,525 m.
TOTAL	SEK 25,647 m.

Following the proposed appropriation of earnings, the Parent Company's stockholders' equity will consist of:

Capital stock	SEK 2,054 m.
Statutory reserve	SEK 799 m.
Retained earnings	SEK 22,525 m.
TOTAL	SEK 25,378 m.

The Group's unrestricted stockholders' equity amounted to SEK 44,739 m. at year-end 1998.

Information about the Group's and Parent Company's earnings and financial position appears on pp. 49–67. An account of the treasury operations, Astra shares, and developments in the major product groups and in the environmental and human resources areas, is provided on pp. 17–44.

Södertälje, Sweden, February 16, 1999

BO BERGGREN
Chairman of the Board

BJÖRN BJÖRNSON | CHARLES L. COONEY | CLAES DAHLBÄCK

JAMES M. DENNY | HARRY FAULKNER | ERNA MÖLLER

LARS RAMQVIST | CARINA SÖRENSEN | LARS H. THUNELL

MARCUS WALLENBERG

HÅKAN MOGREN
President and CEO

Our Auditors' Report was issued on February 26, 1999.

BO MAGNUSSON
Authorized Public Accountant

SVANTE FORSBERG
Authorized Public Accountant

TREASURY OPERATIONS

ASTRA'S TREASURY OPERATIONS Astra's treasury operations have gained in importance in pace with the Group's internationalization and rapid growth. The aim is to support the daily business activities by managing the Group's liquidity and financing and to work to reduce the negative effects of financial risks. Treasury operations are conducted centrally in the Group in accordance with a policy approved by Astra's board of directors. This policy stipulates how the treasury operations are to be managed with respect to foreign exchange risks, interest-rate risks, credit risks and liquidity risks.

Foreign exchange risk Foreign exchange risk is defined as *transaction risk*, i.e., the risk of the Group's commercial flows being negatively impacted by a change in exchange rates for foreign currencies against the Swedish krona, and *balance sheet risk*, i.e., the risk of net monetary assets in foreign currencies acquiring a lower value when translated to Swedish kronor as a result of currency movements.

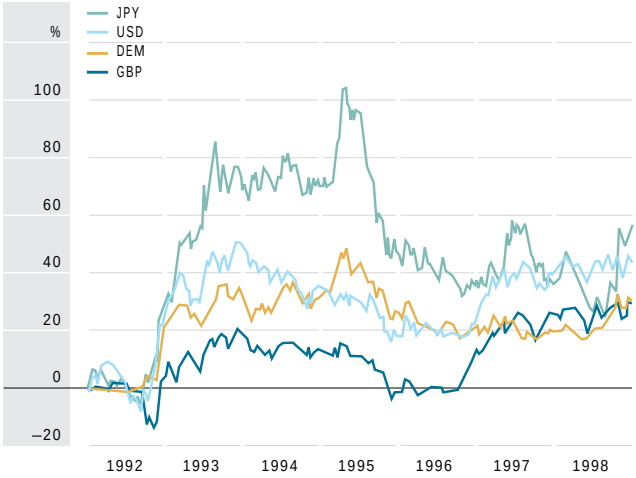
Transaction exposure

Of the Group's total sales, 96 (94) percent are in markets outside Sweden. A substantial portion of production is based in Sweden, which entails that major flows received in foreign currencies are exchanged to Swedish kronor. The most important foreign exchange relationship is thus between foreign currencies and Swedish kronor.

Management of the transaction exposure is centralized through the following measures:

- the Group's invoicing and purchasing are coordinated in each currency;
- producing companies invoice in the currency of the respective marketing companies;
- payments coming in and going out from the company in each currency are coordinated via Astra's netting system to a specific payment day in order to achieve optimal netting per currency;
- net exposure is hedged through forward contracts and currency swaps for a maximum of three months, which corresponds to approximately 25 percent of the forecasted 12-month flow.

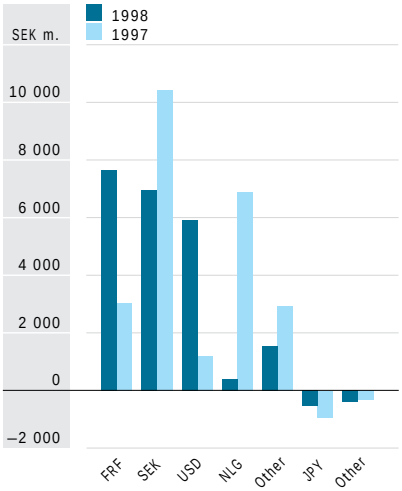
DEVELOPMENT OF IMPORTANT CURRENCIES IN RELATION TO SEK



From the date on which the Swedish krona was allowed to float in late 1992, the most important currencies for Astra have strengthened considerably in relation to the krona.

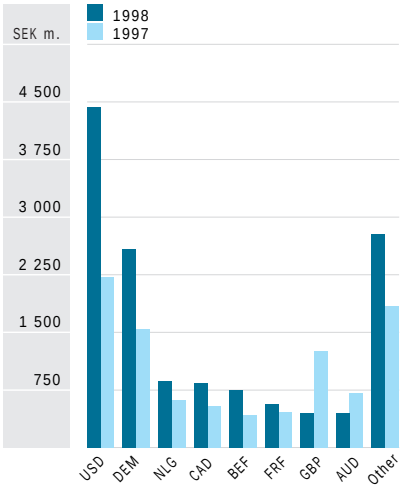
Movements in the currency markets were significant in 1998. The difference between the Swedish krona's strongest and weakest levels against the D-mark during the year was approximately 15 percent, while it was 10 percent against the U.S. dollar, 25 percent against the yen, and about 11 percent against sterling. The Swedish krona weakened by about 10 percent against the D-mark, by about 3 percent against sterling, by about 2 percent against the dollar, and by about 18 percent against the yen.

LIQUID ASSETS AND LOANS PER CURRENCY



The Group's liquid assets totaled SEK 22.5 bn. at year-end. Loans amounted to SEK 0.9 bn. at year-end.

CURRENCY FLOW



The Group's commercial currency flow, net before currency hedging, was SEK 13.7 bn. in 1998.

Balance sheet translation exposure
The balance sheets and statements of earnings of foreign subsidiaries are translated into Swedish kronor. Net monetary assets in foreign currencies represent a risk exposure, since exchange rate differences can impact translation to Swedish kronor. Astra's Treasury operations strive to minimize balance sheet exposure in the respective subsidiaries by achieving a balance between assets and liabilities. Astra thereafter hedges approximately 90 percent of its remaining translation exposure.

Interest-rate risk Management of the Group's liquid assets and loans is coordinated centrally. The liquidity of major subsidiaries is managed in cash pools, i.e., coordination of the subsidiaries' bank account balances. Interest-rate risk, i.e., the risk that a change in interest rates will have a negative impact on consolidated earnings, is managed through changes of durations in the portfolio. The Group's liquid assets are invested in the Swedish and foreign capital markets over the short and long term. Adjustments in the interest-bearing portfolio are made on a regular basis. The result of the Group's liquidity management is measured against an established market index. The average yield of the Group's liquid assets was 4.6 (4.3) percent. At year-end the average time to maturity for these investments was 156 days.

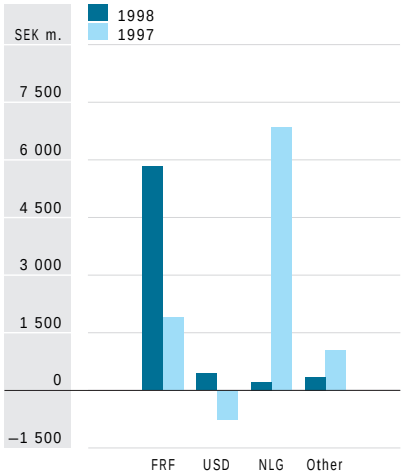
Credit risk Credit risk, i.e., the risk that invested liquid assets would be lost as a result of a counterparty's inability to pay, is managed and assessed centrally in accordance with criteria established by the credit rating firms Moody's and Standard & Poor's. Risk coverage is achieved by allowing only investments in liquid securities and only with counterparties that have the highest credit ratings. Of total liquidity, 84 percent is managed centrally by Astra's Treasury operations.

Liquidity risk Liquidity risk involves the risk of the Group not being able to utilize its liquid assets to meet liquidity needs that may arise. This risk is reduced by investing in liquid instruments.

SENSITIVITY ANALYSIS Astra's management of foreign exchange and interest-rate risks aims to reduce the impact of short-term fluctuations in the currency and fixed-income markets on the Group's earnings. Over the longer term, permanent changes in exchange rates and interest rates would have an impact on consolidated earnings.

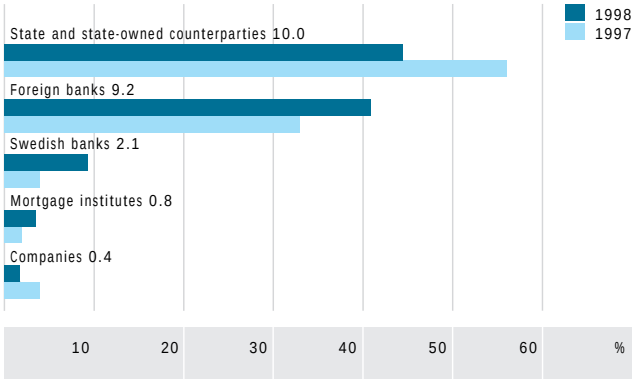
A general change in the value of the Swedish krona of one percentage point against other currencies would affect full-year pretax earnings by SEK 90–110 m. The Group's currency hedges have been taken into account in this calculation.

BALANCE SHEET NET MONETARY ASSETS



Total net monetary assets before currency hedging amounted to SEK 6.8 bn. at year-end. The balance in Dutch guilders (NLG) has been sharply reduced due to the fact that liquidity coordination has been centralized in Sweden.

INVESTMENTS PER COUNTERPARTY DECEMBER 31
In total, SEK 22.5 bn.



Astra's credit risk is managed by investing in liquid assets with counterparties with the highest credit ratings.

MARKET RISK—FINANCIAL INSTRUMENTS

Currencies The Group's currency exposure is hedged through financial instruments in the form of forward contracts and currency swaps. Of the total foreign currency exposure, i.e., the sum of transaction exposure and balance sheet exposure, 54 percent was hedged at year-end for terms of less than six months.

The notional principal amount of financial instruments amounted to SEK 11,490 m. A general change in the value of the Swedish krona of 10 percent would entail a SEK 1,149 m. change in the value of the financial instruments. This change would be offset by a converse effect on the underlying foreign currency exposure that these instruments are intended to hedge.

Interest rates The Group's liquid assets amounted to SEK 22,473 m. at year-end 1998, of which SEK 10,695 m. consisted of short-term investments in interest-bearing financial instruments with durations longer than three months. These investments are handled through active management.

A general change of 1 percentage point in overall interest rates would affect the fair value of these financial instruments by SEK 60 m.

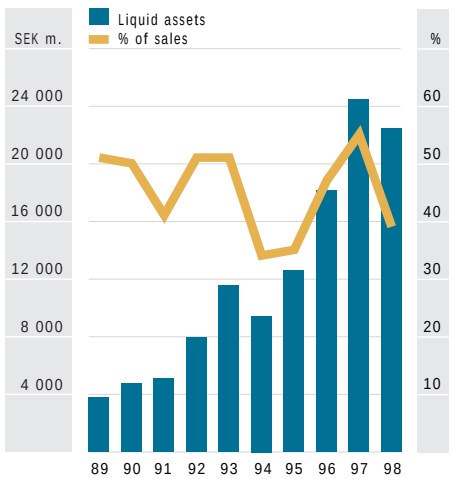
INTRODUCTION OF THE EURO European Economic and Monetary Union took yet another important step at the start of 1999. At year-end 1998 it was decided which exchange rates would apply between the national currencies and the new currency, the euro. The countries participating from the start are Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

Astra has been making preparations for several years in that affected functions and subsidiaries together have decided to what extent the euro will be used.

Since Sweden is not one of the participating countries, Astra must (in accordance with Swedish law) continue to prepare its consolidated accounts in Swedish kronor. Astra's subsidiaries in the participating countries began reporting in euros on January 1, 1999. In the national accounting, some subsidiaries will be reported from the onset in euros, while others will wait until national conditions make this more feasible due to tax rules, reporting to authorities, etc.

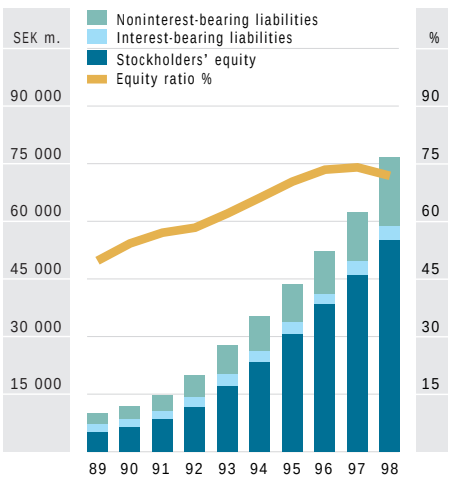
Astra does not expect that the introduction of the euro will entail any material changes in the Company's foreign exchange risk in the near term.

LIQUID ASSETS



Astra's extensive capital expenditure program in recent years has been entirely self-financed. Despite this, Astra's liquid assets have been maintained at a high level.

LIABILITIES AND STOCKHOLDERS' EQUITY



Astra's rapid growth has been achieved without any actual increase in interest-bearing liabilities. The equity ratio strengthened gradually during the past ten years, from 48 to 72 percent.

ASTRA SHARES

Astra has issued 1,643,223,562 shares, 81 percent of which are Class A and 19 percent Class B. Each A-share carries entitlement to one vote, while each B-share carries entitlement to one-tenth of a vote. In other respects there is no difference between the share classes. The shares have a par value of SEK 1.25 each.

Astra shares are listed on the Stockholm, London and New York stock exchanges. Astra shares are listed on the New York Stock Exchange in the form of American Depositary Receipts (ADRs). The Bank of New York is the depositary bank. At year-end 1998 approximately 90 (100) million depositary receipts had been issued, of which about 81 (92) million were for Class A shares.

Approximately 1.4 billion Astra shares, worth approximately SEK 204 bn., were traded on the Stockholm Stock Exchange in 1998, making Astra's shares the second most actively traded issue in terms of value. On the New York Stock Exchange, 72 million ADRs were traded, for a value of approximately USD 1.4 bn. Astra's market capitalization at year-end was SEK 272 (225) bn.

STOCKHOLDERS Astra had approximately 256,400 stockholders at year-end 1998. Swedish and international institutions held roughly 87 percent of the capital and 88 percent of the votes. Foreign ownership in Astra at year-end accounted for about 39 percent of the capital and about 38 percent of the votes.

DIVIDEND POLICY Astra's Board of Directors has as its goal that, over the long term, the size of the dividend shall be geared to Astra's growth in earnings.

PER-SHARE DATA*

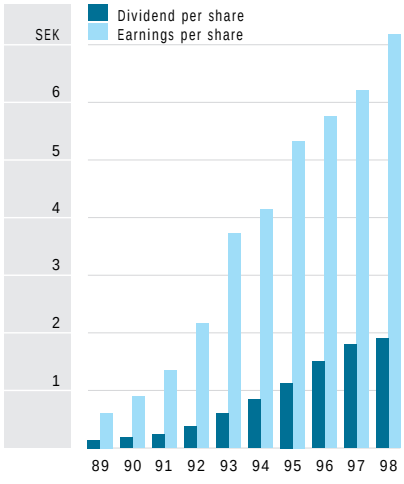
	1994	1995	1996	1997	1998	Average five-year increase (%)
Net earnings, SEK	4.14	5.33	5.75	6.21	7.18	14
Dividend, Class A and B (for 1998, proposed), SEK	0.84	1.13	1.50	1.80	1.90	26
Market price, year-end, Class A, SEK	72	99	126	138	166	19
Class B, SEK	71	98	123	134	165	19
Stockholders' equity, SEK	14	19	23	28	33	26
Price/earnings multiple	17	19	22	22	23	–

* All values have been adjusted for previous years' stock dividends and splits.

SHARES AND VOTES, DECEMBER 31,1998

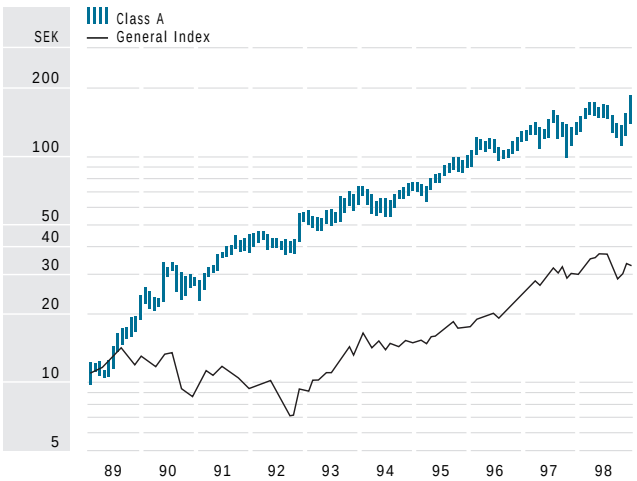
Class of share	Number of shares	% of total number of shares	% of total number of votes
Class A	1,337,448,266	81.4	97.8
Class B	305,775,296	18.6	2.2
TOTAL	1,643,223,562	100.0	100.0

DIVIDEND AND EARNINGS PER SHARE



During the past ten-year period, earnings per share rose by an average of 32 percent per year, while the dividend rose by an average of 33 percent per year.

PRICE TREND OF ASTRA SHARES, STOCKHOLM STOCK EXCHANGE
(High/low buying price per month)



During the period 1989–98, the market price of Astra's Class A stock rose by an average of 31 percent per year. The corresponding increase for the general index was 12 percent.

CHANGES IN CAPITAL STOCK, 1989–98

The growth in capital stock and number of shares in recent years is as follows:

1989	Dividend 1:4	SEK 226 m.
1991	Dividend 1:3	SEK 376 m.
1991	Conversion	SEK 4 m.
1992	Conversion	SEK 9 m.
1993	Split 5:1	–
1993	Conversion	SEK 1 m.
1994	Conversion	SEK 23 m.
1997	Dividend 1:3	SEK 513 m.
1997	Split 2:1	–

OWNERSHIP STRUCTURE

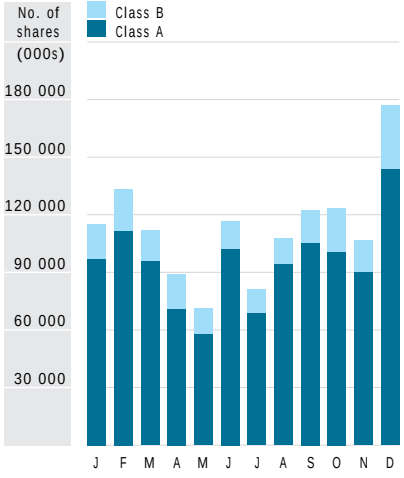
Shareholding	% owners	% shares	Number of owners
1 – 1,000	84.8	3.0	217,449
1,001 – 10,000	13.4	5.9	34,416
10,001 – 50,000	1.3	4.3	3,384
50,001 – 100,000	0.2	2.0	461
100,001 –	0.3	84.8	738
TOTAL	100.0	100.0	256,448

ASTRA'S LARGEST STOCKHOLDERS, DECEMBER 31, 1998*

	Number of A-shares	Number of B-shares	% of capital stock	% of total number of votes
Investor	176,572,497	4,630,603	11.0	12.9
Swedish National Pension Insurance Fund, Fourth Fund Board	77,471,466	–	4.7	5.7
Robur mutual funds	49,525,266	16,285,307	4.0	3.7
SPP	47,134,260	15,754,692	3.8	3.6
AMF (Labor Market Pension Insurance)	29,796,000	5,200,000	2.1	2.2
Trygg-Hansa Insurance	28,424,300	–	1.7	2.1
SEB/Trygg/ABB mutual funds	26,272,809	936,566	1.7	1.9
Skandia	18,230,180	12,017,574	1.8	1.4
Handelsbanken mutual funds	17,788,500	435,500	1.1	1.3
Nordbanken mutual funds	10,400,600	23,834,532	2.1	0.9
Labor Market Disability Insurance	12,295,000	3,965,666	1.0	0.9

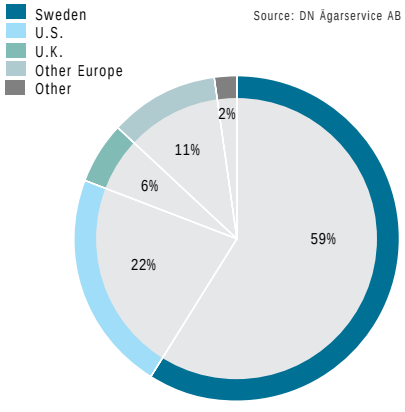
* Direct-registered Swedish shareholdings according to the Swedish Securities Register Center (VPC AB).

MONTHLY TRADING VOLUME OF ASTRA SHARES ON THE STOCKHOLM STOCK EXCHANGE 1998



The Stockholm Stock Exchange is the largest trading center for Astra shares. Approximately 1.4 billion Astra shares were traded in 1998.

ASTRA SHARES AROUND THE WORLD DECEMBER 31, 1998



Fifty-nine percent of Astra's shares are registered with owners in Sweden.

ASTRA'S RESEARCH AND DEVELOPMENT—AN OVERVIEW

Astra is conducting a vast number of research projects in various phases of development. Some 25 entirely new substances are in the clinical research phase. In addition, extensive work is in progress concerning clinical documentation of new indications, combination products and dosage forms for new as well as established products. A large number of projects are in the early preclinical phase. The R&D activities are described in more detail in the sections on the respective product groups.

The clinical development of a new pharmaceutical substance can be broken down into different phases:

- IND (Investigational New Drug) = an application for permission to administer a new drug to humans;
- Phase I: efficacy studies on healthy volunteers (50–150 persons);
- Phase II: clinical studies on a limited number of patients (100–200 patients);
- Phase III: comparative studies on a large number of patients (500–5,000 patients);
- NDA (New Drug Application) = an application for permission to market a new drug.

As a rule these studies require between 3 and 6 years to carry out. When Phase III studies have been concluded a New Drug Application is submitted to the pharmaceutical regulatory authorities in various countries. The review of an NDA takes between 1 and 3 years.

Once a drug has been registered and introduced on the market, continued comparative studies are carried out (phase IV).

The overview at right shows Astra's projects in advanced clinical phases, i.e., phase II and phase III. A large number of projects are being pursued in earlier development phases, i.e., in preclinical research and phase I.

PHASE II

SUBSTANCE	INDICATION	PHASE
AR-C68397	Chronic obstructive pulmonary disease	II
AR-C69931—platelet aggregation inhibitor	Unstable angina	II
AR-R15896—NMDA-receptor antagonist, neuroprotective agent	Stroke	II
ATM 027—selective immunotherapy	MS	II
Cell Therapy—encapsuled cell therapy	Analgesia	II
H 376—oral thrombin inhibitor	Venous thrombosis	II
H 327—immunomodulator	Atherosclerosis	II
LEF—peripherally active agent	Analgesia	II
LTA	Analgesia	II
Melagatran—thrombin inhibitor	Venous thrombosis	II
Mosapride—motility stimulating substance	Dyspepsia	II
NXY 059—neuroprotective agent	Stroke	II
Robalzotan—$5HT_{1A}$ receptor antagonist, serotonin modulator	Depression	II
Rofleponide palmitate—novel inhalation steroid	Asthma	II

PHASE III

SUBSTANCE	INDICATION	PHASE
Colazide—5-ASA	Ulcerative colitis	Launch / III
Dental gel	Analgesia for cleaning of gingival pockets	III
Entocort—corticosteroid	Inflammatory bowel diseases	Launch / III
Oxis Turbuhaler—long-acting bronchodilator	Asthma	Launch / II–III
Perprazole	Peptic ulcer / GERD	III
Remacemide—NMDA-receptor antagonist, neuroprotective agent	Epilepsy / Parkinson's disease	III / II
Symbicort—combination of budesonide and formoterol	Asthma, chronic obstructive pulmonary disease	III
Zendra—neuro-protective agent	Stroke	III

Positive preliminary clinical results for Astra's new-generation proton pump inhibitor. First country launches for Losec MUPS

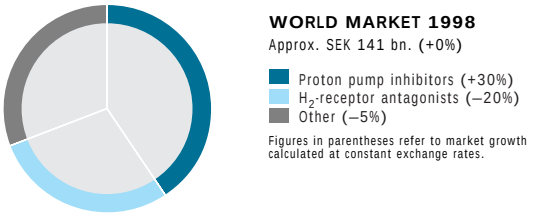
GASTROINTESTINAL

Acid-related disorders, such as peptic ulcer and gastroesophageal reflux disease (GERD), are common medical problems. Between 5 and 10 percent of the world's population suffer at some point in life from peptic ulcer disease, i.e., duodenal or gastric ulcers. Even more common is gastroesophageal reflux disease, heartburn, and inflammation and ulceration of the esophagus (reflux esophagitis). In the Western world, for example, 20–40 percent of the adult population experience heartburn at least once a month.

Infections caused by the *Helicobacter pylori* bacterium, combined with gastric acid, are a significant causal factor in the development of peptic ulcer disease. This discovery has opened new opportunities to cure peptic ulcer disease in most patients. *H. pylori* is also a risk factor for stomach cancer.

For other types of acid-related disorders, such as reflux esophagitis, there is no certain connection with *H. pylori*. The number of patients receiving treatment for reflux esophagitis is expected to continue growing due to the aging population and rising awareness of the disease and the availability of effective treatment. The use of nonsteroidal anti-inflammatory drugs (NSAIDs) in the treatment of rheumatoid arthritis and degenerative joint disease often leads to the development of peptic ulceration in patients. NSAID-associated peptic ulcer is particularly common among elderly patients.

Inflammatory bowel diseases are another major medical problem. Effective treatment opportunities for conditions such as Crohn's disease and ulcerative colitis have previously been lacking. The world market for drugs to treat inflammatory bowel diseases grew by 15 percent in 1998, at constant exchange rates, to approximately SEK 6 bn.



The world market for drugs used in the treatment of acid-related diseases consists mainly of proton pump inhibitors (such as Losec) and the older-generation peptic ulcer medication, H_2-receptor antagonists. Proton pump inhibitors are gaining at the expense of H_2-receptor antagonists.

MAJOR PRODUCTS *Losec* (omeprazole), a proton pump inhibitor, has since its introduction in the first countries in 1988/89 resulted in improved treatment of acid-related diseases compared with the older H_2-receptor antagonists. A large number of clinical studies have shown that Losec provides more rapid resolution of symptoms and heals ulceration in a greater number of patients suffering from peptic ulcer and reflux esophagitis. In addition, long-term treatment with Losec is more effective in preventing recurrence of reflux esophagitis. Losec has been approved in some 100 countries for short-term treatment of peptic ulcer and reflux esophagitis, and in about 40 countries for long-term treatment of these diseases. The use of Losec in combination with one or more antibiotics has been approved in some 40 countries for management of *H. pylori*–positive duodenal ulcer disease and *H. pylori*–positive gastric ulcer disease. The product has also been approved in some 30 countries for management of symptomatic gastroesophageal reflux disease (heartburn and other ailments of the lower esophagus), and in some 10 countries for treatment of dyspepsia (discomfort in the upper gastrointestinal tract without ulceration or inflammation).

Omeprazole, the active substance in Losec, is covered by substance patents which, in the first countries—mainly Australia and Canada—will begin to expire in 1999. In most countries Astra has been granted Patent Term Extensions and Supplementary Protection Certificates (SPC). This extended coverage is valid in the U.S. until 2001, in most European countries until 2002–2004, and in Japan until 2004. In Germany, the Supreme Court will be ruling on the validity of Astra's SPC. The product is also protected by additional patents directed to formulation, use, intermediates and processes, which expire in most markets between 2005 and 2016.

Entocort (budesonide), a corticosteroid, is used for treatment of inflammatory bowel diseases, such as Crohn's disease and ulcerative colitis. Entocort has been developed in two dosage forms for treatment of diseases in different areas of the gastrointestinal tract. Entocort enema, for rectal administration in the treatment of ulcerative colitis, has been introduced in approximately 25 countries. Entocort capsules, for treatment of Crohn's disease, are marketed in about 20 countries.

OPERATIONS 1998 Sales of Losec are rising the fastest in the U.S., where the product is marketed under the name Prilosec. Sales growth was 35 percent for comparable units. The market share increased to 46 (38) percent. In Europe, Losec is the market-leading antipeptic ulcer medication with a market share of 45 (44) percent. Sales growth for Losec in Europe was 11 percent and was partly affected by parallel trade. Sales in Japan decreased by 26 percent in local currency, as a result of mandatory price reductions, among other things. The market share was 4 (5) percent. Total sales

R&D

The R&D organization is Astra's lifeblood. New, exploitable research ideas are a prerequisite for the Company's development. Over the years, Astra has brought many novel drugs to market from its own research. Some have represented breakthroughs in health care, such as the local anesthetic Xylocaine and the major medical success of recent years, Losec—today the largest selling drug in the world—for treatment of acid-related diseases such as peptic ulcer and gastro-esophageal reflux disease (GERD).

of Losec in the world market amounted to SEK 40,600 (32,000) m., making Losec the largest selling pharmaceutical in the world. The total market share for Losec in the world market is estimated at 41 (36) percent.

Losec gained approval in some ten countries for treatment of dyspepsia. Losec MUPS, a new tablet formulation that offers patients additional benefits, was launched in the first countries, including Sweden, Denmark and Germany. At year-end 1998 Losec MUPS had been introduced in a total of six countries.

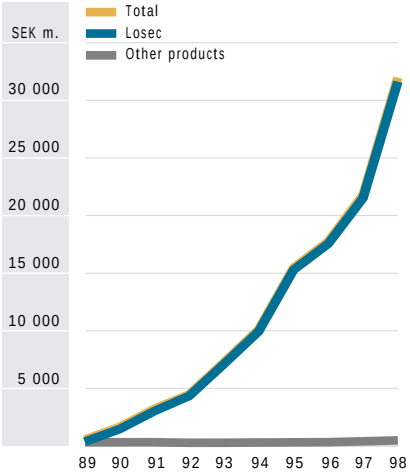
Astra filed lawsuits in the U.S. against Andrx Pharmaceuticals, Inc. and Genpharm, Inc., for patent infringement. The lawsuits are a result of Abbreviated New Drug Applications (ANDAs) filed by Andrx and Genpharm with the FDA concerning the two companies' intent to market generic omeprazole products in the U.S. The basis of Astra's complaints is that the actions of Andrx and Genpharm infringe upon several other patents which provide protection until at least 2001. In early 1999 Astra also filed suit against the companies Kremers Urban Development Company and Schwarz Pharma Inc., in the U.S., on similar grounds.

Entocort capsules were launched in Spain, among other countries. A new treatment for ulcerative colitis, *Colazide* (balsalazide), has to date been launched in the U.K. Astra has global marketing rights to the product, except for mainly Japan and southern Europe, through a licensing agreement with Salix Pharmaceuticals, Inc., U.S.

Sales—major products (SEK m.)	1998	1997	Percentage change	
Losec	31,619	21,526	+ 47	(+ 43)
Entocort	205	132	+ 55	(+ 51)
Others	146	138	+ 6	(+ 8)
TOTAL	31,969	21,796	+ 47	(+ 43)

Figures in parentheses refer to percentage change at constant exchange rates.

SALES OF GASTROINTESTINAL AGENTS



Sales of gastrointestinal agents account for 56 percent of Astra's total sales. From November 1994 through June 1998, the Astra Group's sales included half of Astra Merck's sales of Prilosec (Losec) in the U.S. From July 1998 onwards, all sales are included.

RESEARCH AND DEVELOPMENT Astra's research and development in the gastrointestinal area is conducted primarily at Astra Hässle in Sweden and is focused on developing successors to Losec and on developing complementary products to strengthen Astra's market-leading position.

New substances in the clinical development phase

SUBSTANCE	INDICATION	PHASE
Colazide—5-ASA	Ulcerative colitis	Launch / III
Entocort—corticosteroid	Inflammatory bowel diseases	Launch / III
Perprazole	Peptic ulcer / GERD	III
Mosapride—prokinetic substance	Dyspepsia	II
Short-acting proton pump inhibitor	Peptic ulcer / GERD	I

Astra is conducting an extensive clinical research program with perprazole, a new-generation proton pump inhibitor. In all, the program involves more than 11,000 patients. The substance has pharmacokinetic properties which may lead to rapid symptom resolution and high and predictable healing rates. Preliminary results from short-term treatment of primarily reflux esophagitis (inflammation or ulceration of the esophagus) show that perprazole demonstrates clinical superiority over Losec. For patients with severe reflux esophagitis, perprazole shows even greater benefits. Astra plans to file regulatory applications for the new product in 1999. A proton pump inhibitor with a different clinical profile is in an early clinical phase.

Gastroesophageal reflux disease and dyspepsia are often viewed to be associated with disorders of upper gastrointestinal motility. Astra has inlicensed mosapride, a prokinetic substance, from the Japanese company Dainippon. The substance is currently undergoing expanded studies for the indication dyspepsia.

Preclinical research is aimed at broadening Astra's involvement in the gastrointestinal area over the long term. At Astra Research Center in Boston, USA, research is being conducted on new methods of combating *H. pylori* infections. Through research collaboration with the American research company Genome Therapeutics Corp., Astra has access to the genetic makeup of *H. pylori*. One of the objectives is to develop a vaccine for *H. pylori*. Also in the vaccine area, Astra is working in collaboration with the University of Gothenburg and with Commonwealth Serum Laboratories (CSL), Australia. Other research programs are focused on developing new drugs for treating gastroesophageal reflux disease and irritable bowel syndrome (IBS).

Atacand launched in nearly 20 countries, including France and the U.S.

CARDIOVASCULAR

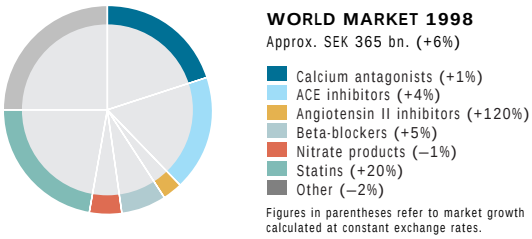
Cardiovascular disease is one of the leading causes of sickness and death in the industrialized world and is becoming increasingly common in developing countries. The most common cardiovascular diseases are high blood pressure (hypertension), atherosclerosis, angina pectoris, myocardial infarction, congestive heart failure and cardiac arrhythmias.

High blood pressure, certain metabolic disorders (such as high levels of serum lipids in the blood), and problems with the blood's ability or tendency to clot, are risk factors that can lead to more complicated cardiovascular diseases caused by atherosclerosis.

Hypertension is a mainly asymptomatic, heterogeneous condition. To achieve effective control of blood pressure in individual patients and thereby reduce the risk for complications, medicines with different modes of action are needed, such as beta-blockers, calcium antagonists, ACE inhibitors, and the newest category—angiotensin II inhibitors.

Treatment of high blood cholesterol levels effectively reduces the risk for cardiovascular disease. The latest addition of drugs in this area is called statins.

Nitrates, beta-blockers and calcium antagonists are used for effective treatment of angina pectoris, while beta-blockers and ACE inhibitors are often used to treat patients suffering from myocardial infarction or congestive heart failure.



Aside from statins, the most recently introduced class of angiotensin II inhibitors is growing faster than other classes.

MAJOR PRODUCTS Astra has a broad portfolio of medicines for treating cardiovascular diseases.

Seloken (metoprolol) is a cardioselective beta-blocker used for treating hypertension, myocardial infarction, functional heart disturbances, sudden cardiac death, congestive heart failure, angina pectoris and migraine. An improved, patented formulation, Seloken ZOC, has a more uniform round-the-clock action, thus offering clinical advantages over the conventional tablet in terms of effect as well as tolerability. Seloken ZOC is protected by patents directed to the specific salt, formulations and processes. These patents expire in most countries in 2005.

Plendil (felodipine) is a vasoselective calcium antagonist, taken once daily for the treatment of high blood pressure or angina pectoris. It acts by selectively dilating small arterial blood vessels. Plendil provides effective, 24-hour control of blood pressure without affecting the heart's normal function. Felodipine, the active substance in Plendil, is covered by substance patents in major markets until 1999–2003, depending on the availability of Patent Term Extensions and Supplementary Protection Certificates. The product is also protected by additional patents directed to formulation, uses and processes, which expire between 2007 and 2017.

Imdur (isosorbide-5-mononitrate) is a nitrate preparation taken once daily for treatment of angina pectoris. Because of its special formulation that allows a controlled release of the active substance, Imdur produces a continuous beneficial effect without the risk for nitrate tolerance development, which can reduce efficacy in long-term treatment.

Ramace (ramipril) is a long-acting ACE inhibitor that is approved for treatment of hypertension and congestive heart failure, as well as for lowering mortality in patients after an acute myocardial infarction. The product is inlicensed from Hoechst and is marketed by Astra in certain countries.

Canef (fluvastatin), an inlicensed product from Novartis, reduces the level of cholesterol in the blood. Astra markets Canef in parallel with Novartis in a number of countries, including Germany.

Atacand (candesartan cilexetil) represents a new category of drugs for treating high blood pressure—angio-

	Hyper-tension	Angina pectoris	Myo-cardial infarction	Congestive heart failure	Arrhythmias	Hyper-choles-terolemia
Seloken	●	●	●	●	●	
Plendil	●	●				
Imdur		●				
Ramace	●		●	●		
Canef						●
Atacand	●					
Logimax	●					
Lexxel (USA)	●					
Unimax	●					

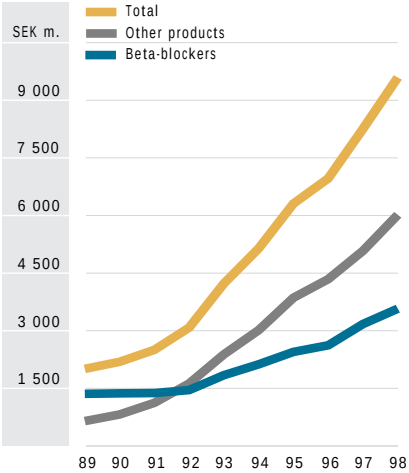
tensin II inhibitors. Atacand has been developed by Astra in collaboration with the Japanese company Takeda. The product is marketed in parallel by Astra and Takeda in several countries. Astra also has exclusive marketing rights in certain European countries as well as in Australia, Canada, and the U.S. Candesartan cilexetil, the active substance in Atacand, is protected by patents which expire in major markets in 2011. Patent Term Extensions and Supplementary Protection Certificates have been applied for in the countries in which the opportunity to do so exists. In some countries, Supplementary Protection Certificates have been granted until 2012.

In addition, Astra's cardiovascular portfolio includes several combination products, including *Logimax* (felodipine and metoprolol) and *Unimax* (felodipine and ramipril). In the U.S. Astra markets the product Lexxel, a combination of felodipine and Merck's ACE inhibitor enalapril.

OPERATIONS 1998 Seloken is a leading beta-blocker in the world market and is showing continued strong growth, mainly through favorable development in the U.S., where sales rose 21 percent in local currency. Sales of Plendil are also developing well, with good growth in several major markets, including the U.S. and Italy. Sales of Plendil rose 10 percent for comparable units.

Atacand was launched in nearly 20 countries, including France, Italy, Spain and the U.S. At the end of 1998 the product had been launched in a total of 24 countries. Astra's largest market to date for Atacand is Germany. The development of prescription volume for Atacand through January 1999 in the U.S. market is promising.

SALES OF CARDIOVASCULAR AGENTS



The launch of Plendil in a large number of countries and of Toprol-XL (Seloken ZOC) in the U.S. has contributed to the rapid growth of Astra's cardiovascular products. From November 1994 through June 1998, the Astra Group's sales included half of Astra Merck's sales of Plendil. From July 1998 onwards, all sales are included.

Sales—major products (SEK m.)	1998	1997	Percentage change	
Seloken	3,568	3,162	+ 13	(+ 11)
Plendil	2,625	2,241	+ 17	(+ 19)
Imdur	962	913	+ 5	(+ 5)
Ramace	513	488	+ 5	(+ 3)
Logimax	353	229	+ 54	(+ 50)
Atacand	352	8	–	–
Canef	278	293	– 5	(– 6)
Others	944	922	+ 2	(+ 1)
TOTAL	9,594	8,258	+ 16	(+ 16)

Figures in parentheses refer to percentage change at constant exchange rates.

RESEARCH AND DEVELOPMENT Astra's research in the cardiovascular area is conducted at Astra Charnwood and Astra Hässle. Long-term research is focused primarily on the prevention of diseases related to atherosclerosis, blood clots, and cardiac arrhythmias.

New substances in the clinical development phase

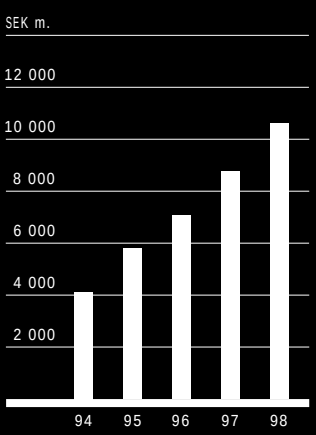
SUBSTANCE	INDICATION	PHASE
AR-C69931—platelet aggregation inhibitor	Unstable angina	II
H 327—immunomodulator	Atherosclerosis	II
H 376—oral thrombin inhibitor	Venous thrombosis	II
Melagatran—thrombin inhibitor	Venous thrombosis	II
H 345—antiarryhthmic	Arrythmias	I

During the year the extensive international Hypertension Optimal Treatment (HOT) study was concluded and presented. In the study, which involved more than 19,000 patients, Plendil was used as a base-line therapy. The HOT study showed, among other things, that blood pressure should be reduced to a lower level than what was previously recommended in order to reduce the risk for future cardiovascular diseases.

Due to positive results, the international MERIT-HF study was discontinued in 1998 for ethical reasons. The study, which involved approximately 4,000 patients in 11 countries, was initiated to evaluate the value of treatment with Seloken ZOC for congestive heart failure. In the group treated with Seloken ZOC, an approximate 35 percent reduction in mortality was noted. Regulatory applications for Seloken for treatment of congestive heart failure are expected to be filed in 1999.

R&D

R&D EXPENDITURES



Astra's research is currently in a very expansive stage. From a predominantly Swedish base, in a few years' time the research organization has expanded to become a global, multifaceted organization with several thousand new employees. This transformation puts major demands on individual researchers as well as on the research management. A vital task is to uphold the factors that have made Astra successful as a research company.

At year-end 1998 an extensive clinical program focusing on studying the effect of Atacand on congestive heart failure was initiated. This international program will involve some 6,000 patients. In addition, documentation of Atacand for treatment of high blood pressure continues, including the development of a combination product with diuretics.

The formation of blood clots (thrombosis) is a causal factor behind many cases of acute cardiovascular disease, including myocardial infarction, unstable angina pectoris and sudden cardiac death. Deep vein thrombosis and subsequent complications are also common indications. Clinical studies of thrombin inhibitors in both parenteral and oral formulations are being conducted with the aim of preventing and treating deep vein thrombosis and other conditions. In addition, a P_{2T}-receptor antagonist is being studied for the indication unstable angina. The substance inhibits the blood platelets' ability to aggregate and clot in the arterial vessels.

Clinical studies of an immunomodulating substance are in progress to investigate the possibility of slowing the development of atherosclerosis.

Studies of a new antiarrhythmic agent were initiated in 1998. The studies are intended to ascertain the new substance's effect in the treatment of atrial fibrillation.

Preclinical research is focused on fundamental mechanisms behind the development of cardiovascular diseases. In 1998 Astra signed a collaboration agreement with the British genomics research company Oxagen Ltd. aimed at identifying hereditary causes behind the development of atherosclerosis.

Pulmicort Turbuhaler launched in the U.S. Regulatory applications filed for Pulmicort for treatment of chronic obstructive pulmonary disease

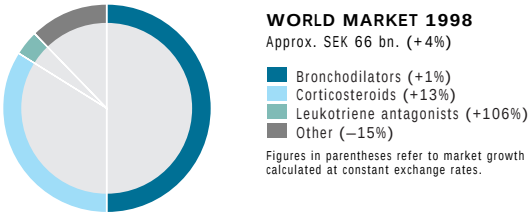
RESPIRATORY

Asthma and chronic obstructive pulmonary disease are both common lung diseases that are growing in incidence worldwide. The rate of increase is partly due to the fact that these diseases have not been diagnosed or adequately treated in many parts of the world.

About 5 percent of the adult population suffer from asthma. Among children the corresponding figure is between 10 and 15 percent. Today asthma is regarded as an inflammatory disease. Asthma patients who do not receive effective anti-inflammatory treatment at an early stage run the risk of developing permanently impaired pulmonary function.

Chronic obstructive pulmonary disease is caused predominantly by smoking but also by other air pollution, and is most prevalent in people over 40 years of age. About 20 percent of all smokers develop this disease. In this age group the disease is more common than asthma and is characterized by respiratory distress—especially under exertion—cough, and mucus hypersecretion. The changes in the airways are complicated by enlargement of the air sacs (emphysema) and a progressive deterioration of pulmonary function.

Allergic rhinitis, a common disease of the upper respiratory tract, also afflicts about 10 percent of the population.



The world market for asthma drugs consists mostly of bronchodilators and corticosteroids. Inhaled corticosteroids are a rapidly growing class of anti-inflammatory drugs. This can be attributed to a general undertreatment of asthmatic conditions with this type of drug. The market for inhaled long-acting bronchodilators in 1998 was worth SEK 8 billion, an increase of 32 percent at constant exchange rates. A new type of asthma drug, leukotriene antagonists, is currently being introduced.

MAJOR PRODUCTS The *Turbuhaler* dry powder inhaler has strengthened Astra's competitiveness in the market for inhalation products. Turbuhaler is easy to use and enables delivery of the active substance through the patient's inhalation without propellants. Astra's patents for Turbuhaler cover different parts of the device and expire between 2002 and 2007.

Pulmicort (budesonide) is an anti-inflammatory inhalation corticosteroid used primarily for asthma. The safety profile of this product makes it possible to treat mildly ill patients with low doses as well as seriously ill patients with higher doses, without any clinically relevant effect on organs other than the lungs. Early treatment with Pulmicort is therefore increasingly recommended, even for patients with mild symptoms. Studies show that inflammation can thereby be reduced and patients often remain symptom-free for a long time. In addition to the Turbuhaler and metered-dose aerosol preparations, Pulmicort is available as an inhalation liquid in a single-dose container (nebulization suspension). This dosage form is intended primarily for small children, although it is also used by adults with severe asthma.

Astra's patent for budesonide, the active substance in Pulmicort, has expired in all countries except France, where a Supplementary Protection Certificate has been received through the year 2000. Additionally, there are patents and patent applications directed to processes. The main protection for Pulmicort Turbuhaler is through Turbuhaler patents.

Bricanyl (terbutaline) in the Turbuhaler inhaler is used to provide symptomatic relief for temporary states of respiratory distress on account of its rapid bronchodilatory effect. In addition to the Turbuhaler dosage form, Bricanyl is available in other dosage forms which can be used in acute situations as well as for long-term therapy. All basic patents for terbutaline, the active substance in Bricanyl, have expired and there are no extensions. Patent protection for Bricanyl Turbuhaler is through Turbuhaler patents.

Rhinocort (budesonide), which contains the same active substance as Pulmicort, has an anti-inflammatory effect on allergic rhinitis and counteracts recurrent polyp formation. Rhinocort can be administered in powder form with the Turbuhaler inhaler or in a metered-dose aerosol. The liquid form, Rhinocort Aqua, is administered as a nasal pump spray. Patent protection for Rhinocort Turbuhaler is through Turbuhaler patents.

Oxis (formoterol) in the Turbuhaler inhaler is a new, long-acting bronchodilator intended for maintenance therapy in patients who do not experience satisfactory results from treatment with corticosteroids alone. In addition to being long-acting, Oxis Turbuhaler has a fast onset of action in the airways. In most countries there is no patent for formoterol, the active substance in Oxis. However, Astra has certain formulation and

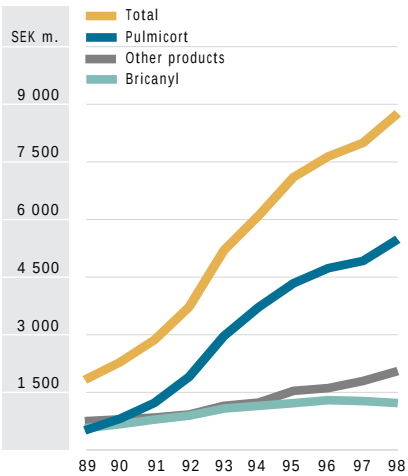
process patents. The main patent protection for Oxis Turbuhaler is through Turbuhaler patents.

OPERATIONS 1998 Pulmicort is the largest selling asthma drug in Europe in terms of monetary value and had a market share of approximately 34 percent in the inhaled corticosteroid segment in 1998. Pulmicort Turbuhaler was launched in the U.S. in the beginning of the year. Sales in the U.S. amounted to SEK 357 m. Market penetration in the U.S. initially has developed more slowly than originally anticipated. This has been due in part to the restrictive manufacturing specifications of the U.S. Food and Drug Administration (FDA) to which Pulmicort Turbuhaler is subject. A meeting with the FDA took place in early 1999 to review the manufacturing specifications and discussions are continuing. Prescription volume for Pulmicort Turbuhaler rose steadily during the second half of the year. In October the FDA approved Pulmicort for once-a-day asthma treatment for adults and children from the age of six with mild to moderate asthma. Also in the U.S., an Approvable Letter was received for Pulmicort nebulization suspension.

Regulatory applications for use of Pulmicort in the treatment of chronic obstructive pulmonary disease are currently being reviewed in some 20 countries. In Japan, Astra's application for registration of Pulmicort Turbuhaler is currently being reviewed by the regulatory authorities.

In the U.S., Astra's largest market for Rhinocort, Rhinocort metered-dose aerosol has attained a prominent position in its market segment. An Approvable Letter has been received in the U.S. for Rhinocort Aqua.

SALES OF AGENTS FOR RESPIRATORY DISEASES



Sales of antiasthma agents account for 15 percent of Astra's total sales, with Pulmicort accounting for nearly two-thirds of sales in this product segment. The rapid growth for Pulmicort in recent years is related, among other things, to growing recognition that asthma is an inflammatory disease and to the introduction of the Turbuhaler dry powder inhaler in a growing number of countries.

At year-end Oxis had been launched in some 30 countries. The largest market to date for Oxis is Germany, where it had a 23 percent share of the market for long-acting bronchodilators at year-end.

Sales—major products (SEK m.)	1998	1997	Percentage change
Pulmicort	5,486	4,922	+ 11 (+ 11)
Rhinocort	1,248	1,267	– 2 (– 2)
Bricanyl	1,222	1,275	– 4 (– 3)
Oxis	350	70	+400 (+387)
Others	457	460	– 1 (– 2)
TOTAL	8,763	7,994	+ 10 (+ 9)

Figures in parentheses refer to percentage change at constant exchange rates.

RESEARCH AND DEVELOPMENT Astra's research and development work in the area of respiratory diseases is conducted at Astra Draco and Astra Charnwood. Activities are focused on new drugs and new systems for direct drug delivery to the airways.

New substances in the clinical development phase

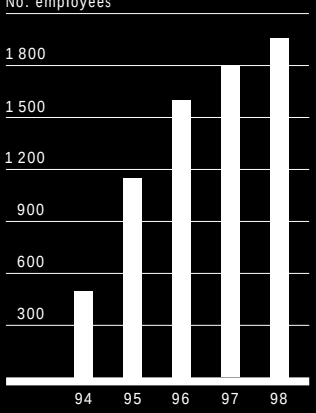
SUBSTANCE	INDICATION	PHASE
Oxis Turbuhaler—long-acting bronchodilator	Asthma	Launch / II–III
Symbicort—a combination of budesonide and formoterol	Asthma, chronic obstructive pulmonary disease	III
AR-C68397	Chronic obstructive pulmonary disease	II
Rofleponide palmitate—novel inhaled steroid	Asthma	II

Projects are being conducted with the aim of further improving and simplifying the method of administering drugs to patients through inhalation. At Astra Charnwood, development is being conducted on CFC-free pressurized aerosols. Astra thereby expects to be able to offer pressurized aerosols for the most common products as a complement to powder inhalers after the phase-out of CFC-based aerosol propellants.

A global study of early treatment with Pulmicort Turbuhaler in patients with mild asthma was begun in 1996. The study, which will continue for five years and includes more than 6,000 patients in some 30 countries,

R&D

FORMAL RESEARCH TRAINING WITH DOCTORATES



Astra's research is concentrated on a limited number of well defined therapy areas. A research project at Astra must always be based on an unmet medical need for better treatment of a certain disease. To define such a project, the researcher must have an understanding of the disease's etiology or have certain hypotheses. It takes many years to build up internationally competitive competence in a disease area, and having a long-term strategy is one of the success factors in Astra's research.

is expected to increase knowledge about mild asthma and the possibilities of alleviating the long-term progression of the disease through earlier treatment.

Oxis is being further documented for treatment of chronic obstructive pulmonary disease and temporary respiratory distress. Combination therapy with Pulmicort and Oxis has been shown to dramatically reduce the risk of severe asthma attack. Astra is also in the advanced stages of conducting clinical studies on Symbicort, a combination product, to simplify concurrent use of these medications.

Clinical studies are being conducted of a novel inhaled steroid, rofleponide palmitate, which has been developed in an entirely new powder formulation for inhalation. The new drug is expected to provide a selective, long-acting effect. AR-C68397 is a substance that has shown promising results in patients with chronic obstructive pulmonary disease.

Exploratory research on respiratory diseases is focused on new mechanisms that can inhibit inflammation or affect immunological processes that are believed to be a causal factor behind these diseases. This work includes a project that is being carried out in collaboration with the American research company Millennium Pharmaceuticals, Inc. The collaboration aims to identify and sequence genes as a means of identifying new targets for drugs. Another objective is to apply knowledge about inflammation and immunological processes to other inflammatory diseases than those of the respiratory tract.

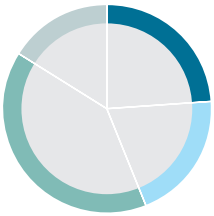
Regulatory application for Naropin concerning new indication filed in Europe and the U.S.

PAIN CONTROL

Pain serves as a warning signal for threatening or incurred tissue damage, or manifests itself as a chronic condition in the nervous system long after the danger is over or the injury has occurred. It can arise through a number of different mechanisms, which bear significance in the choice of treatment. Pain treatment can be directed at the cause in the damaged tissue, at the pain signal that reaches the central nervous system through the nerve tracts, or at the pain signal's transformation and interpretation within the central nervous system.

Local anesthetics can be applied directly on the skin and mucous membranes for superficial surgery, or be used to block pain impulses by means of injection near the nerve tracts or spinal cord, thereby preventing the pain signal from being relayed to the central nervous system. Compared with general anesthesia, local anesthetics offer a greater opportunity for complication-free anesthesia and a gentler postoperative recovery period. Consequently, the use of local anesthetics for surgery and pain control is rising steadily at the expense of general anesthesia, such as narcosis and morphine preparations.

The use of local anesthetics can be divided into the following three segments: *Medical injectables*, comprising sterile injection solutions for major and minor surgical operations, and for pain control in obstetrics and postoperative care; *topical anesthetics*, including gels, creams, ointments, solutions and sprays intended for use on skin, mucous membranes or wounds to facilitate diagnosis and treatment as well as for superficial surgery; and *dental anesthetics*, comprising sterile injection solutions and topical anesthetics used in dentistry.



WORLD MARKET 1998
Approx. SEK 21 bn. (+9%)

- Local anesthetics (+5%)
- Acute pain control (–2%)
- General anesthesia, injection (+13%)
- General anesthesia, inhalation (+5%)

Figures in parentheses refer to market growth calculated at constant exchange rates.

Astra currently has products in the areas of local anesthetics and acute pain control.

MAJOR PRODUCTS Astra is a global leader in local anesthesia. There are no major international competitors in this field. However, in all major markets there are one or more local competitors who market low-price generics. Astra has developed and strengthened its position in this market by offering a range of products adapted to the needs of the market, even though most of the company's local anesthetics were introduced 30–50 years ago.

After 50 years on the market, *Xylocaine* (lidocaine) remains the most widely used local anesthetic in the world and is Astra's fifth-largest selling product. Xylocaine is used in both medical and dental practice and is available in almost every country in the world in injectable and topical preparations. The patent for lidocaine, the active substance in Xylocaine, has expired in all countries.

Marcaine (bupivacaine) is the world's leading long-acting local anesthetic. Throughout most of the world it is known as an obstetric anesthetic. Marcaine is often used for lower abdominal surgery and in hip and knee operations.

EMLA (a eutectic mixture of lidocaine and prilocaine) is a topical anesthetic developed specifically for skin. It is available as a cream or patch presentation and is used to prevent pain associated with needle-sticks, intravenous cannulation, and superficial surgery. EMLA can also be used to relieve and prevent pain associated with the cleansing and treatment of leg ulcers.

Naropin (ropivacaine) is a new local anesthetic and analgesic with long-acting characteristics and is effective for use in major surgery. Naropin can also be used for effective postoperative pain management and in obstetrics. The benefit in using Naropin is that the risk for side effects is low with the doses required for effective anesthesia during surgery, at the same time that—given in small doses—the drug provides highly effective postoperative pain relief without affecting the patient's ability to move. Naropin is expected to eventually replace Marcaine due to its enhanced safety profile and clinical versatility.

Ropivacaine, the active substance in Naropin, is protected by patents which expire in major markets in 2006. Depending on the availability of Patent Term Extensions and Supplementary Protection Certificates, this patent protection can be extended to 2011 at the latest. The product is also protected by patents directed to use, formulations, and processes, which expire between 2009 and 2016.

Other products marketed by Astra include *Carbocaine* (mepivacaine) and *Citanest* (prilocaine). Carbocaine is a relatively short-acting agent used as a local anesthetic and for nerve blocking in minor surgery. Citanest is a local anesthetic with comparatively low toxicity, which makes it well suited for surgical procedures in which large dosages are required.

OPERATIONS 1998 In the U.S. and Japan, Astra's two largest markets for local anesthetics, sales fell / rose by 6 percent and 1 percent, respectively, in local currency.

At year-end 1998 Naropin had been introduced in a total of some 25 countries. The product has been well-received by anesthesiologists. Italy and the U.S. are the

most important countries in terms of sales. Regulatory applications for use of Naropin for, among other things, postoperative pain management for up to three days, were filed in Europe and the U.S. The product was originally approved for pain treatment for up to 24 hours after surgery. The registration process began in Japan at year-end 1998 in connection with the start of a dialog with the Japanese regulatory authorities.

Sales—major products (SEK m.)	1998	1997	Percentage change
Xylocaine	1,902	1,915	– 1 (– 1)
Marcaine	636	670	– 5 (– 4)
EMLA	384	341	+ 13 (+ 11)
Carbocaine	257	254	+ 1 (+ 0)
Naropin	242	103	+135 (+129)
Citanest	212	206	+ 3 (+ 2)
Others	195	211	– 8 (– 10)
TOTAL	3,829	3,700	+ 3 (+ 3)

Figures in parentheses refer to percentage change at constant exchange rates.

RESEARCH AND DEVELOPMENT Research on pain control is conducted at Astra Pain Control in Södertälje, Sweden, and in Montreal, Canada. Pharmaceutical development is conducted in Södertälje. The objectives are to maintain and strengthen Astra's position as a global leader in local anesthetics and, in the long term, to build up a strong position in the area of pain management. Accordingly, a number of projects have been started in recent years with a focus on relieving chronic pain caused by underlying conditions such as cancer, nerve damage or degenerative/rheumatic diseases.

Naropin has been documented for 72-hour postoperative pain management and for potential use in combination with other analgesics, such as opiates. Regulatory applications have been filed in Europe and the U.S.

A gel is being developed for use in the cleaning of gingival pockets in patients suffering from gingivitis. The gel has a local anesthetic effect and can be applied directly in the gingival pocket.

Astra is developing a capsule containing cells that produce endogenous analgesics for severe cancer pain, where morphine preparations are not sufficient. The capsule is inserted next to the spinal cord through a simple procedure and produces analgesia for at least six months. This development work is being conducted in collaboration with CytoTherapeutics, Inc., USA.

It is well known that morphine, which is a good analgesic in many cases, exhibits its effect peripherally as well as in the central nervous system, while most of its adverse effects stem from the brain. Astra, in collaboration with BioChem Pharma, Inc., Canada, is developing a drug (LEF) belonging to the opiate family—to which morphine belongs—but which in contrast to opiates has only a peripheral mode of action. The objective is to develop a drug that does not have the severe adverse effects, such as respiratory depression and dependence, that morphine has.

Clinical studies are in progress on a new agent that is based on Astra's local anesthetic. The substance (LTA) is being developed for treatment of certain types of pain in which use of a local anesthetic on the nerves can have an analgesic effect.

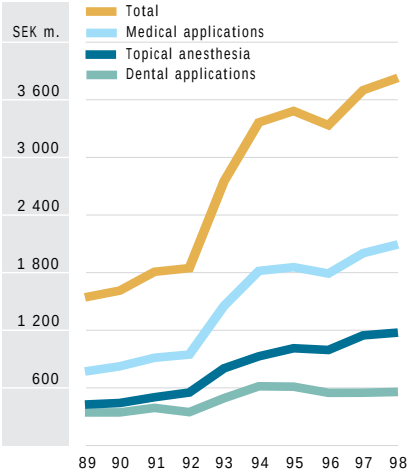
Remacemide, an NMDA-receptor antagonist, is currently being evaluated for treatment of pain stremming from the nervous system (neuropathic pain).

NSAIDs (nonsteroidal anti-inflammatory drugs) are a common class of anti-inflammatory drug used in the treatment of rheumatoid arthritis, among other things. The use of NSAIDs often leads to the development of peptic ulceration in patients. Through a collaboration agreement with the French research company NicOx, Astra has gained access to unique NSAIDs which incorporate a nitric oxide (NO) molecule. Nitric oxide has a protective effect on the stomach's mucous membrane and thus reduces the risk for ulceration.

New substances in the clinical development phase

SUBSTANCE	INDICATION	PHASE
Dental gel	Analgesia for cleaning of gingival pockets	III
Cell Therapy—encapsuled cell therapy	Analgesia	II
LEF—peripherally active agent	Analgesia	II
LTA	Analgesia	II

SALES OF PAIN CONTROL AGENTS



Growth in sales of pain control agents is mainly attributable to their increased use in surgery. The sales increases in 1993 and 1994 were influenced by the recovery of previously outlicensed products in Italy and Brazil. The trend from 1996–98 was affected to a great extent by fluctuations in the Swedish krona.

R&D

Major medical breakthroughs are not initiated by the market, but most often from new discoveries of scientific basic research. Astra's R&D resources are allocated on the basis of medical development opportunities. However, with respect to further development of existing products, the views of health-care professionals and patients must be funneled back to the R&D organization. Product development is just as important as the research that is conducted on new products. Over the years Astra has been very successful at exploiting and developing the potential of key products even after their patents have expired. Examples are the local anesthetic Xylocaine, the asthma drug Bricanyl, and the antihypertensive agent Seloken. Product development work is currently being conducted on Losec and the Turbuhaler inhaler.

An extensive clinical trials program with Zendra for stroke is in progress

CENTRAL NERVOUS SYSTEM

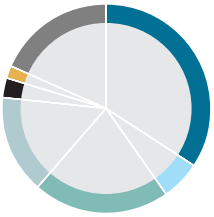
Diseases of the central nervous system (CNS) can be broken down into neurological and psychiatric disorders.

The most common neurological diseases are dementia (e.g., Alzheimer's disease), epilepsy, Parkinson's disease, multiple sclerosis (MS) and stroke. Approximately 15 percent of the population over 65 years of age suffer from dementia, a third of whom are afflicted so severely that they can no longer manage on their own. Epilepsy is a relatively common neurological disorder which afflicts roughly 1 percent of the population. Parkinson's disease mainly afflicts elderly persons, and an estimated 1 million patients around the world have this disease. MS is a chronic, severely disabling disease that can affect several parts of the central nervous system. Its symptoms include visual and sensory impairment as well as problems with coordination and balance. Stroke is the third most common cause of death in the Western world. Stroke patients require more days in rehabilitative care than any other group.

The most common psychiatric disorders are anxiety, depression, and schizophrenia. Today, for example, more than 20 million patients around the world receive treatment for depression alone. Research in recent years has shown that depressive disorders impair health, well-being, and occupational and social capabilities to the same degree as a long list of other chronic ailments, such as diabetes and high blood pressure.

The need for improved therapy is great in the CNS area. Patients want to avoid long hospital stays and return to ordinary life as soon as possible. For society, major savings in public expenditure can be achieved through more effective and safer treatment alternatives. The prospect of finding better drugs is increasing in pace with the very rapid growth of knowledge about the central nervous system.

RESEARCH AND DEVELOPMENT Preclinical CNS research is conducted by Astra Arcus in Sweden and the U.S. In Södertälje, Sweden, where pharmaceutical development and research project management are conducted, preclinical research is focused on neuroinflammatory diseases, such as Alzheimer's disease and MS. In the U.S., the preclinical unit in Rochester will gradually be moving to a new facility and research will be focused on Alzheimer's disease, stroke, Parkinson's disease, schizophrenia and depression / anxiety. At Astra Charnwood, in the U.K., clinical development work is conducted in the areas of epilepsy and Parkinson's disease.



There is a general need for new, more effective drugs with fewer adverse effects for treating diseases of the central nervous system. The rapid growth is expected to continue in the future due to the introduction of new, improved drugs.

Zendra (clomethiazole) is a drug with neuroprotective properties that is being evaluated in clinical trials, mainly for stroke. An extensive clinical study was begun in North America in 1997 to determine if the positive results from a European study can be confirmed. In the European study, patients suffering from acute stroke were treated. Clinical studies in patients using two new substances (AR-R15896 and NXY 059) with different mechanisms of action for the treatment of stroke were initiated in 1998.

Remacemide is an NMDA(N-methyl-D-aspartate)-receptor antagonist that is currently being studied in the CNS area in patients with epilepsy and Parkinson's disease. NMDA receptors in the brain are considered to play a significant role in epilepsy, as well as in damage caused by inadequate oxygen supply and nerve cell death in various neurological disorders.

To evaluate the effect of the selective immunotherapy ATM 027 on MS, a phase II program was begun in 1998. Clinical studies of patients with robalzotan, a new agent for treating depression, were also initiated in 1998.

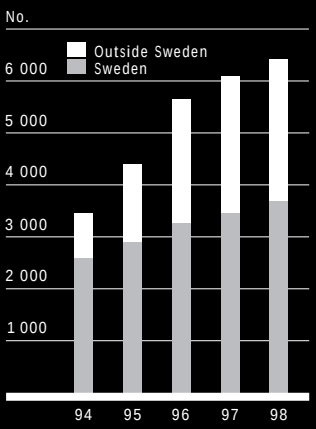
In collaboration with the American research company Centaur Pharmaceuticals Inc., Astra is conducting exploratory research on neuroprotective drugs for the treatment of stroke, other brain damage caused by oxygen deficiency, and dementia. NXY 059, which is the result of this collaboration, is the first in a series of new substances to begin testing in humans.

New substances in the clinical development phase

SUBSTANCE	INDICATION	PHASE
Zendra—neuroprotective agent	Stroke	III
Remacemide—NMDA-receptor antagonist, neuroprotective agent	Epilepsy / Parkinson's disease	III / II
AR-R15896—NMDA-receptor antagonist, neuroprotective agent	Stroke	II
ATM 027—selective immunotherapy	MS	II
NXY 059—neuroprotective agent	Stroke	II
Robalzotan—$5HT_{1A}$-receptor-antagonist, serotoninmodulator	Depression	II

R&D

NUMBER OF EMPLOYEES – R&D



In 1998 changes were implemented in Astra's R&D organization to further refine and streamline operations. The new organization is aligned to Astra's five therapy areas: gastrointestinal, cardiovascular, respiratory, pain control and central nervous system. Developments in information technology, biology and chemistry are leading to new conditions and opportunities. Genetic engineering, bioinformatics, high throughput screening and structural chemistry are examples of enabling technologies that have become essential for all researching pharmaceutical companies. Since 1994 Astra's R&D expenditures have risen by an average of 25 percent per year. During the same period, the number of employees in R&D has increased from an average of about 3,500 to 6,400. Of these, slightly more than half are in Sweden.

Astra Tech's marketing resources are focused mainly on LoFric and dental implants

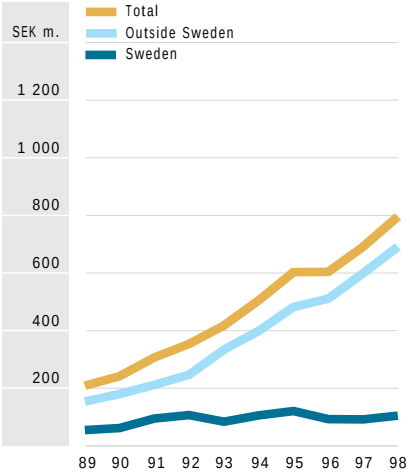
ASTRA TECH

The ongoing review of health-care systems in many countries is reflected in the market for medical devices. New methods are being evaluated and implemented in order to improve the efficiency of health care and thereby contain rising costs. Consequently, therapies and products that enable earlier discharge of patients from hospital are gaining in importance. The EU Medical Device Directive places stringent demands on manufacturers to work according to strict quality rules. At the same time, authorities and customers are demanding better product documentation. These changes enhance Astra Tech's competitiveness, since the company has been working for many years to develop products and a quality assurance program that amply meet these demands.

Astra Tech is engaged in the research, development, manufacture and marketing of advanced medical devices for use in health care, primarily in the areas of urology, surgery, diagnostic radiology and odontology. The company has a leading position in the Nordic region and is now expanding in Europe and other key markets. Sales are conducted through subsidiaries in most Western European countries and in the U.S. In other countries, Astra Tech's products are marketed in cooperation with local distributors.

MAJOR PRODUCTS *LoFric*, a urinary catheter with a special surface that binds water, has been Astra Tech's largest product for many years. When the catheter is immersed in water, an extremely low friction surface is obtained. This low friction reduces the risk for complications and trauma often associated with catheterization.

SALES OF MEDICAL DEVICES



Markets outside Sweden account for 87 percent of Astra's sales of medical devices.

Astra's patented *dental implant system* allows dentists to permanently fasten dentures in persons with partial or complete tooth loss. The unique design simplifies existing treatments and increases the possibility of providing treatment adapted to individual patient needs in all forms of tooth loss. The system is well documented from extensive international clinical trials, which have shown good therapeutic results.

OPERATIONS 1998 Astra's sales of medical devices amounted to SEK 796 (691) m., an increase of 15 percent. All markets showed a favorable sales trend, with continued strong growth in Germany and the U.K., which are now Astra Tech's two largest markets, and in new markets such as France, Spain and Japan.

Marketing resources are concentrated mainly on LoFric and dental implants. Participation in important national and international conferences and exhibitions, combined with an extensive program of clinical trials aimed at strengthening the clinical documentation, has created the conditions for sustained growth and successful launches in new markets.

During the year a number of new LoFric products were launched, which further strengthens the company's competitiveness in the intermittent catheterization therapy segment. In addition, new distribution concepts were successfully introduced in a number of markets. These were aimed at reducing costs and improving delivery efficiency in the home-care sector.

A new X-ray contrast medium, Iomeron, was registered and launched in the Nordic countries, where Astra Tech has the distribution rights to the product under an agreement with the Italian company Bracco s.p.a.

Astra Tech's quality assurance efforts continued following the company's certification in 1996 in accordance with the ISO 9001 and EN 46001 standards. Astra Tech meets the requirements of the EU Medical Device Directive. All the company's products are thereby approved for sale throughout the European Union and can bear the CE mark.

RESEARCH AND DEVELOPMENT Astra Tech's research and development is conducted mainly within the existing product areas and is concentrated on medical devices and implants that are based on various kinds of biomaterials, such as resorbable polymers and titanium. In addition to general research on these materials, development activities cover experimental and clinical studies of products in various areas, including orthopedics, urology and odontology. In addition, a number of research projects are being conducted in new areas with interesting potential.

R&D

Astra is conducting a large number of research projects in various stages of development. Approximately 25 entirely new substances are in the clinical research phase. In addition, extensive work is being conducted on clinical documentation of new application areas, combination products and dosage forms of new and existing products. A large number of projects are in the early, preclinical stages. Preclinical research is seeking, among other things, to broaden Astra's long-term involvement in the gastrointestinal area. Fundamental mechanisms behind the development of cardiovascular disease and new mechanisms that can inhibit inflammation or affect immunological processes that are believed to be a causal factor behind respiratory diseases are other important research areas.

ASTRA'S ENVIRONMENTAL WORK

Environmental matters play an important role in Astra's business. Astra's products must be safe—for individuals as well as for the environment. Major investments are made in all new projects to ensure product quality and to protect the surroundings from environmentally hazardous effects. Ethical issues surrounding products also have high priority and are taken into account in the entire process—from purchasing raw materials from suppliers and handling within the company, to the ultimate use of the product by consumers.

The most important environmental aspects of Astra's operations today are the use of nonrenewable natural resources, emissions of solvents into the air, discharges of chemical by-products in process wastewater, and hazardous waste. Health, fire and safety risks also arise in connection with the research and manufacture of pharmaceutical substances. Transportation associated with production generates more carbon dioxide than that generated by the plants.

A detailed account of Astra's environmental work is presented in a separate Environmental Report for 1998. Copies of the Environmental Report and Astra's Environmental Policy can be ordered from Astra AB, PR & Information, S-151 85 Södertälje, Sweden.

ENVIRONMENTAL WORK IN 1998 IN BRIEF An environmental management system based on ISO 14001 is being established at all companies within the Group in which operations may have a significant environmental impact. In 1998 the Group's decision to introduce an environmental management system was put into action by the management of all companies, and local project organizations were formed. One prerequisite for integrating environmental work in the ordinary operations is the involvement of all employees in environmental management work. The Environmental Affairs staff unit supports the companies in the introduction of environmental management systems and also furnishes them with tools to complete this work. Examples of such tools are corporate guidelines, key ratios, and instructions for environmentally sound purchasing and waste management routines.

Astra's production companies exercise careful control to ensure that their pharmaceutical production does not entail any risk for the employees, the general public, or the surrounding environment. In 1998, for instance, safety audits were refined and measures for improving efficiency in the use of natural resources, such as for water consumption, were taken at many companies.

Environmental work at Astra's research companies consists primarily of preventive measures designed to make the work environment as healthy as possible in the laboratories.

At the Swedish marketing companies, a pilot project was launched in 1998 to identify important environmental matters and to come up with suggestions for measures, as well as to create a template to guide the Group's marketing companies in dealing with environmental matters. Examples of measures already taken in the Swedish marketing companies to improve the environment include the changeover to more environmentally sound printed matter and work on optimizing editions of various publications.

FINANCIAL ASPECTS Environmental issues and requirements can have considerable financial significance for many companies—Astra included. Expectations for environmentally adapted products and manufacturing processes are rising among authorities, customers, owners and employees. By using materials, energy and water more efficiently and decreasing the amount of waste generated, companies can reduce their environmental impact and lower their costs. Emerging internal and external demands can require investment in new manufacturing processes. Land cleanup costs can be incurred in connection with the discovery of contaminated company property. The scope of a company's insurance coverage is also highly significant. In other words, even from a pure financial perspective it is very important to be active in environmental work.

Reducing environmental impact and improving cost effectiveness The expectations on pharmaceutical companies' environmental work with respect to products and packaging as well as production processes continue to rise. An ambitious, effective environmental effort is thus an increasingly important competitive tool for Astra.

In addition to environmentally adapted training and product development (such as the Turbuhaler inhaler and the Polyamp injection ampoule), Astra's environmental effort is focused on increased resource efficiency with respect to materials, energy and water, as well as on reduction of waste volume. This reduces environmental impact as well as costs.

In 1998 a project was initiated to raise cost-consciousness and cost-effectiveness in all companies in the Group. Every company has been instructed to identify target areas and to draft action plans and recommendations which the line organizations are responsible for implementing.

Identified target areas include purchasing, travel and conferences, IS/IT, plant expenditures, and instilling

greater cost-consciousness among all employees.

Aside from the pure financial gains, the efforts in these target areas also have direct environmental benefits:

- Central coordination and supervision of purchasing are leading to more financially favorable contracts with suppliers and makes it easier to integrate environmental matters in the purchasing process. Central purchasing registers are linked to environmental product declarations.
- Measures designed to reduce travel and increase use of IS/IT are leading to fewer transports and simplified distribution and archiving, which in turn is resulting in less paper use. Examples of measures taken to reduce travel are the pooling of travel arrangements and videoconferences.
- Process improvements are leading to, among other things, a decrease in volume of raw material consumption. For example, Astra's subsidiaries in Brazil, Argentina and Germany have reported substantial savings by reducing packaging sizes, which at the same time saves both material and transports. For instance, Astra Germany has saved 15 truck shipments, 2.1 tonnes of polyethylene, 5.6 tonnes of package inserts, 2.3 tonnes of transport boxes and 77 tonnes of corrugated board per year, simply through measures concerning small injection ampoules.

All companies have reported major savings potential. Project committees have been formed, and achieved results will be reported in 1999.

Environment-related investments Astra's expansion involves building extensions and new construction in all areas of the Group. When planning for new buildings it is especially important to prevent waste of natural resources by furnishing the buildings with automatic control systems for optimal use of water and energy. An example is for automatic shut-down of electricity and computers after office hours. Encapsulating processes is another very important measure for saving raw materials and preventing emissions into the surrounding environment. For the extensions at the Gärtuna facilities in Södertälje, Astra has to date invested approximately SEK 200 m. in environmental measures, and an additional SEK 50 m. will be invested. This means that current levels of solvent emissions will increase by only 30 percent, even though the company will be handling 25 times the current volume of solvents.

A three-year air care program intended to further reduce solvent emissions from Astra's production facilities in central Södertälje will be completed in 1999. The total investments in the program amount to about SEK 300 m.

Astra Arcus has invested a total of SEK 11 m. in the reduced use of CFCs (chlorofluorocarbons) as coolants, in the reduction of halons in fire sprinkler systems, and in improving the work environment.

Astra Pharmaceuticals, L.P., Astra France Production and Astra Mexico S.A. have all invested in osmotic water purification systems. The cost of installing one such system is approximately SEK 6 m.

Cleanup costs The risk of Astra incurring high cleanup costs in the future is judged to be small. Aside from the cleanup projects already in progress and which have been funded, the Astra Group—within the framework of current and anticipated environmental legislation and based on internal environmental audits carried out to date—has no knowledge of any material, future cleanup costs.

Insurance The Astra Group's liability insurance covers property damage and personal injury caused by Astra's products or operations. The insurance covers sudden and unforeseen environmental claims worldwide. In relation to the Group's operations and risk exposure, the insurance coverage is viewed to be adequate.

ENVIRONMENTAL POLICY
Astra's policy on environmental matters is summarized in a leaflet which can be ordered from Astra AB, Public Relations & Information, S-151 85 Södertälje, Sweden.

ENVIRONMENTAL REPORT
Copies of Astra's 1998 Environmental Report can be ordered from Astra AB, Public Relations & Information, S-151 85 Södertälje, Sweden.

ASTRA'S EMPLOYEES

Astra has significantly expanded its organization in recent years, mainly in the areas of marketing and production. In 1998 the average number of employees in the Astra Group increased by 2,752 to 24,958 (22,206).[1] The Group's operations are becoming increasingly international. The number of employees outside Sweden rose to 16,898 (14,896), or 68 percent of the Group total. In Sweden the number of employees was 8,060 (7,310).

Payroll costs, including social security costs, amounted to SEK 11,998 (9,129) m. in 1998. Employees in Sweden accounted for SEK 3,828 (3,238) m. of this amount.

Astra's employee turnover has been low for many years. In the Swedish units, employee turnover was 3.0 (3.1) percent, while the figure for the foreign subsidiaries was higher, 11 (13) percent.

Compared with other industry, sickness-related absence among Astra's employees is low. Absence due to sickness at the Swedish units was 3.3 (2.8) percent of working time. Absence due to care of children was 4.4 (4.3) percent.

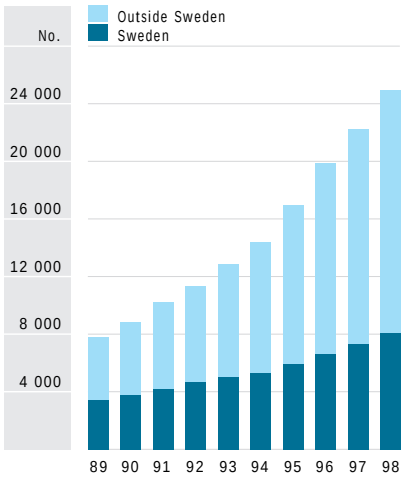
Astra's rapid growth puts great demands on the supply of qualified specialists and managers. A survey of employees' interest in, and potential for, more advanced duties is being carried out on an ongoing basis, partly with the help of performance analyses (Astra Dialog), and by applying systematic methods of management planning (Astra View) and follow-up. Most training and staff development takes place locally in the subsidiaries. Joint-Group development activities have also increased in pace with the greater coordination of activities and the standardization of certain processes within the Group. The Astra Academy makes a significant contribution in this respect. However, the prerequisites for the Astra Academy to develop and run a program are that it must pertain to core businesses, be directed to the entire Group, and have an Astra "touch." This requires the sharing of knowledge and experience throughout the organization; good practice in one part of the company must be available throughout the Group. The Astra Academy offers an international forum in which people from different parts of Astra can share their experiences and knowledge, and build networks.

PROFIT-SHARING PLAN Astra introduced a profit-sharing plan in 1984 for all employees in Sweden and abroad. A total of SEK 387 m. was allocated to the employees' share in profits in the 1998 accounts, making a total allocation of SEK 3,163 m. since 1984. The size of allocations is linked to the Group's return on capital employed, but may not exceed one-third of the year's dividend payout.

	1998			1997			
NUMBER OF EMPLOYEES	Total number	men	% share women	Total number	men	% share women	Change, % (in total number)
Sweden	8,060	44	56	7,310	44	56	+ 10
Other European countries	6,818	53	47	6,491	54	46	+ 5
North America[1]	4,957	51	49	3,712	53	47	+ 34
Asia/Pacific	3,749	61	39	3,497	63	37	+ 7
Other markets	1,374	61	39	1,196	62	38	+ 14
TOTAL	24,958	51	49	22,206	52	48	+ 12

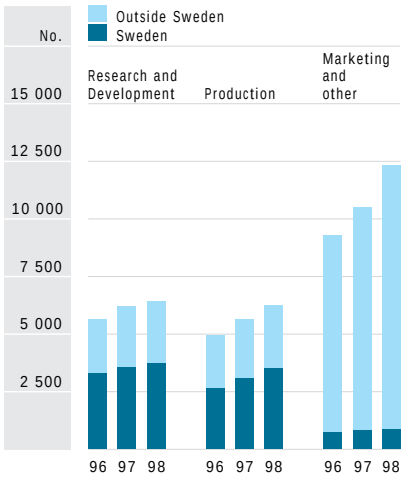
[1] The number of employees in North America was affected by the new agreement with Merck. Before July 1, 1998, half of the number of employees of Astra Merck were included. From July 1, 1998, onwards, all employees of the new subsidiary, Astra Pharmaceuticals, L.P., are included in the Astra Group.

NUMBER OF EMPLOYEES (yearly average)



During the past five years the average number of employees at Astra increased by approximately 2,400 per year.

NUMBER OF EMPLOYEES BY AREA OF OPERATION (yearly average)



The increase in the number of employees during the past three years was mainly in the marketing and production activities.

USA – the world's largest pharmaceutical market

Through the new agreement with Merck in the U.S., in 1998 Astra was able to form a new subsidiary, Astra Pharmaceuticals, L.P., which includes the operations of the former half-owned subsidiary Astra Merck and the wholly owned subsidiary Astra USA. Astra Pharmaceuticals, L.P. is the Astra Group's largest subsidiary and accounted for nearly 40 percent of the Group's sales in 1998. The American pharmaceutical market differs in many respects from the markets in Europe. The following article presents some of the development trends that affect pharmaceutical companies in the U.S.

AMERICA, the world's leading health care spender, appears unlikely to relinquish this role in the foreseeable future. While the 21 OECD nations today devote an average of 8.2 percent of GNP to health care, 1998 U.S. expenditures totaled 1.1 trillion dollars, or 13.7 percent of GNP. By 2007, this number will soar to 2.1 trillion dollars, or 16.7 percent.

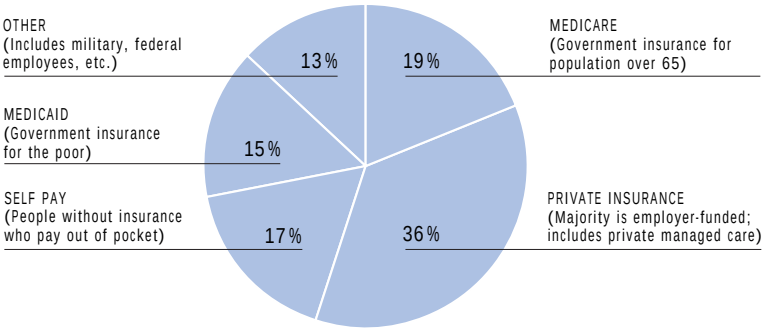
Unlike most European countries, where government is the principal financing source of health care, the U.S. does not provide Americans with government-guaranteed coverage. Most Americans with health care insurance, as illustrated in the chart on p. 46, obtain it from sources other than government.

THE U.S. HEALTH CARE INDUSTRY IS CONSOLIDATING

In response to growing cost pressures, the U.S. health care industry has been consolidating. The mega-insurance company Aetna, Inc., for example, recently became the nation's largest managed care[1] company after acquiring the health care business of Prudential Insurance Company of America for one billion dollars. Aetna now finances health care for one in

[1] The rationale behind managed care is that the financial risk of providing care for a population is shared or transferred to an insurance organization or a provider, while incentives are given to the provider to control the use of resources.

PAYMENT SOURCES OF U.S. HEALTH CARE EXPENDITURES IN 1997



Source: Health Care Financing Administration, 1997

every ten Americans. Medical professionals and health care organizations are also joining forces to satisfy demands of managed care groups for economies of scale and high geographic patient volume. Hospitals and physicians are forming record numbers of partnerships in integrated delivery systems and more physicians are creating delivery networks with their colleagues.

MANAGED CARE GROUPS PROVIDE HEALTH CARE FOR MOST AMERICANS

With the Clinton administration's unsuccessful attempt at federal health care reform, the reform initiative has transferred to managed care groups in the private sector. Today, most insured Americans subscribe to some type of managed care plan. In 1997, in fact, more than 85 percent of the workforce with health care insurance belonged to some type of managed care plan. Health maintenance organization enrollment, alone, has risen from nearly 39 million in 1992 to over 72 million in 1997.

Americans increasingly hold managed care plans accountable for controlling utilization of services and access to providers—and to a lesser degree, for ensuring quality. Consequently, managed care is using primary care physician "gatekeepers" as its principal mechanism to limit utilization. A more aggressive use of practice guidelines to standardize medical treatment and the introduction of "quality" report cards to help employers assess health plan performance also are growing trends. Advanced information systems that monitor clinical care and cost, moreover, bring novel opportunities for more efficient clinical research, disease management and pharmaceutical care.

Still, these cost-saving measures are failing to slow swelling health care costs. This is due, in part, to slackened savings from managed care in organizations providing health care, with "easy efficiencies" already squeezed from profit margins. Market pressures are also helping escalate costs by forcing health plans to offer broader access to health care professionals and services.

Public sector reform has been more gradual. Beneficiaries of Medicaid, the government health care insurance program for the poor, must now select their health plans from a number of government-approved managed care options. On the other hand, managed care growth in Medicare, the government health care insurance program for the elderly, has stalled because of low reimbursement rates paid by government to private managed care companies working with Medicare.

AMERICA'S FREE MARKET ECONOMY STIMULATES THE HEALTH CARE INDUSTRY

In its national aversion to price controls, the U.S. stands virtually alone among today's developed countries. This free-market environment stimulates vigorous industry innovation, which in turn creates better but costlier technology and products that feed America's staggering health care appetite. This appetite will increase dramatically as the over-65 population expands from 13 percent of today's population to a projected 20 percent in the year 2030.

THE FUTURE OF THE U.S. PHARMACEUTICAL INDUSTRY

The government estimates that the pharmaceutical share of the health care budget will rise from 6 percent today to 8 percent by 2007, with yearly drug spending growing at nearly 10 percent during that period. To temper this increase, players in the pharmaceutical industry, including biotechnology companies and independent manufacturers and distributors, are joining their counterparts in developed nations in merger and acquisition activity that seeks cost efficiencies, improved pipelines, research and development (R&D) technology and marketing expertise.

Americans in rapidly growing numbers perceive that pharmaceutical spending is rising too rapidly. Bolstering this perception is the reality that, as drug consumption shifts increasingly from older, less expensive medications to newer, costlier products valued and demanded by the public, a rise in "drug spend" will continue. And along with the influx of more highly desired drugs, more sophisticated, expensive clinical trials and promotional campaigns will be needed to support them.

As more and better drugs emerge for conditions once treated by inadequate therapies—or none at all—the range of pharmaceutical options also will expand. Astra, for example, is now testing compounds that target Huntington's disease, an illness with no approved drug therapy in the U.S., and neurogenic pain, which available therapies to date frequently fail to relieve.

In addition to the legions of new drug consumers anticipated in the growing population over 65, who now consume 35 percent of the nation's pharmaceuticals, people will increasingly demand "quality-of-life" drugs, such as drugs for impotence. Although managed care has employed pharmacy benefit managers to control costs from these factors, the ever-growing demand for more—and more expensive—drugs continually thwarts these cost-saving efforts.

"Drug spend" will also intensify as our knowledge expands of human genomics and pharmacogenomics. Along with more targeted products designed to achieve safety and efficacy in specific phenotypes, this emerging field will create needs for more complex—and costly—clinical trial design and commercialization strategies.

To meet the demands of increasingly activist consumers for more information about prescription drugs, the industry has dramatically increased expenditures on direct-to-consumer (DTC) advertising—from 1.4 million dollars in 1993 to 1.3 billion dollars in 1998. By advertising drugs directly to the public through television, magazines and radio, DTC departs from a long tradition in American pharmaceutical marketing that focused almost entirely on the physician prescriber. As a result of DTC efforts, U.S.-based physicians and managed care organizations report higher numbers of consumer requests for brand-name pharmaceuticals. Absent extraordinary regulatory action, this rise will continue.

In the past two years, the proliferation of new drugs has triggered an average expansion of 40 percent in U.S. sales forces, especially of professionals skilled in business-to-business sales.

CONTINUED GROWTH AND CHALLENGES LIE AHEAD FOR THE U.S. INDUSTRY

While total American health care costs will double by 2007, prescription drug costs are expected to triple in the same period. Also, the *Wall Street Journal* estimates that pharmaceutical profits will grow 16 percent to 18 percent over the next four years. On the other hand, Boston Consulting Group projects that even top performers in the pharmaceutical industry will likely generate only about 7.7 percent earnings growth per year. In contrast, the standard growth rate in Fortune 500 companies lies between 4 and 7 percent. The portion of this pharmaceutical growth attributable to increasing drug prices also varies. One independent study, cited in the November 11, 1998 *Wall Street Journal*, maintains that only 3.2 percentage points of the 16.6 percent growth in 1997 arose from drug price increases. Mounting demand for drugs, the study concludes, accounts for the remainder.

Optimistic Wall Street projections for growth aside, some industry observers warn that more difficult times may lie ahead. They note, for example, that the presidential elections of 2000 may catapult pharmaceutical pricing into the political limelight, exposing the industry to potential price controls. Others point out additional factors that may slow spiraling pharmaceutical prices in the near future: managed care pressure for lower prices; an unprecedented number of patent expirations on high-priced drugs early in the 21st century; and an industry pipeline that appears unlikely to produce enough new blockbuster drugs to fill this gap.

With these looming threats to future productivity, some industry proponents are urging pharmaceutical companies to adopt more strategic initiatives. Many companies, with renewed energy, are identifying and developing drugs that add greater value to patients. To better define the value of pharmaceuticals, the industry is devoting more attention and resources into outcomes measurement studies and disease management programs. Companies also are increasing investments in education for physicians and other health care leaders in these programs. Expanded industry efforts, furthermore, are now directed at analyzing and understanding the complex factors contributing to rising drug costs. And more aggressive communication of all these issues is becoming paramount to build public support of the industry and greater public recognition of the contributions and value of the pharmaceutical industry to the public welfare.

FINANCIAL SECTION 1998

CONSOLIDATED STATEMENT OF EARNINGS

Amounts in SEK m.

	1998	1997	Percentage change	1996
Sales	**57,187**	44,904	+ 27	38,988
Cost of goods sold *(Note 2)*	**(12,185)**	(7,316)	+ 67	(6,180)
Gross profit	**45,002**	37,588	+ 20	32,808
Marketing and administrative expenses *(Note 2)*	**(20,542)**	(15,330)	+ 34	(13,507)
Research and development expenses *(Note 2)*	**(10,600)**	(8,746)	+ 21	(7,057)
Operating exchange gains / losses	**90**	32	–	(22)
Items affecting comparability *(Note 3)*	**1,293**	–	–	–
Operating earnings	**15,243**	13,544	+ 13	12,222
Financial income / expenses				
Financial income	**1,091**	959	+ 14	1,143
Financial expenses	**(205)**	(141)	+ 45	(172)
Financial exchange gains / losses	**315**	(60)	–	32
Net financial income / expenses	**1,201**	758	+ 59	1,003
Minority interests in earnings	**0**	3	–	(5)
Earnings before taxes	**16,444**	14,305	+ 15	13,220
Taxes *(Note 5)*	**(4,641)**	(4,107)	+ 9	(3,773)
Minority interests in taxes	**0**	3	–	2
Net earnings for the year	**11,803**	10,201	+ 16	9,449
Earnings per share, SEK *(Note 6)*	**7.18**	6.21	+ 16	5.75
Adjusted number of shares outstanding during the period (thousands) *(Note 6)*	**1,643,224**	1,643,224	–	1,643,224
Estimated net earnings according to U.S. GAAP *(Note 6)*	**11,289**	10,195	+ 11	9,342
Estimated earnings per share according to U.S. GAAP, SEK *(Note 6)*	**6.87**	6.20	+ 11	5.69
Estimated net earnings according to U.K. GAAP *(Note 6)*	**11,313**	10,463	+ 8	9,953
Estimated earnings per share according to U.K. GAAP, SEK *(Note 6)*	**6.88**	6.37	+ 8	6.06

Notes: See pp. 56–67.

CONSOLIDATED BALANCE SHEET

Amounts in SEK m.

ASSETS	**Dec. 31, 1998**		Dec. 31, 1997	
Noncurrent assets				
Intangible assets				
Intangible rights *(Note 7)*	**7,867**		6,262	
Goodwill *(Note 8)*	**7,141**	**15,008**	274	6,536
Tangible assets *(Note 9)*				
Buildings and land	**8,687**		8,132	
Machinery	**2,914**		2,363	
Equipment	**6,251**		5,505	
Construction in progress	**2,670**	**20,522**	1,757	17,757
Financial assets				
Shares and participations *(Note 10)*	**54**		56	
Long-term receivables	**987**	**1,041**	638	694
		36,571		24,987
Current assets				
Inventories *(Note 11)*		**5,668**		3,785
Short-term receivables				
Trade accounts receivable	**9,625**		6,851	
Other receivables	**820**		1,173	
Prepaid expenses and accrued income	**981**	**11,426**	1,005	9,029
Short-term investments *(Note 12)*		**10,695**		14,261
Cash and cash equivalents *(Note 12)*		**11,778**		10,218
		39,567		37,293
TOTAL ASSETS		**76,138**		62,280

STOCKHOLDERS' EQUITY AND LIABILITIES				
Stockholders' equity *(Note 13)*				
Capital stock	**2,054**		2,054	
Restricted reserves	**8,062**		7,710	
Unrestricted reserves	**32,936**		26,050	
Net earnings for the year	**11,803**	**54,855**	10,201	46,015
Minority interests in stockholders' equity *(Note 14)*		**2**		4
Provisions				
Provision for pensions *(Note 16)*	**2,725**		2,218	
Deferred taxes	**2,054**		3,878	
Other provisions	**534**	**5,313**	303	6,399
Long-term liabilities				
Loans *(Note 18)*	**106**		107	
Other liabilities	**43**	**149**	103	210
Liabilities				
Loans *(Note 18)*	**827**		1,175	
Trade accounts payable	**4,978**		2,283	
Taxes payable	**80**		284	
Other liabilities	**1,246**		920	
Accrued expenses and deferred income	**8,688**	**15,819**	4,990	9,652
TOTAL STOCKHOLDERS' EQUITY AND LIABILITIES[1]		**76,138**		62,280
Assets pledged and contingent liabilities *(Note 19)*		**466**		452
[1] *Of which, interest-bearing provisions and liabilities*		**3,659**		*3,500*

Notes: See pp. 56–67.

CONSOLIDATED STATEMENT OF CASH FLOWS

Amounts in SEK m.

	1998	1997	1996
CASH FLOWS FROM OPERATING ACTIVITIES			
Sales	**57,187**	44,904	38,988
Operating expenses and income, net of depreciation	**(38,509)**	(28,638)	(24,400)
Net cash flow before working capital changes	**18,678**	16,266	14,588
Increase in operating receivables	**(1,461)**	(844)	(338)
Increase in inventories	**(1,966)**	(792)	(200)
Increase in operating liabilities	**5,347**	1,631	289
Net cash generated from operations	**20,598**	16,261	14,339
Interest received	**1,178**	818	1,164
Interest paid	**(198)**	(138)	(171)
Financial exchange gains / losses	**315**	(60)	32
Taxes paid	**(4,204)**	(3,963)	(3,385)
Dividends paid to stockholders	**(2,958)**	(2,465)	(1,849)
Net cash from operating activities	**14,731**	10,453	10,130
CASH FLOWS FROM INVESTING ACTIVITIES			
Change in short-term investments	**3,567**	(6,346)	(1,392)
Investments in acquired operations / facilities	**(11,354)**	–	–
Investments in intangible assets	**(114)**	(14)	(271)
Investments in other noncurrent assets	**(5,200)**	(4,636)	(4,001)
Proceeds from sale of assets	**278**	155	159
Net cash used in investing activities	**(12,823)**	(10,841)	(5,505)
CASH FLOWS FROM EXTERNAL FINANCING			
Proceeds from borrowings	**199**	457	79
Repayments of amounts borrowed	**(547)**	(99)	(546)
Net cash from / used in external financing	**(348)**	358	(467)
CHANGE IN CASH AND CASH EQUIVALENTS	**1,560**	(30)	4,158
Cash and cash equivalents at beginning of year	**10,218**	10,248	6,090
Cash and cash equivalents at end of year	**11,778**	10,218	10,248

The consolidated statement of cash flows has been prepared in accordance with IAS 7.

CHANGE IN LIQUID ASSETS	**(2,006)**	6,316	5,550
Liquid assets at beginning of year	**24,479**	18,163	12,613
Liquid assets at end of year	**22,473**	24,479	18,163

Notes: See pp. 56–67.

PARENT COMPANY STATEMENT OF EARNINGS

Amounts in SEK m.

	1998	1997	Percentage change	1996
Sales *(Note 1)*	**19,796**	17,309	+ 14	16,507
Cost of goods sold *(Note 2)*	**(9,647)**	(7,711)	+ 25	(7,026)
Gross profit	**10,149**	9,598	+ 6	9,481
Marketing and administrative expenses *(Note 2)*	**(5,089)**	(3,259)	+ 56	(2,821)
Research and development expenses *(Note 2)*	**(7,150)**	(6,284)	+ 14	(5,309)
Licensing income	**3,132**	2,110	+ 48	1,605
Operating exchange gains / losses	**63**	(122)	–	221
Items affecting comparability *(Note 3)*	**1,376**	–	–	–
Operating earnings	**2,481**	2,043	+ 21	3,177
Financial income / expenses				
Dividends from subsidiaries	**5,019**	549	–	190
Dividends from associated companies	**3,772**	3,002	–	2,152
Dividends from other companies	**462**	2	–	9
Share of earnings from partnerships	**493**	–	–	–
Interest income from subsidiaries	**103**	141	–	90
Interest income from other companies	**846**	374	–	583
Interest expenses to subsidiaries	**(498)**	(148)	–	(283)
Interest expenses to associated companies	**(105)**	(143)	–	(67)
Interest expenses to other companies	**(86)**	(57)	–	(87)
Financial exchange gaines / losses	**(102)**	(192)	–	(13)
Net financial income / expenses	**9,904**	3,528		2,574
Earnings before appropriations and taxes	**12,385**	5,571	+122	5,751
Appropriations to untaxed reserves *(Note 4)*	**(598)**	(692)	–	(962)
Taxes *(Note 5)*	**(660)**	(501)	+ 32	(652)
Net earnings for the year	**11,127**	4,378	+154	4,137

Notes: See pp. 56–67.

PARENT COMPANY BALANCE SHEET

Amounts in SEK m.

ASSETS		**Dec. 31, 1998**		Dec. 31, 1997
Noncurrent assets				
Intangible assets *(Note 7)*		**4,951**		1,883
Tangible assets *(Note 9)*				
Buildings and land	**4,461**		4,066	
Machinery	**1,910**		1,565	
Equipment	**2,684**		2,553	
Construction in progress	**1,002**	**10,057**	886	9,070
Financial assets				
Shares and participations in subsidiaries *(Note 10)*	**12,732**		4,347	
Receivables from subsidiaries	**18**		1,044	
Shares and participations in associated and nonassociated companies *(Note 10)*	**36**		5,750	
Long-term receivables	**10,754**	**23,540**	18	11,159
		38,548		22,112
Current assets				
Inventories *(Note 11)*		**3,116**		2,070
Short-term receivables				
Trade accounts receivable	**872**		764	
Receivables from subsidiaries	**6,013**		2,906	
Other receivables	**482**		600	
Prepaid expenses and accrued income	**535**	**7,902**	1,514	5,784
Short-term investments *(Note 12)*		**11,094**		7,182
Cash and cash equivalents *(Note 12)*		**8,161**		3,361
		30,273		18,397
TOTAL ASSETS		**68,821**		40,509

STOCKHOLDERS' EQUITY AND LIABILITIES				
Stockholders' equity *(Note 13)*				
Capital stock	**2,054**		2,054	
Statutory reserve	**799**		799	
Retained earnings	**14,520**		13,100	
Net earnings for the year	**11,127**	**28,500**	4,378	20,331
Untaxed reserves *(Note 15)*		**9,611**		9,014
Provisions				
Provision for pensions *(Note 16)*	**1,723**		1,528	
Provision for Thalidomide Fund *(Note 17)*	**124**	**1,847**	123	1,651
Long-term liabilities				
Loans *(Note 18)*	**6**		7	
Liabilities to subsidiaries	**9,594**		3,043	
Liabilities to associated companies	**–**	**9,600**	2,787	5,837
Current liabilities				
Loans *(Note 18)*	**140**		1	
Trade accounts payable	**1,155**		874	
Liabilities to subsidiaries	**15,743**		1,204	
Taxes payable	**63**		–	
Other liabilities	**122**		197	
Accrued expenses and deferred income	**2,040**	**19,263**	1,400	3,676
TOTAL STOCKHOLDERS' EQUITY AND LIABILITIES		**68,821**		40,509
Assets pledged and contingent liabilities *(Note 19)*		**89**		88

Notes: See pp. 56–67.

PARENT COMPANY STATEMENT OF CASH FLOWS

Amounts in SEK m.

	1998	1997	1996
CASH FLOWS FROM OPERATING ACTIVITIES			
Sales	**19,797**	17,309	16,507
Operating expenses and income, net of depreciation	**(15,592)**	(13,842)	(12,107)
Net cash flow before working capital changes	**4,205**	3,467	4,400
Decrease / increase in operating receivables	**(12,331)**	170	(1,623)
Increase in inventories	**(1,046)**	(676)	(50)
Increase in operating liabilities	**19,335**	2,430	3,100
Net cash generated from operations	**10,163**	5,391	5,827
Interest received	**1,035**	305	765
Interest paid	**(682)**	(345)	(438)
Financial exchange gains / losses	**(102)**	(192)	(13)
Taxes paid	**(180)**	(691)	(763)
Dividends received	**9,747**	3,056	2,022
Dividends paid to stockholders	**(2,958)**	(2,465)	(1,849)
Net cash from operating activities	**17,023**	5,059	5,551
CASH FLOWS FROM INVESTING ACTIVITIES			
Change in short-term investments	**(3,912)**	(5,209)	937
Investments in intangible assets and shares	**(12,125)**	(143)	(254)
Investments in other noncurrent assets	**(2,369)**	(2,350)	(2,336)
Proceeds from sale of assets	**6,043**	67	61
Net cash used in investing activities	**(12,363)**	(7,635)	(1,592)
CASH FLOWS FROM EXTERNAL FINANCING			
Proceeds from borrowings	**140**	0	1
Repayments of amounts borrowed	**0**	(1)	0
Net cash from / used in external financing	**140**	(1)	1
CHANGE IN CASH AND CASH EQUIVALENTS	**4,800**	(2,577)	3,960
Cash and cash equivalents at beginning of year	**3,361**	5,938	1,978
Cash and cash equivalents at end of year	**8,161**	3,361	5,938

The Parent Company statement of cash flows has been prepared in accordance with IAS 7.

CHANGE IN LIQUID ASSETS	**8,712**	2,632	3,023
Liquid assets at beginning of year	**10,543**	7,911	4,888
Liquid assets at end of year	**19,255**	10,543	7,911

Notes: See pp. 56–67.

ACCOUNTING POLICIES

The financial statements have been prepared in accordance with the Swedish Annual Accounts Act.

The consolidated financial statements include the Parent Company, Astra AB, and the subsidiaries in which the Parent Company has a controlling influence and owns, directly or indirectly, the number of shares required to give it more than half of the voting rights carried by all the shares. The previously owned fifty percent interest in Astra Merck, Inc., USA, is from November 1, 1994, until June 30, 1998, consolidated according to the proportionate method. From July 1, 1998—after the restructuring of Astra's and Merck's interests in Astra Merck, Inc.—Astra fully consolidates the new company, Astra Pharmaceuticals, L.P. From July 1, 1998, all sales are included in Astra Group sales, and the sales-related compensation to Merck is included in Astra Group operating expenses. Prior to the restructuring only half of Astra Merck's sales were included in Astra Group sales. These changes affect comparability with previous reporting periods.

Astra follows the recommendations of the Swedish Financial Accounting Standards Council. The Astra Group's financial statements have been prepared in accordance with recommendation RR 1:96 of the Swedish Financial Accounting Standards Council and recommendation IAS 22 of the International Accounting Standards Committee (IASC). The consolidated balance sheet has been prepared according to the purchase method.

A reconciliation of the Astra Group's net earnings and stockholders' equity to U.S. GAAP and U.K. GAAP is shown on pp. 65 and 66.

The Parent Company financial statements include the Swedish subsidiaries whose business is operated on a commission basis for the Parent Company, and thus cover virtually all Swedish operations of the Astra Group.

CHANGED ACCOUNTING POLICIES 1997

Astra has not changed its accounting policies for a number of years. However, in 1997 two changes were made.

In the Parent Company, through 1996 provisions were made for intercompany profits pertaining to unsold goods in subsidiaries. There is no risk for returns, so provisions are no longer made. Previous years have been adjusted for comparability. In the consolidated financial statements, provisions for intercompany profits are still eliminated. Consequently, this charge does not affect the consolidated statement of earnings or balance sheet.

Through 1996, financial investments intended for active liquidity management were stated at market value. Such valuation is now not allowed by Swedish law. As a result, valuation has been made at the lower of cost or market. The difference is insignificant and previous years have not been restated.

TRANSLATION METHODS

Astra's subsidiaries depend on the Parent Company for their product supply and operate as integrated parts of the Parent Company. Accordingly, the Swedish krona is considered as the functional currency, and translation of subsidiaries' financial statements to Swedish kronor is conducted in accordance with the temporal method. According to this method, nonmonetary assets and stockholders' equity shown in the balance sheets are translated at the exchange rate in effect at time of acquisition and year earned, respectively. Other monetary items are translated at exchange rates in effect on the balance sheet date. Inventories are translated at year-end exchange rates, which approximate the exchange rates at the date of acquisition. Statements of earnings have been translated at average exchange rates for the year, except that depreciation and amortization have been translated at the same exchange rates as the corresponding nonmonetary assets. Translation differences resulting from the translation of balance sheets are included in the year's earnings. Translation differences relating to operating receivables and liabilities are reported in the statement of earnings among operating exchange gains/losses. Other translation differences are reported among financial exchange gains/losses.

REVENUE RECOGNITION

Sales are reported net of value-added taxes and net of expected returns and discounts. Sales are recognized as income at the time of transfer of risk.

RESEARCH & DEVELOPMENT

Costs for research and development are expensed during the year in which they are incurred.

DEPRECIATION AND AMORTIZATION

Depreciation is based on the assets' original acquisition cost. Depreciation rates are calculated on the basis of the estimated useful life of the assets. Buildings are depreciated over 10 to 50 years, machinery and equipment over 3 to 10 years, and intangible rights and goodwill over 4 to 20 years. Intangible rights acquired from Merck, and the goodwill that arose in connection with restructuring in the U.S., are being amortized over 20 years as a result of the long-term, strategic value of the U.S. market for the Astra Group.

DEFERRED TAXES

Certain items affect the accounting and income taxation during different periods. Astra reports deferred taxes on temporary differences and takes into account the future effect of tax-loss carryforwards in cases where it is judged that they may be utilized.

Astra utilizes the liability method, whereby deferred taxes are calculated on the difference between an asset's or a liability's reported value and its tax value. The deferred tax is calculated using the respective country's enacted tax rate.

NONCURRENT ASSETS

Noncurrent assets are reported at cost less accumulated depreciation and amortization.

INVENTORIES

Inventory is stated at the lower of cost—on a first-in, first-out (FIFO) cost-flow assumption—and market value, net of reserves for estimated obsolescence.

RECEIVABLES AND LIABILITIES IN FOREIGN CURRENCY

Monetary assets and liabilities denominated in foreign currency are valued at year-end exchange rates. In cases where foreign currency denominated liquid assets or loans have been hedged through a forward cover, they are recorded at the spot price at the date of the inception of the contract. The forward premium is amortized over the term and is reported as interest. Forward contracts that hedge commercial flows have been treated in such a way that trade accounts receivable and trade accounts payable are valued at the forward rate. In cases of forward contracts pertaining to anticipated currency flows, unrealized gains and losses at the balance sheet date are deferred.

Foreign exchange gains and losses on operating receivables and liabilities are reported in the statement of earnings among operating exchange gains/losses, while other foreign exchange gains and losses are included among financial exchange gains/losses.

SHORT-TERM INVESTMENTS

Short-term investments consist of investments with maturities exceeding three months. Investments intended for active liquidity management are valued at the lower of cost or market.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents include investments with maturities of less than three months.

NOTE 1 SALES

The Parent Company's exports from Sweden totaled SEK 17,417 (14,828) m. Deliveries to subsidiaries accounted for SEK 15,233 (12,842) m. thereof.

NOTE 2 OPERATING EXPENSES

All costs consist of costs in the ordinary operations. The Group's depreciation increased mainly as a result of the restructuring in the U.S.

Depreciation and amortization by type of asset	GROUP **1998**	1997	1996
Intangible rights	**(707)**	(635)	(635)
Goodwill	**(308)**	(113)	(113)
Buildings and land improvements	**(464)**	(367)	(304)
Machinery	**(698)**	(567)	(483)
Equipment	**(1,258)**	(1,039)	(831)
Total depreciation and amortization	**(3,435)**	(2,721)	(2,366)

Depreciation and amortization by type of asset	PARENT COMPANY **1998**	1997	1996
Intangible rights	**(420)**	(321)	(332)
Buildings and land improvements	**(225)**	(184)	(146)
Machinery	**(502)**	(404)	(330)
Equipment	**(577)**	(515)	(415)
Total depreciation and amortization	**(1,724)**	(1,424)	(1,223)

NOTE 3 ITEMS AFFECTING COMPARABILITY

Pursuant to an agreement announced on December 8, 1998, between Astra and Schering-Plough, Astra received a payment of USD 200 m. from Schering-Plough for an extension and widening of Schering-Plough's marketing rights in the U.S. with respect to Imdur.

On December 9, 1998, Astra and Schering-Plough announced an agreement pursuant to which Astra reacquired, as of January 1, 1999, all rights to market omeprazole under the Losec trademark and felodipine under the Prevex and Perfudal trademarks in Italy and Spain. The agreement has resolved a disagreement regarding interpretation of the license agreement with Schering-Plough referred to in Astra's Report and Accounts for the year ended December 31, 1997.

	GROUP **1998**	PARENT COMPANY **1998**
Payment received for Imdur	**1,608**	**1,608**
Other effects of Schering-Plough agreements	**(315)**	**(232)**
Total	**(1,293)**	**(1,376)**

NOTE 4 APPROPRIATIONS TO UNTAXED RESERVES

	PARENT COMPANY **1998**	1997	1996
Depreciation in excess of plan	**(993)**	(479)	(490)
Appropriation to reserve for export claims	**(36)**	(5)	(3)
Reversal of tax-equalization reserve	**330**	330	330
Appropriation to tax allocation reserve	**–**	(462)	(775)
Reversal of/appropriation to foreign exchange reserve	**101**	(76)	(24)
Total	**(598)**	(692)	(962)

Tax depreciation is recorded at the maximum amount allowable under tax laws. The reserve for export claims consists of a tax-related reserve for the risk of loss in respect of claims in certain foreign markets. Concerning the tax allocation reserve, see Note 5.

NOTE 5 TAXES

Group
After the restructuring of the U.S. operations, in connection with the new agreement with Merck on July 1, 1998, U.S. income taxes will be offset against Swedish taxes. For 1998 the criteria has been met for offsetting the entire tax assessed in the U.S. Therefore, the effective tax rate for the U.S. operations during the second half of 1998, after the restructuring, is 28 percent.

The Group's pretax earnings were distributed geographically as follows:

	1998	1997	1996
Sweden	**3,563**	2,130	3,400
Abroad	**12,881**	12,175	9,820
Total	**16,444**	14,305	13,220

The Group's taxes were distributed geographically as follows:

	1998	1997	1996
Current taxes			
Sweden	**(998)**	(504)	(719)
Abroad	**(3,813)**	(3,474)	(2,643)
Total	**(4,811)**	(3,978)	(3,362)
Deferred taxes			
Sweden	**–**	(120)	(244)
Abroad	**170**	(6)	(165)
Total	**170**	(126)	(409)
TOTAL TAXES	**(4,641)**	(4,104)	(3,771)

At the end of 1998 the Group had no remaining tax-loss carryforwards.

The main reason for the difference between the Swedish company tax rate and the Group's effective tax rate is illustrated in the table below:

	1998	1997	1996
Swedish company tax rate	**28**	28	28
Difference between Swedish company tax rate and local company tax rates abroad	**0**	1	1
Effective tax rate for the Group	**28**	29	29

Deferred taxes
Deferred taxes at year-end consisted of deferred tax assets of SEK 550 (230) m. included in long-term receivables, and deferred tax liabilities of SEK 2,054 (3,878) m.

Developments in 1998 were as follows:	
Opening balance, net deferred tax liability	**3,648**
Deferred tax asset originating from Astra Merck restructuring	**(7,500)**
Valuation reserve	**5,526**
Changes in temporary differences during the year	**(170)**
Closing balance, net deferred tax liability	**1,504**

Parent Company
The above-mentioned restructuring gives rise to a tax step-up in Sweden for the U.S. operations of approximately SEK 27 bn. This amount consists of the market value of intangible assets created in Astra Merck and Astra USA, which through contribution agreements were transferred to the limited partnership, Astra Pharmaceuticals, L.P., which conducts operations in the U.S. The Parent Company's tax cost has been affected by depreciation of these assets for tax purposes, in accordance with the residual value method, of SEK 2,200 m., giving rise to a tax effect of SEK 616 m.

In the Parent Company's financial statements, no appropriation was made to a tax allocation reserve. Appropriations are based on taxable income, of which 20 percent is deferrable. The tax allocation reserve must be reversed and included in taxable income not later than the fifth year after the year in which the respective appropriations were made.

NOTE 6 EARNINGS PER SHARE

Amounts per share have been computed on the basis of 1,643,223,562 shares.

Earnings per share according to U.S. GAAP and U.K. GAAP are calculated as estimated net earnings in accordance with U.S. GAAP and U.K. GAAP, respectively, divided by the same number of shares.

NOTE 7 INTANGIBLE RIGHTS

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
Opening balance, at cost	**8,767**	8,755	**3,414**	3,403
Investments	**114**	13	**3,488**	11
Other adjustments	**2,202**	(1)	**–**	–
Closing balance, at cost	**11,083**	8,767	**6,902**	3,414
Opening balance, amortization	**(2,505)**	(1,891)	**(1,531)**	(1,210)
Amortization for the year	**(707)**	(635)	**(420)**	(321)
Other adjustments	**(4)**	21	**–**	–
Closing balance, amortization	**(3,216)**	(2,505)	**(1,951)**	(1,531)
Stated residual value	**7,867**	6,262	**4,951**	1,883

Intangible rights consist mainly of rights acquired in connection with Astra's investments in the U.S. and Japan.

NOTE 8 GOODWILL

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
GOODWILL				
Opening balance, at cost	**941**	941	**–**	–
Investments	**7,170**	–	**–**	–
Other adjustments	**5**	–	**–**	–
Closing balance, at cost	**8,116**	941	**–**	–
Opening balance, amortization	**(667)**	(554)	**–**	–
Amortization for the year	**(308)**	(113)	**–**	–
Other adjustments	**–**	–	**–**	–
Closing balance, amortization	**(975)**	(667)	**–**	–
Stated residual value	**7,141**	274	**–**	–

The increase in goodwill and amortization is related to the formation of Astra Pharmaceuticals, L.P. (the Astra Merck restructuring), whereby the Group acquired SEK 11,354 m. in net assets, including SEK 7,170 m. in goodwill. As a result of the Astra Pharmaceuticals, L.P. formation, deferred tax assets of SEK 7,500 m. were acquired, on which a valuation allowance of SEK 5,526 m. was established due to uncertainty over future realization. Any future realizations will result in a corresponding reduction in goodwill.

NOTE 9 TANGIBLE ASSETS

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
BUILDINGS AND LAND				
Opening balance, at cost	**9,857**	7,943	**5,006**	3,928
Investments	**483**	500	**241**	315
Transferred from construction in progress	**638**	1,471	**374**	765
Other adjustments	**(130)**	(57)	**2**	(2)
Closing balance, at cost	**10,848**	9,857	**5,623**	5,006
Opening balance, depreciation	**(1,725)**	(1,381)	**(940)**	(758)
Depreciation for the year	**(464)**	(367)	**(225)**	(184)
Other adjustments	**28**	23	**3**	2
Closing balance, depreciation	**(2,161)**	(1,725)	**(1,162)**	(940)
Stated residual value	**8,687**	8,132	**4,461**	4,066
MACHINERY				
Opening balance, at cost	**5,339**	4,449	**3,554**	2,777
Investments	**803**	608	**574**	480
Transferred from construction in progress	**434**	390	**274**	345
Other adjustments	**(52)**	(108)	**(44)**	(48)
Closing balance, at cost	**6,524**	5,339	**4,358**	3,554
Opening balance, depreciation	**(2,976)**	(2,513)	**(1,989)**	(1,633)
Depreciation for the year	**(698)**	(567)	**(502)**	(404)
Other adjustments	**64**	104	**43**	48
Closing balance, depreciation	**(3,610)**	(2,976)	**(2,448)**	(1,989)
Stated residual value	**2,914**	2,363	**1,910**	1,565
EQUIPMENT				
Opening balance, at cost	**9,023**	7,002	**4,742**	3,823
Investments	**1,713**	1,612	**677**	789
Transferred from construction in progress	**177**	798	**85**	341
Other adjustments	**(381)**	(389)	**(269)**	(211)
Closing balance, at cost	**10,532**	9,023	**5,235**	4,742
Opening balance, depreciation	**(3,518)**	(2,752)	**(2,189)**	(1,832)
Depreciation for the year	**(1,258)**	(1,039)	**(577)**	(515)
Other adjustments	**495**	273	**215**	158
Closing balance, depreciation	**(4,281)**	(3,518)	**(2,551)**	(2,189)
Stated residual value	**6,251**	5,505	**2,684**	2,553
CONSTRUCTION IN PROGRESS				
Opening balance, at cost	**1,757**	2,513	**886**	1,572
Investments	**2,202**	1,916	**877**	766
Transferrals	**(1,249)**	(2,659)	**(733)**	(1,451)
Other adjustments	**(40)**	(13)	**(28)**	(1)
Closing balance, at cost	**2,670**	1,757	**1,002**	886

The tax assessment value of Parent Company buildings is SEK 1,484 (1,307) m., and of land SEK 162 (158) m.

NOTE 10 SHARES AND PARTICIPATIONS

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
SHARES AND PARTICIPATIONS IN SUBSIDIARIES				
Opening balance, at cost	**–**	–	**4,347**	4,216
Investments	**–**	–	**8,385**	–
Other adjustments	**–**	–	**–**	131
Closing balance, at cost	**–**	–	**12,732**	4,347
SHARES AND PARTICIPATIONS IN ASSOCIATED AND NONASSOCIATED COMPANIES				
Opening balance, at cost	**56**	66	**5,750**	5,762
Investments	**–**	1	**–**	–
Other adjustments	**(2)**	(11)	**(5,714)**	(12)
Closing balance, at cost	**54**	56	**36**	5,750

PARENT COMPANY SHAREHOLDINGS	Registered number	Domicile	Number of shares	Voting rights and percent holding	Book value
SUBSIDIARIES IN SWEDEN					
Astra Arcus AB	556275-9232	Södertälje	1,000	100	0
Astra Draco AB	556420-1209	Lund	1,000	100	0
Astra Hässle AB	556420-1225	Mölndal	1,000	100	0
Astra Pain Control AB	556372-3781	Södertälje	1,000	100	0
Symbicom AB	556238-3272	Umeå	17,443	100	2
Astra Pharmaceutical Production AB	556031-6514	Södertälje	2,330	100	0
Astra Läkemedel AB	556120-3232	Södertälje	1,000	100	0
Draco Läkemedel AB	556364-1694	Lund	1,000	100	0
Tika Läkemedel AB	556130-0772	Lund	1,000	100	0
Hässle Läkemedel AB	556115-5382	Mölndal	100	100	0
Astra Export & Trading AB	556077-1858	Södertälje	1,000	100	0
Astra Tech AB	556051-8812	Mölndal	10,000	100	1
Other shares and participations	–	–	–	–	6
					9

PARENT COMPANY SHAREHOLDINGS	Number of shares	Voting rights and percent holding	Book value
FOREIGN SUBSIDIARIES			
Astra, Denmark	1	25	59
Astra Holding, France	499,451	100	9
Astra Benelux, Netherlands	1,176,285	100	3,642
Astra, Germany	–	10	16
Astra Tech, Germany	–	50	8
Astra Holding, USA	5	100	168
Astra USA, Inc., USA	–	100	4,707
KB USA L.P., USA	–	95	3,635
Astra Tech, USA	–	100	8
Astra, Brazil	426,992,872	100	2
Astra, Mexico	9,998	100	9
Astra, Philippines	2,094,970	100	27
Astra, Hong Kong	40,000	100	12
Astra, China	–	100	295
Astra, India	5,452,830	100	38
Astra, Malaysia	979,992	100	3
Astra, South Korea	1,200,000	100	82
Astra, Taiwan	1,000,000	100	3
			12,723
Total shares and participations in subsidiaries			12,732
ASSOCIATED AND NONASSOCIATED COMPANIES			
HealthCap KB, Sweden	–	–	35
Other shares and participations	–	–	1
Total shares and participations in associated and nonassociated companies			36

Except for Astra AB, no Group company is listed on a stock exchange.

MAJOR SHAREHOLDINGS IN SUBSIDIARIES	Number of shares	Voting rights and percent holding	Book value
Astra, Denmark	50,022	75	94
Astra, Finland	10,700	100	17
Astra, Norway	10	100	0

MAJOR SHAREHOLDINGS IN SUBSIDIARIES	Number of shares	Voting rights and percent holding	Book value
Astra, Belgium	538,907	100	81
Astra, France	5,632	100	9
A.S.P., France	750,000	100	80
Astra, Greece	80,750	100	44
Astra, Ireland	20,000	100	0
Astra, Italy	6,074,700	100	321
Astra, Luxembourg	–	100	1
Astra, Netherlands	100	100	2,589
Astra Continent, Netherlands	100,009	100	2,912
Astra, Portugal	300,000	100	12
Astra, Switzerland	500	100	0
Astra, Spain	57,140	100	77
Astra, U.K.	976,656,985	100	12,828
Astra, Germany	–	90	141
Astra, Hungary	–	100	49
Astra, Austria	–	100	23
Astra, Canada	10,800	100	8
Astra L.P., USA	–	99	3,875
Astra, Argentina	–	100	3
Astra, South Africa	83,000	100	13
Astra, Australia	9,999,998	100	51
Astra, New Zealand	7,999,000	100	32
Astra, Japan	10,000	100	252
Yoshitomi-Astra, Japan	–	51	1
Astra, Singapore	2,500,000	100	12
Astra, Thailand	150,000	100	5

NOTE 11 INVENTORIES

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
Raw materials	**1,718**	1,193	**1,163**	680
Work in process	**1,948**	933	**1,008**	599
Finished goods	**2,002**	1,659	**945**	791
Total inventories	**5,668**	3,785	**3,116**	2,070

NOTE 12 SHORT-TERM INVESTMENTS; CASH AND CASH EQUIVALENTS

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
Short-term investments	**10,695**	14,261	**11,094**	7,182
Cash and cash equivalents	**11,778**	10,218	**8,161**	3,361
Total liquid assets	**22,473**	24,479	**19,255**	10,543

Liquid assets are denominated in the following currencies:

French francs	**7,642**	3,051	**5,181**	–
Swedish kronor	**6,975**	10,429	**6,965**	10,408
U.S. dollars	**5,911**	1,190	**5,563**	135
Dutch guilders	**398**	6,892	**–**	–
Other currencies	**1,547**	2,917	**1,546**	–
Total liquid assets	**22,473**	24,479	**19,255**	10,543

NOTE 13 STOCKHOLDERS' EQUITY

In some cases, earnings in foreign subsidiaries are subject to further taxation when transferred to Sweden. In exceptional cases, such transfers are not permitted because of currency restrictions. At year-end there were no such restrictions of significance.

Under the terms of the Astra Merck restructuring, none of the profits of Astra Pharmaceuticals, L.P. are distributable to Astra (as the general partner of the partnership) until July 1, 2000.

For 1998 a dividend of SEK 1.90 (1.80) per share has been proposed, corresponding to SEK 3,122 (2,958) m.

It is proposed that no appropriations be made from the unrestricted equity of the Group's Swedish subsidiaries to restricted reserves.

CHANGES IN STOCKHOLDERS' EQUITY

GROUP	Capital stock	Restricted reserves	Unrestricted reserves	Net earnings
According to balance sheet, December 31, 1995	1,541	6,629	13,745	8,764
Transfer of net earnings for 1995			8,764	(8,764)
Dividend			(1,849)	
Capital portion of untaxed reserves included in net earnings for the year		699	(699)	
Stock dividends in subsidiaries, and other		(42)	42	
Net earnings for 1996				9,449
According to balance sheet, December 31, 1996	1,541	7,286	20,003	9,449
Transfer of net earnings for 1996			9,449	(9,449)
Stock dividend	513		(513)	
Dividend			(2,465)	
Capital portion of untaxed reserves included in net earnings for the year		459	(459)	
Stock dividends in subsidiaries, and other		(35)	35	
Net earnings for 1997				10,201
According to balance sheet, December 31, 1997	2,054	7,710	26,050	10,201
Transfer of net earnings for 1997			10,201	(10,201)
Dividend			(2,958)	
Capital portion of untaxed reserves included in net earnings for the year		414	(414)	
Stock dividends in subsidiaries, and other		(90)	90	
Transfer of minority capital		28	(33)	
Net earnings for 1998				11,803
According to balance sheet, December 31, 1998	2,054	8,062	32,936	11,803

PARENT COMPANY	Capital stock	Statutory reserve	Retained earnings	Net earnings
According to balance sheet, December 31, 1997	2,054	799	13,100	4,378
Transfer of net earnings for 1997			4,378	(4,378)
Dividend			(2,958)	
Net earnings for 1998				11,127
According to balance sheet, December 31, 1998	2,054	799	14,520	11,127

NOTE 14 MINORITY INTERESTS IN STOCKHOLDERS' EQUITY

In 1998 the 10 percent minority interest in Astra Japan, corresponding to SEK 5 m., was not included. Furthermore, the 50 percent interest in Astra Synthelabo, of SEK 8 m., is from January 1, 1998, consolidated according to the proportionate method, and is thus eliminated against net assets previously consolidated in the balance sheet.

NOTE 15 UNTAXED RESERVES

	PARENT COMPANY	
	1998	1997
Accumulated amortization / depreciation in excess of plan	**4,654**	3,661
Reserve for export claims	**107**	72
Equity-based tax equalization reserve	**660**	990
Tax allocation reserve	**4,190**	4,190
Foreign exchange reserve	**0**	101
Total	**9,611**	9,014

NOTE 16 PROVISION FOR PENSIONS

The Group subscribes to several pension plans, which cover essentially all employees in the Swedish operations and most employees of the foreign subsidiaries.

The Swedish plan for salaried employees is administered by Pritjänst AB, a joint company for Swedish industry. Benefit levels and the actuarial assumptions are established by Försäkringsbolaget SPP. The pension liability consists of the sum of the discounted present value of the Company's estimated future pension payments. Pension liabilities are based on an employee's current salary, and the ultimate pension benefit is based mainly on the employee's salary at retirement. Through yearly decisions by SPP's board of directors, pension benefits are ordinarily adjusted upward through pension supplements, which mainly compensate for inflation.

Pension provisions include pension liabilities attributable to foreign subsidiaries, with pension commitments reported in accordance with the principles that apply in the respective countries, provided that pension benefits are reported as an expense as incurred.

The amount appropriated for the Group's pension commitments, SEK 2,725 (2,218) m., includes commitments in accordance with the Parent Company's agreements with Försäkringsbolaget SPP, totaling SEK 1,642 (1,446) m.

NOTE 17 PROVISION FOR THALIDOMIDE FUND

The annual payments in the out-of-court settlements in the thalidomide cases are index-linked. During 1998, SEK 4 m. was paid to those entitled to this compensation. The provision was increased from SEK 123 m. to SEK 124 m. This amount corresponds with a calculation, performed on an actuarial basis, of the liability to those entitled to such compensation.

NOTE 18 LONG- AND SHORT-TERM LOANS

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
Long-term loans	**106**	107	**6**	7
Short-term loans	**827**	1,175	**140**	1
Total loans	**933**	1,282	**146**	8
Loans are denominated in the following currencies:				
Japanese yen	**525**	937	**–**	–
South Korean won	**79**	64	**–**	–
Chinese renminbi	**74**	25	**–**	–
Argentinean pesos	**66**	55	**–**	–
Other currencies	**189**	120	**146**	8
Total loans	**933**	1,282	**146**	8

Security in the amount of SEK 346 (326) m. has been pledged for long- and short-term loans.

NOTE 19 ASSETS PLEDGED, CONTINGENT LIABILITIES AND COMMITMENTS

	GROUP		PARENT COMPANY	
ASSETS PLEDGED	**1998**	1997	**1998**	1997
Real-estate mortgages	**346**	326	**1**	1
Other assets pledged	**19**	16	**19**	16
Total	**365**	342	**20**	17
CONTINGENT LIABILITIES				
Discounted bills	**–**	7	**–**	–
Other contingent liabilities	**101**	103	**69**	71
Total	**101**	110	**69**	71
TOTAL	**466**	452	**89**	88

During the fiscal year, companies in the Astra Group did not reach, nor were they bound to, any agreements or other material commitments which involved, pertained to or otherwise concerned members of Astra AB's board or such members' private areas of interest.

The Parent Company has no sureties outstanding on behalf of board members of subsidiaries, disclosure of which is required under the Swedish Companies Act.

Commitments
Astra is required to pay approximately USD 800 m. (approximately SEK 6.4 bn.) over at least a five-year period, under the terms of a recent agreement with Schering-Plough. Under the terms of this agreement Astra reacquires the rights to market omeprazole under the Losec trademark and felodipine under the Prevex and Perfudal trademarks in Italy and Spain. Payments under this agreement for 1999 are expected to total approximately USD 275 m.

Under the terms of the restructured agreement with Merck & Co., Inc., Astra will be required to make certain payments upon consummation of the proposed merger with Zeneca (the Lump Sum Payment of approximately USD 740 m.

[approximately SEK 5.9 bn.] and the Advance Amount Payment of approximately USD 950 m. [approximately SEK 7.6 bn.]). These payments, which are more fully described in Note 20, would be payable in 1999, assuming consummation of the merger in 1999. Merck has challenged the methodology used by Astra in calculating the Lump Sum Payment and has asserted that the amount of such payment should be approximately ten percent higher. Astra disputes Merck's assertion and intends to defend its calculation of the Lump Sum Payment.

NOTE 20 CHANGED AGREEMENT WITH MERCK

On July 1, 1998, Astra and Merck & Co., Inc. completed the restructuring of Astra Merck, Inc., formerly a 50-50 joint venture in the U.S. between Astra and Merck, whereby the businesses of Astra Merck and Astra USA, Inc., a wholly owned subsidiary of Astra, were contributed to Astra Pharmaceuticals, L.P. (Astra LP), a newly formed U.S. limited partnership. Astra, through a wholly owned partnership subsidiary, manages the business and affairs of Astra LP. A subsidiary of Merck is the limited partner of Astra LP.

Each of Astra and Merck holds a preferred stock interest in Astra Merck with a liquidation preference of USD 2.4 bn. pursuant to which each is entitled to receive a semi-annual preferred stock dividend at a rate of 5 percent per annum. As a result of the Astra Merck restructuring, Merck acquired all of the common stock of Astra Merck. In addition, in return for certain capital contributions to Astra LP, Astra received an indirect general partnership interest in Astra LP and Merck received an indirect limited partner interest in Astra LP.

Astra LP is obligated to make certain contingent payments to Merck based on sales of certain current and pipeline Astra products until at least 2008. Astra LP is also required to make certain payments to Merck in the form of partnership distributions, including a priority return and certain variable returns which are based upon sales of certain other Astra LP products. Astra LP's sales are included in Astra Group sales, and the sales-related compensation to Merck is included in the Astra Group's operating expenses. Prior to the Astra Merck restructuring in July 1998, only half of Astra Merck's sales were included in Astra Group sales because Astra Merck sales were consolidated according to the proportionate method. These changes affect comparability with previous reporting periods.

As part of the Astra Merck restructuring, Astra acquired an option (the First Option) to buy Merck's rights to all products other than omeprazole and perprazole (the First Option Assets) in 2008, 2012, or 2016. In the event the First Option is exercised, Astra shall pay compensation to Merck based on a multiple of an average of the three preceding years' average pretax payments from Astra to Merck for all products except for omeprazole and perprazole, however, at least USD 4.4 bn. in 2008.

In addition, Astra acquired an option to purchase Merck's rights to payments in respect of omeprazole and perprazole in 2017, or earlier under certain circumstances (the Second Option). The exercise price for the Second Option will be the fair value of such rights as determined at the time of such exercise.

If Astra merges with or is acquired by another company ("Partner"), according to the agreement such event would constitute a "Trigger Event," which will result in the modification of certain rights and obligations of Astra and Merck. Upon the occurrence of a Trigger Event, the existing license agreement between Astra and Merck will be partially terminated in that Merck will have no interest, rights or claims with respect to any of the Partner's products, and Merck will have no rights to payments with respect to products subsequently discovered or acquired by the new, combined company. Contingent payments to Merck under the Astra Merck restructuring agreements will otherwise continue as before, except that they will be subject to minimum annual amounts from 2002 to 2007.

Upon the occurrence of a Trigger Event, Merck is entitled to receive (a) a Lump Sum Payment and (b) an additional amount (an Advance Amount Payment).

The Lump Sum Payment is payable to Merck at the time of a Trigger Event in consideration of the release of certain claims. The amount of the Lump Sum Payment, which may range from USD 675–1,500 m., is based on a formula which takes into account the research and development expenses of Astra and the Partner.

The Advance Amount Payment represents the estimated present value of a portion of the option exercise price for the First Option Assets which Astra has agreed with Merck it would pay to Merck at the time of a Trigger Event, discounted from 2008 to the date of payment at an agreed upon rate of 13 percent per annum.

As part of the Astra Merck restructuring, upon the occurrence of a Trigger Event the terms of the First Option, including the timing of exercisability, will change such that Merck will have the right to require that Astra purchase the First Option Assets in 2008. If Merck does not exercise the First Option in 2008, then the new, combined company may exercise the First Option in 2010 (and will not have the right to exercise it in 2008, 2012 or 2016). Upon the occurrence of a Trigger Event, the new, combined company may exercise the Second Option two years after the First Option is exercised.

If neither the First Option nor Second Option is exercised by Astra or Merck, the license agreement would continue indefinitely with respect to the compounds subject to the license agreement at the time of the Trigger Event, the value of which will diminish over time.

NOTE 21 ASTRA MERCK

On July 1, 1998, the previously half-owned company Astra Merck, Inc., was restructured in connection with the formation of a new company, Astra Pharmaceuticals, L.P. See Note 20.

Prior to this restructuring Astra Merck, Inc., was consolidated according to the proportionate method.

The consolidated financial statements for 1997 and 1996 include the following items related to Astra's interest in Astra Merck.

STATEMENT OF EARNINGS	1997	1996
Sales	8,914	6,003
Operating expenses	(5,644)	(3,851)
Net financial income/expenses	44	98
Taxes	(1,836)	(1,176)
Net earnings for the year	1,478	1,074

BALANCE SHEET	Dec. 31, 1997	Dec. 31, 1996
Noncurrent assets	5,106	5,239
Current assets	2,170	1,614
Provisions and long-term liabilities	337	224
Current liabilities	1,760	1,111

STATEMENT OF CASH FLOWS	1997	1996
Net cash flows from operating activities	407	467
Net cash flows from investing activities	(176)	(56)
Net cash flows from external financing	0	0
Change in cash and cash equivalents	231	411

NOTE 22 LEGAL PROCEEDINGS

Astra is involved in various claims and legal proceedings of a nature considered normal to its business, principally product liability and intellectual property cases.

Product liability is a significant commercial risk in the pharmaceutical business and consequently also for Astra. Substantial damage awards have been made in certain jurisdictions, such as the U.S., against certain pharmaceutical companies in past years based upon claims for injuries allegedly caused by the use of their products. With increasing frequency, patients or their families seek redress through litigation, or other means, against medical practitioners, hospitals and drug manufacturers where treatment has allegedly caused injury or death. Astra believes, based on its past experience, that the level and scope of its insurance coverage are appropriate, although there can be no assurance that such insurance will provide adequate cover against all potential claims.

In June 1997 the German federal patent court declared invalid a Supplementary Protection Certificate that was previously granted for the active ingredient contained in Losec from 1999 to 2003. A final decision has not yet been issued in the case. This case does not involve any financial claims. With regard to the overall patent situation for the product in Germany, including MUPS and the formulation patents, it is the belief of Astra that a final adverse decision will not have a materially adverse effect on the financial position, liquidity or result of operations of the Company.

In 1998 Astra filed suit in the U.S. against Andrx Pharmaceuticals Inc. (Andrx) and Genpharm, Inc. (Genpharm). The lawsuits are a result of Abbreviated New Drug Applications (ANDAs) filed by Andrx and Genpharm with the FDA concerning the two companies' intent to market generic omeprazole (Prilosec/Losec) products in the U.S. The basis of Astra's complaints is that the actions of Andrx and Genpharm infringe upon several patents related to Prilosec (Losec). In Astra's opinion, these patents provide protection to at least the year 2001. In early 1999 Astra also filed suit against the companies Kremers Urban Development Company and Schwarz Pharma Inc., in U.S., on similar grounds. These lawsuits do not entail any financial claims. A launch of generic omeprazole in the U.S. market would have significant negative effects on the financial position, liquidity and result of operations of the Company.

NOTE 23 U.S. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (U.S. GAAP)

The Astra Group's accounts have been prepared in accordance with Swedish Accounting Standards. These differ in certain respects from U.S. GAAP. Regarding net earnings and stockholders' equity, Astra's accounts differ from U.S. GAAP on the points below.

Translation methods
The accounts of Astra Pharmaceuticals, L.P. (from July 1, 1998), and Astra Merck (through June 30, 1998), have been translated in accordance with the temporal method. According to U.S. GAAP, these accounts are to be translated in accordance with the current method. This method entails that the balance sheet is translated at the year-end exchange rate, while the statement of earnings is translated at the average exchange rate for the year. The translation difference that arises in connection with the currency translation is taken directly to stockholders' equity, in contrast with the translation difference in the temporal method, which is charged against the year's earnings.

Receivables and liabilities in foreign currency
Changes in the market value of forward contracts pertaining to anticipated currency flows have not affected Astra's accounting. According to U.S. GAAP, forward contracts like these are stated at market value; the profits or losses arising from changes in market value are included in earnings for the year.

Pensions
According to FAS 87, the U.S. accounting principles for pensions, future salary increases, inflation, etc. are taken into account in calculations of the future pension commitment. Calculations of, among other things, the Swedish reserve for PRI pensions do not take future salary increases into account. This is largely offset by the lower discounting rate used in calculating the PRI reserve, compared with the calculation in accordance with FAS 87.

Deferred taxes
Certain items affect accounting and income taxation during different periods. Astra reports deferred taxes on temporary differences and takes into account the future effect of tax-loss carryforwards in cases where it is judged that they may be utilized. According to U.S. GAAP, deferred taxes are calculated on all differences between book and fiscal values.

Restructuring costs
Certain costs to restructure the U.S. operations were included in goodwill in the consolidated balance sheet. For U.S. GAAP purposes, these costs were charged against earnings because they were not related to an acquisition under purchase accounting and therefore could not be treated as goodwill.

Estimated net earnings, earnings per share and stockholders' equity	**1998**	1997	1996
Reported net earnings	**11,803**	10,201	9,449
U.S., current method	**23**	(19)	(35)
Valuation of forward exchange contracts	**5**	12	(66)
Pensions	**(125)**	6	(49)
Deferred taxes	**(89)**	3	47
Restructuring costs	**(335)**	–	–
Other	**7**	(8)	(4)
Less in accordance with U.S. GAAP	**(514)**	(6)	(107)
Estimated net earnings in accordance with U.S. GAAP	**11,289**	10,195	9,342
Reported earnings per share, SEK	**7.18**	6.21	5.75
Less in accordance with U.S. GAAP, SEK	**(0.31)**	(0.01)	(0.06)
Estimated earnings per share in accordance with U.S. GAAP, SEK	**6.87**	6.20	5.69
Reported stockholders' equity	**54,855**	46,015	38,279
U.S., current method	**229**	146	(309)
Valuation of forward exchange contracts	**(5)**	(10)	(22)
Pensions	**(176)**	(51)	(57)
Deferred taxes	**–**	89	86
Restructuring costs	**(335)**	–	–
Other	**(1)**	(8)	0
Less / plus in accordance with U.S. GAAP	**(288)**	166	(302)
Estimated stockholders' equity in accordance with U.S. GAAP	**54,567**	46,181	37,977

NOTE 24 U.K. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (U.K. GAAP)

The Astra Group's accounts have been prepared in accordance with Swedish Accounting Standards. These differ in certain respects from U.K. GAAP. Regarding net earnings and stockholders' equity, Astra's accounts differ from U.K. GAAP on the points below.

Translation methods
Subsidiaries' accounts have been translated in accordance with the temporal method. According to U.K. GAAP, subsidiaries' accounts are to be translated in accordance with the current method. This method entails that the balance sheet is translated at the year-end exchange rate, while the statement of earnings is translated at the average exchange rate for the year. According to the current method, the translation difference that arises in connection with the currency translation is taken directly to stockholders' equity, in contrast with the translation difference in the temporal method, which is charged against the year's earnings.

Goodwill
According to Swedish Accounting Standards, goodwill that arises in connection with company acquisitions shall be reported as an asset and be amortized over its estimated economic life. According to U.K. GAAP, goodwill attributable to acquisitions carried out through December 1997 can be written off directly against stockholders' equity, and earnings are thereby not affected by yearly goodwill amortization. For goodwill arising after December 1997, Swedish accounting standards and U.K. GAAP are in agreement with each other.

Deferred taxes
Certain items affect accounting and income taxation during different periods. Astra reports deferred taxes on temporary differences and takes into account the future effect of tax-loss carryforwards in cases where it is judged that they may be utilized. According to U.K. GAAP, deferred taxes are calculated only on differences between book and fiscal values, which will result in taxation in the foreseeable future—normally within 3–5 years.

Restructuring costs
Certain costs to restructure the U.S. operations were included in goodwill in the consolidated balance sheet. For U.K. GAAP purposes, these costs were charged against earnings because they were not related to an acquisition under purchase accounting and therefore could not be treated as goodwill.

Stockholder dividend
The dividend to Astra's stockholders is booked in the year in which Astra's Annual Meeting approved the dividend amount. According to U.K. GAAP, the dividend is anticipated in the year to which it applies.

Estimated net earnings, earnings per share and stockholders' equity	**1998**	1997	1996
Reported net earnings	**11,803**	10,201	9,449
Current method	**(417)**	(40)	252
Goodwill	**113**	113	113
Deferred taxes	**158**	167	187
Restructuring costs	**(335)**	**–**	**–**
Other	**(9)**	22	(48)
Less / plus in accordance with U.K. GAAP	**(490)**	262	504
Estimated net earnings in accordance with U.K. GAAP	**11,313**	10,463	9,953
Reported earnings per share, SEK	**7.18**	6.21	5.75
Less / plus in accordance with U.K. GAAP, SEK	**(0.30)**	0.16	0.31
Estimated earnings per share in accordance with U.K. GAAP, SEK	**6.88**	6.37	6.06
Reported stockholders' equity	**54,855**	46,015	38,279
Current method	**977**	626	(398)
Goodwill	**(161)**	(274)	(387)
Deferred taxes	**2,132**	3,456	3,157
Restructuring costs	**(335)**	–	–
Stockholder dividend	**(3,122)**	(2,958)	(2,465)
Other	**(18)**	2	0
Less / plus in accordance with U.K. GAAP	**(527)**	852	(93)
Estimated stockholders' equity in accordance with U.K. GAAP	**54,328**	46,867	38,186

NOTE 25 FEES, SALARIES AND WAGES, ETC.

The average number of employees in each of the Group's various units in Sweden and abroad is shown in the section headed "Astra Worldwide," on pp. 74 and 75.

WAGES, SALARIES, OTHER REMUNERATION, SOCIAL SECURITY COSTS AND PENSION COSTS, SEK m.

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
Wages, salaries and other remuneration	**9,043**	6,865	**2,757**	2,313
Social security costs	**2,980**	2,305	**1,189**	1,032
Of which, pension costs	**753**	606	**226**	200

WAGES, SALARIES AND OTHER REMUNERATION PER GEOGRAPHIC AREA, SEK m.

	GROUP		PARENT COMPANY	
	1998	1997	**1998**	1997
Sweden	**2,666**	2,237	**2,666**	2,238
Other Europe	**2,592**	2,234	**61**	50
North America	**2,739**	1,408	**–**	–
Asia/Pacific	**800**	778	**4**	19
Other markets	**246**	208	**26**	6
Total	**9,043**	6,865	**2,757**	2,313
Of which, to boards of directors, presidents and vice presidents	**164**	160	**33**	27
Of which, bonuses	**33**	35	**9**	12

A sum of SEK 3,275,000 was paid to board members in 1998, including SEK 1,000,000 to the chairman, SEK 350,000 to the vice chairman, and a total of SEK 1,925,000 to the other non-executive directors.

In 1998 the president received compensation amounting to SEK 13,495,000, including a base salary of SEK 7,500,000, and a performance-related salary of SEK 3,576,000, calculated as 0.25 per mill of 1997 pretax earnings. Added to this is the value of stock options granted, totaling SEK 1,756,000, and other benefits totaling SEK 663,000. During the year the president's benefits were readjusted as such that severance pay would amount to a year's salary before 55 years of age, two years' salaries from the ages of 55 to 58, and thereafter it would be phased out. Any severance pay would be coordinated, gross, with income from new employment. Severance pay can only be activated if the Company serves notice. In addition, the president has a contract entitling him to retire with pension at the age of 60, at a level corresponding to 70 percent of a set pensionable salary. Paid-in pension capital may also be used in the event of retirement or termination before the age of 60. From 65 years of age the president is guaranteed a total pension level of 50 percent of the pensionable salary. The pensionable salary has been set at SEK 12,000,000 for 1998 and will be adjusted yearly in accordance with the consumer price index.

The Company's executive management includes three executive vice presidents with contracts for severance pay corresponding to not more than two years' salaries, which can only be activated if the Company serves notice. Regarding pension benefits, these officers have contracts entitling them to retire with pension at the age of 60, at a level corresponding to 70 percent of salary. From 65 years of age these officers are guaranteed a total pension level of 50 percent of salary at the time of retirement.

Pension costs booked during the year for the president and executive vice presidents amounted to approximately SEK 3,000,000.

Stock Option Program

In 1996 Astra established a stock option program (Astra Shareholder Value Incentive Plan) for some one hundred Astra employees in key positions in research, marketing, production and central functions. Allocations through the program are intended to be made on a yearly basis.

The option allocation is coupled to the fulfillment of a Group-wide target established by the Board of Directors and related to the Group's growth in value during the year. Growth in value is defined as an increase in the Group's economic value added (EVA®).* Employees in the program are classified into four categories, with a different number of shares being allocated to employees within each of the respective categories.

EVA is calculated as consolidated earnings after tax, with certain adjustments. These earnings are charged with a capital cost for stockholders' equity and borrowed capital. The capital cost consists of a weighted average of calculated interest on loans and a calculated required rate of return for stockholders.

The options are based on existing Astra shares and therefore have no dilution effect. Nor do allocated options entail any future expense undertaking for the Company. The exercise period of the options is seven years. Valuation at the time of allocation will be made on strictly commercial terms and will correspond to the value of options purchased on the market for hedging purposes.

* EVA® is a registered trademark of Stern Stewart & Co., USA.

AUDITORS' REPORT
To the Annual Meeting of Stockholders of Astra AB

REGISTERED NUMBER 556011-7482

We have audited the consolidated financial statements, the accounts and the administration of the Board of Directors and President of Astra AB for the 12-month period ended December 31, 1998. These accounts and the administration of the Company are the responsibility of the Board of Directors and the President. Our responsibility is to express an opinion on the consolidated financial statements and the administration based on our audit.

We conducted our audit in accordance with Generally Accepted Auditing Standards in Sweden. Those standards require that we plan and perform the audit to obtain reasonable assurance that 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. An audit also includes assessing the accounting principles used and their application by the Board of Directors and the President, as well as evaluating the overall presentation of information in the consolidated financial statements. We examined significant decisions, actions taken and circumstances of the Company in order to be able to determine the possible liability to the Company of any board member or the President or whether they have in some other way acted in contravention of the Swedish Companies Act, the Swedish Annual Accounts Act, or the Company's Articles of Association. We believe that our audit provides a reasonable basis for our opinion set out below.

In our opinion, the consolidated financial statements have been prepared in accordance with the Swedish Annual Accounts Act and, consequently, we recommend

that the statements of earnings and balance sheets of the Parent Company and the Group be adopted, and

that the profit of the Parent Company be dealt with in accordance with the proposal in the Administration Report.

In our opinion, the board members and the President have not committed any act or been guilty of any omission, which could give rise to any liability to the Company. We therefore recommend

that the members of the Board of Directors and the President be discharged from liability for the fiscal year.

Södertälje, Sweden, February 26, 1999

BO MAGNUSSON
Authorized Public Accountant

SVANTE FORSBERG
Authorized Public Accountant

YEAR 2000

Background Many information technology and computer systems ("IT systems") and equipment and instruments with embedded microprocessors ("non-IT systems") identify years only by their last two digits. With the arrival of the year 2000, these systems and their microprocessors may encounter operating problems due to their inability to distinguish the year 1900 from the year 2000. Astra is addressing this issue by implementing a Group-wide project to remediate or replace its date-sensitive IT systems and non-IT systems (collectively, the "date-sensitive systems").

Astra's state of readiness Astra's Group-wide Year 2000 project involves six phases: (1) inventory of IT and non-IT systems; (2) assessment of remediation and replacement requirements and the associated costs for date-sensitive systems and equipment; (3) remediation and replacement of date-sensitive systems and equipment; (4) testing of remediated or replaced date-sensitive systems and equipment; (5) assessment of significant third parties' Year 2000 compliance; and (6) establishment of preventative and contingency plans for operations.

Although Astra has begun each of the six phases of its Year 2000 project, certain phases are at different stages of completion. As of September 30, 1998, the inventory and assessment phases were substantially complete. Astra expects to essentially complete remediation and replacement of business-critical date-sensitive systems by June 30, 1999. Testing, as it relates to remediated systems, is targeted to be completed by June 30, 1999, while final testing of replaced systems is expected to be completed in autumn 1999. Contingency plans are currently being developed with an expected completion date of November 1, 1999. There can be no assurances, however, that Astra will not experience business disruptions or incur material costs caused by the failure to detect and remediate all date-sensitive systems in a timely manner. Failure to complete these phases as planned could result in the corruption of data, equipment failures or the inability to manufacture products or conduct other business activities, any of which could have a material adverse effect on Astra's results of operations, liquidity or financial condition.

In connection with the assessment of significant third parties' Year 2000 compliance issues, Astra has contacted suppliers, major customers, financial institutions, clinical researchers, governmental regulatory agencies, utility companies, telecommunications service companies and other third-party service providers to obtain an evaluation of their Year 2000 compliance plans and state of readiness. Astra is in the process of evaluating third-party responses for their accuracy and adequacy. Astra cannot be certain, however, that its suppliers, customers or other third parties will not suffer from Year 2000–related failures.

Costs to address the Year 2000 issue Management estimates the total cost of Astra's Year 2000 project to be approximately SEK 500 m., which amount includes both internal and external costs and costs incurred to replace systems which Astra intended to replace but for which the replacement date was accelerated because of the Year 2000 issue. Astra's accumulated Year 2000 compliance costs incurred as of December 31, 1998, were approximately SEK 215 m., and as of December 31, 1997, were approximately SEK 20 m. Astra's normal IT project schedule has not been significantly delayed due to the implementation of its Year 2000 program. Total estimated costs include (a) external costs of approximately SEK 300 m. attributable primarily to the purchase of hardware and software, and consulting fees, and (b) internal costs of approximately SEK 200 m., attributable to, among other things, salaries of employees.

Risks presented by the Year 2000 issue Until Astra has substantially completed the testing of repaired or replaced systems, a complete estimate of the risks related to date-sensitive systems is not possible. Astra has not to date identified any IT or non-IT systems that it believes represent a material risk of a Year 2000 failure for which a suitable alternative cannot be implemented. It is possible, however, that Astra may in the future identify date-sensitive systems that represent a risk that could have a material adverse effect on Astra's financial condition, liquidity or results of operations. In addition, if any third parties who provide goods or services that are critical to Astra's business activities fail to address appropriately their Year 2000 issues, there could be a material adverse effect on Astra's financial condition, liquidity or results of operations, including, for example, disruption to the ordinary course of Astra's business.

Contingency plans Contingency plans designed to mitigate any material adverse effects to Astra in the event of a business disruption are currently being developed. It is intended that these plans will set forth ways in which Astra could mitigate any material adverse effect caused by Year 2000 noncompliance. Such alternative means may include, among other things, the use of manual methods of operations; stockpiling critical inventory to meet customer needs; identifying and securing alternate sources of critical services, materials and utilities where possible; and establishing crisis teams to address unexpected problems.

BOARD OF DIRECTORS AND AUDITORS

BOARD OF DIRECTORS*

Chairman

BO BERGGREN (b. 1936).
Hon. D.Eng., Hon. LL.D.
Vice Chairman of Astra since 1992, Chairman since 1993.
Chairman, the Federation of Swedish Industries, SAS Sverige AB and SAS (for Sweden); Vice Chairman, Investor AB; director, Robert Bosch Industrietreuhand KG, Danisco A/S, Ericsson, and the Royal Institute of Technology; member of the International Council of J.P. Morgan & Co. Inc. and Robert Bosch Internationale Beteiligungen Advisory Committee.
Shareholding in Astra: 30,000.

Vice Chairman

MARCUS WALLENBERG (b. 1956).
Vice President, Investor AB.
Deputy director of Astra since 1989, director since 1991, Vice Chairman since 1993.
Vice Chairman, Saab AB and Ericsson; director, Gambro AB, Investor AB, Scania AB, Skandinaviska Enskilda Banken, Stora Enso Oyj, and the Knut and Alice Wallenberg Foundation.
Shareholding in Astra: 147,679.

Other Directors

BJÖRN BJÖRNSON (b. 1944).
Project Coordinator. Representative of Astra employees affiliated with the Federation of Salaried Employees in Industry and Services (PTK).
Astra director since 1990.
Shareholding in Astra: 225.

CHARLES L. COONEY (b. 1944).
Professor of Chemical and Biochemical Engineering, Massachusetts Institute of Technology (M.I.T.).
Astra director since 1998.
Shareholding in Astra: 2,800.

CLAES DAHLBÄCK (b. 1947).
President, Investor AB.
Astra director since 1986.
Chairman, Gambro AB, Stora Enso Oyj, and V&S Vin & Sprit AB; Vice Chairman, Skandinaviska Enskilda Banken.
Shareholding in Astra: 9,865.

JAMES M. DENNY (b. 1932).
Managing Director, William Blair Capital Partners, LLC, Chicago.
Astra director since 1997.
Chairman, Northwestern Memorial Corporation; director, Allstate Corporation, ChoicePoint, Inc., GATX Corporation, and Gilead Sciences, Inc. Retired Vice Chairman, Sears, Roebuck & Co.
Shareholding in Astra: 13,333.

HARRY FAULKNER (b. 1931).
Former President and CEO, Alfa-Laval AB.
Astra director since 1990.
Chairman, Arcona AB, B&N Nordsjöfrakt AB, and EQT Denmark BV, SEB Fondförvaltning AB; director, Ahlstrom Oy (Finland), Perlos Oy (Finland), Förvaltnings AB Ratos, Sabroe (Denmark), Scandinavian EQT Partners I, Stockholms Auktionsverk, Tetra Laval, and other companies.
Shareholding in Astra: 7,266.

HÅKAN MOGREN (b. 1944).
D.Sc., Ph.D. h.c. President and CEO.
Astra director since 1988.
Chairman, the Research Institute of Industrial Economics (IUI); Vice Chairman, Social and Economic Council; director, Gambro AB, Investor AB, Stora AB, the Federation of Swedish Industries, the executive committee of the Swedish National Committee of the International Chamber of Commerce (ICC), the Carl Trygger Foundation, the Royal Swedish Academy of Engineering Sciences (IVA), and the Gastronomic Academy.
Shareholding in Astra: 110,487 and 54,812 stock options.

ERNA MÖLLER (b. 1940).
M.D., Ph.D., Hon. D. Med., professor.
Astra director since 1995.
Member of the Nobel Assembly, Karolinska Institutet.
Shareholding in Astra: 4,200.

* Information pertains to conditions at year-end 1998.

Seated, from left: Håkan Mogren (President and CEO), Bo Berggren (Chairman), Erna Möller, Marcus Wallenberg (Vice Chairman), Claes Dahlbäck.

Standing, from left: Harry Faulkner, Sven-Åke Pavasson-Hatta, Charles L. Cooney, Katarina Byström, Lars Ramqvist, James M. Denny, Björn Björnson, Carina Sörensen, Göran Lerenius (Company Secretary).

Not present: Lars H. Thunell.

LARS RAMQVIST (b. 1938).
Ph.D., Ph.D. h.c., Dr. Techn. h.c.
Astra director since 1994.
Chairman, Ericsson and EQT Scandinavia II. Vice Chairman, the Federation of Swedish Industries, Volvo and Skandia. Director, SCA. Member of the Royal Swedish Academy of Sciences, the Royal Swedish Academy of Engineering Sciences and the European Round Table of Industrialists.
Shareholding in Astra: 0.

CARINA SÖRENSEN (b. 1959).
Machine operator. Representative of Astra employees affiliated with the Swedish Trade Union Confederation (LO).
Astra director since 1998.
Shareholding in Astra: 0.

LARS H. THUNELL (b. 1948).
Ph.D., President and CEO, Skandinaviska Enskilda Banken.
Astra director since 1997.
Director, SNS (the Center for Business and Policy Studies), the Swedish Industry and Commerce Stock Exchange Committee, and the Swedish Financial Accounting Standards Council.
Shareholding in Astra: 0.

COMPANY SECRETARY

GÖRAN LERENIUS,
General Counsel

DEPUTY DIRECTORS

KATARINA BYSTRÖM (b. 1954).
Ph.D. Representative of Astra employees affiliated with the Federation of Salaried Employees in Industry and Services (PTK).
Deputy director of Astra since 1995.
Shareholding in Astra: 0.

SVEN-ÅKE PAVASSON-HATTA (b. 1943).
Repairman. Representative of Astra employees affiliated with the Swedish Trade Union Confederation (LO).
Deputy director of Astra since 1987.
Shareholding in Astra: 718.

AUDITORS

BO MAGNUSSON
Authorized Public Accountant, Deloitte & Touche; member, Deloitte Touche Tohmatsu.

SVANTE FORSBERG
Authorized Public Accountant, Deloitte & Touche; member, Deloitte Touche Tohmatsu.

DEPUTY AUDITORS

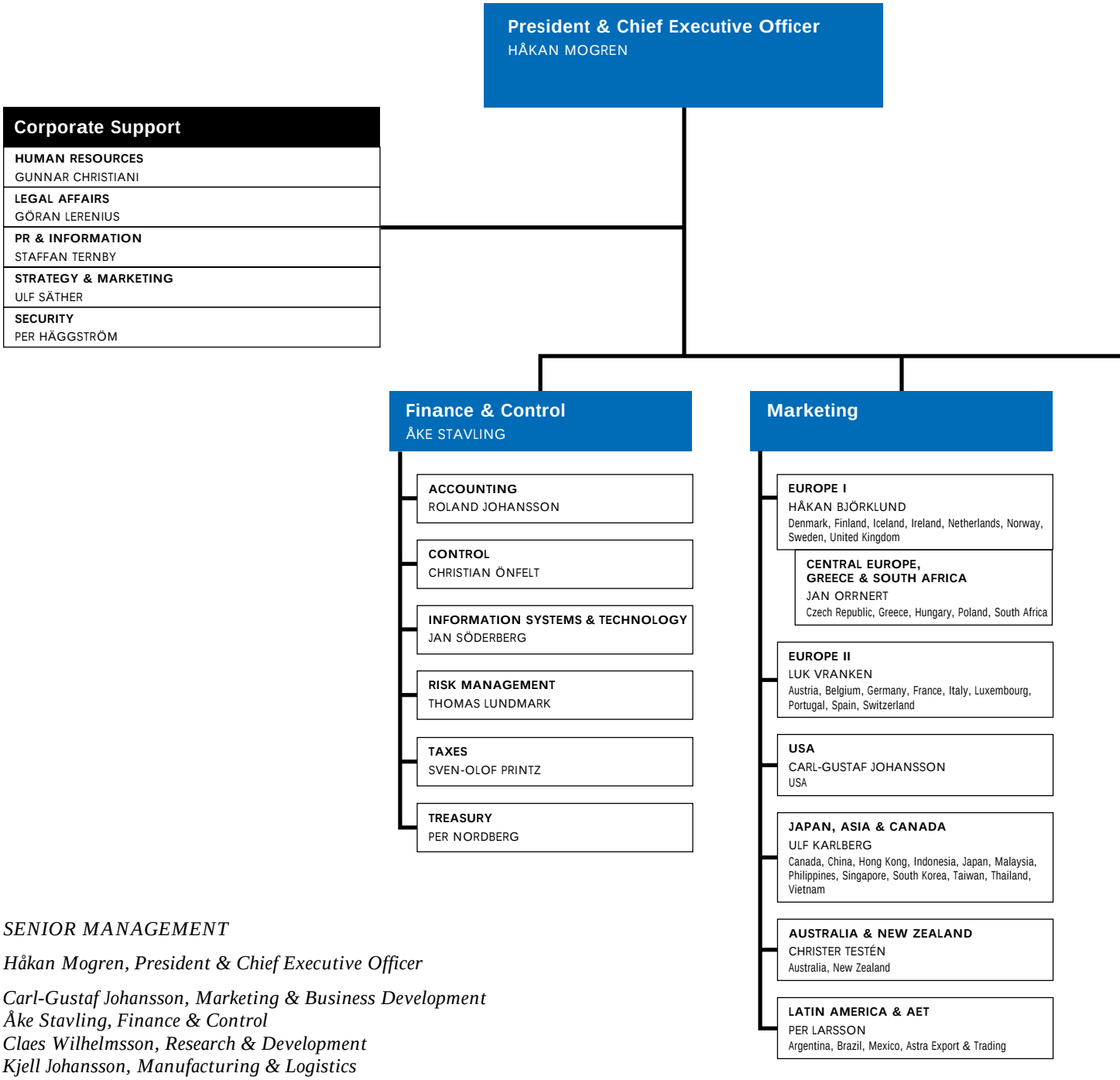
ANDERS HELLSTRÖM
Authorized Public Accountant, Deloitte & Touche; member, Deloitte Touche Tohmatsu.

BERTIL JUNGMAR
Authorized Public Accountant, Price Waterhouse.

HONORARY CHAIRMAN OF THE COMPANY

K ARNE WEGERFELT,
former CEO and President, Astra, 1957–77.

ASTRA'S ORGANIZATION, FEBRUARY 1999



SENIOR MANAGEMENT

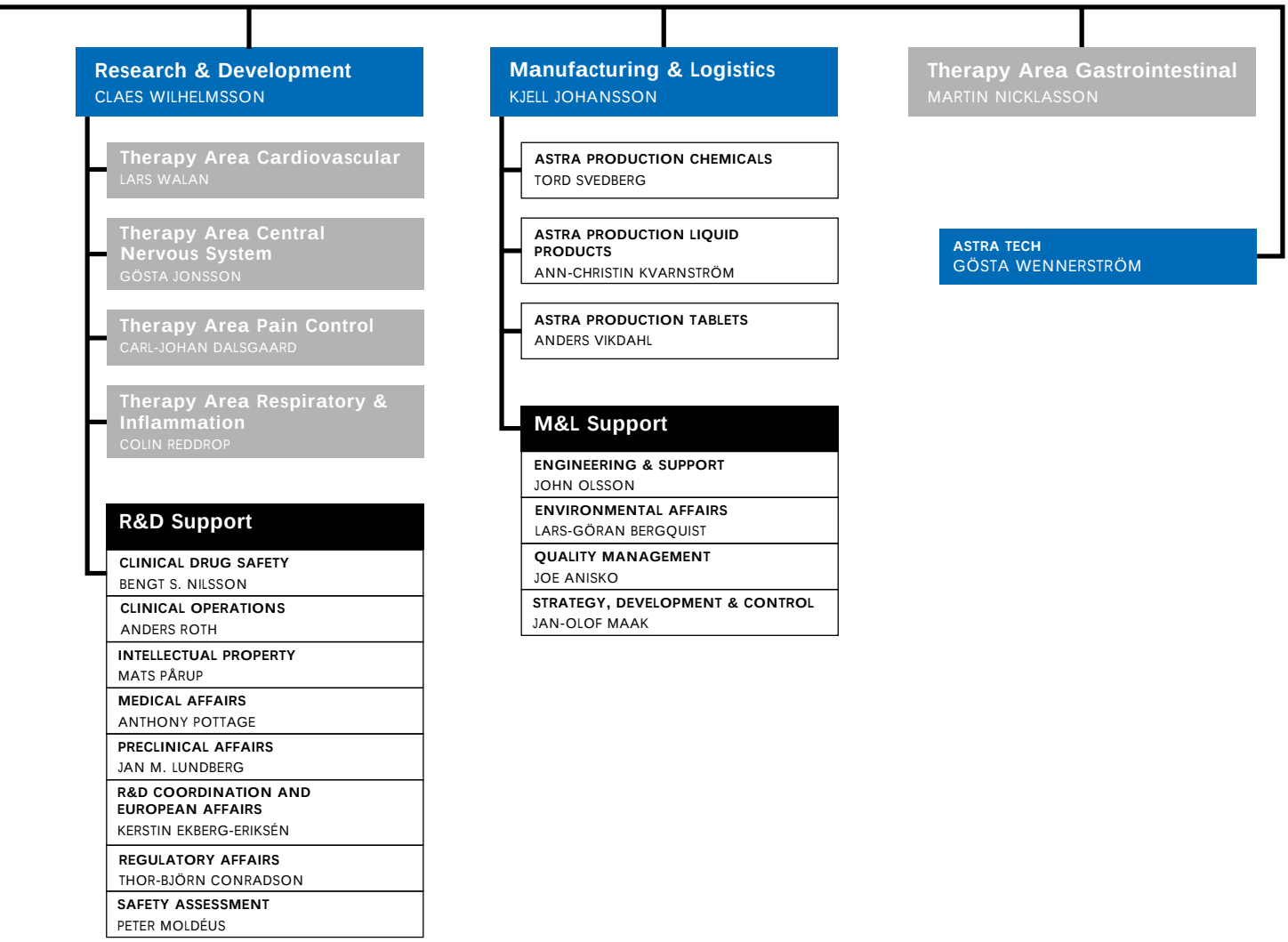
Håkan Mogren, President & Chief Executive Officer

Carl-Gustaf Johansson, Marketing & Business Development
Åke Stavling, Finance & Control
Claes Wilhelmsson, Research & Development
Kjell Johansson, Manufacturing & Logistics
Martin Nicklasson, Therapy Area Gastrointestinal

Bent Andersen, Marketing
Håkan Björklund, Marketing
Gunnar Christiani, Human Resources
Carl-Johan Dalsgaard, Therapy Area Pain Control
Gösta Jonsson, Therapy Area Central Nervous System
Ulf Karlberg, Marketing
Per Larsson, Marketing
Göran Lerenius, Legal Affairs
Jan M. Lundberg, Preclinical Affairs
Per Nordberg, Treasury
Anthony Pottage, Medical Affairs
Mats Pårup, Intellectual Property
Colin Reddrop, Therapy Area Respiratory & Inflammation
Ulf Säther, Strategy & Marketing
Jan Söderberg, Information Systems & Technology
Staffan Ternby, PR & Information
Christer Testén, Marketing
Lars Walan, Therapy Area Cardiovascular
Luk Vranken, Marketing
Christian Önfelt, Control

EXECUTIVE MANAGEMENT

Claes Wilhelmsson *Åke Stavling* *Håkan Mogren* *Carl-Gustaf Johansson* *Kjell Johansson* *Martin Nicklasson*



ASTRA WORLDWIDE

Astra has subsidiaries in about 40 countries. In most other countries, Astra's products are marketed through agents and licensees.

RESEARCH AND DEVELOPMENT

SWEDEN
Astra Arcus AB
S-151 85 Södertälje
President: Gösta Jonsson
Activity: Research and development
Employees: 510
Tel.: +46 8-553 260 00

Astra Draco AB
P.O. Box 34
S-221 00 Lund
Site manager:
Cecilia Schelin Seidegård
Activity: Research and development
Employees: 996
Tel.: +46 46-33 60 00

Astra Hässle AB
S-431 83 Mölndal
Site manager: Peter Edman
Activity: Research and development
Employees: 1,362
Tel.: +46 31-776 10 00

Astra Pain Control AB
S-151 85 Södertälje
President: Carl-Johan Dalsgaard
Activity: Research and development
Employees: 343
Tel.: +46 8-553 260 00

UNITED KINGDOM
Astra Charnwood*
Bakewell Road
Loughborough, Leics LE11 5RH
Site manager: Roy Eady
Activity: Research and development
Employees: 925
Tel.: +44 1509-64 40 00

PRODUCTION

SWEDEN
Astra Production Chemicals AB
S-151 85 Södertälje
President: Tord Svedberg
Activity: Production
Employees: 631
Tel.: +46 8-553 260 00

Astra Production Liquid Products AB
S-151 85 Södertälje
President:
Ann-Christin Kvarnström
Activity: Production
Employees: 1,451
Tel.: +46 8-553 260 00

Astra Production Tablets AB
S-151 85 Södertälje
President: Anders Vikdahl
Activity: Production
Employees: 1,034
Tel.: +46 8-553 260 00

FRANCE
A.S.P. S.A.
224, avenue de la Dordogne
F-59640 Dunkirk
President: Kjell Johansson
Site Manager: Marcel Sion
Activity: Production
Employees: 189
Tel.: +33 3-28 58 48 00

* A division of Astra Pharmaceuticals Ltd.

MARKETING

ARGENTINA
Astra S.A. Productos Farmacéuticos y Químicos
Argerich 536
(1706) Haedo, Provincia de Buenos Aires
President: Pablo Eandi
Activity: Production, marketing
Sales: SEK 226 m.
Employees: 280
Tel.: +54 11 4650 4071

AUSTRALIA
Astra Pharmaceuticals Pty Ltd.
P.O. Box 131
North Ryde, NSW 2113
President: Christer Testén
Activity: Research, production, marketing
Sales: SEK 1,724 m.
Employees: 731
Tel.: +61 2-9978 3500

AUSTRIA
Astra Ges.m.b.H.
Südtirolerstrasse 6
A-4020 Linz
President: Jürgen Halamoda
Activity: Marketing
Sales: SEK 397 m.
Employees: 94
Tel.: +43 0732-667 2310

BELGIUM
N.V. Astra Pharmaceuticals S.A.
Rue Egide van Ophem 110
B-1180 Brussels
President: Luk Vranken
Activity: Marketing
Sales: SEK 1,085 m.
Employees: 225
Tel.: +32 2-370 4811

BRAZIL
Astra Química e Farmacêutica Ltda.
Av. Roque Petroni Júnior 999, 8° andar
04707-910 São Paulo, SP
President: Gabriel Tannus
Activity: Marketing
Sales: SEK 574 m.
Employees: 295
Tel.: +55 11-5181 6049

CANADA
Astra Pharma Inc.
1004 Middlegate Road
Mississauga, Ontario L4Y 1M4
President: Gerald P. McDole
Activity: Research, production, marketing
Sales: SEK 2,147 m.
Employees: 990
Tel.: +1 905 277-7111

CHINA
Astra (Wuxi) Pharmaceutical Co. Ltd.
3/F, 5-1 Han Jiang Road
Wuxi, Jiangsu 214028
President: Raymond Ho
Activity: Production, marketing
Sales: SEK 509 m.
Employees: 604
Tel.: +86 510-521 1633

CZECH REPUBLIC
Astra Pharmaceuticals, s.r.o.
IBC Building
Pobrezni 3
CZ-18600 Prague 8
President: Jan Orrnert
Activity: Marketing
Sales: SEK 71 m.
Employees: 80
Tel.: +420 222 807200

DENMARK
Astra Danmark A/S
Roskildevej 22
DK-2620 Albertslund
President: Torben Binderup
Activity: Marketing
Sales: SEK 721 m.
Employees: 217
Tel.: +45 43 66 64 62

FINLAND
Astra Finland Oy
P.O. Box 6
FIN-02431 Masaby
President: Lasse Savonen
Activity: Marketing
Sales: SEK 503 m.
Employees: 107
Tel.: +358 9-613 651

FRANCE
Laboratoires Astra France
1, Place Renault
F-92844 Rueil Malmaison Cedex
President: Jean-Pierre Cassan
Activity: Production, marketing
Sales: SEK 3,291 m.
Employees: 775
Tel.: +33 1-41 39 51 51

GERMANY
Astra GmbH
D-22876 Wedel
President: Tilmann Kreuzer
Activity: Product development, production, marketing
Sales: SEK 5,002 m.
Employees: 981
Tel.: +49 4103-70 80

GREECE
Astra Hellas S.A.
P.O. Box 62042
GR-152 01 K. Halandri
Athens
President: Christer Timelin
Activity: Marketing
Sales: SEK 470 m.
Employees: 176
Tel.: +30 1-6871 500

HONG KONG
Astra Pharmaceuticals (HK) Ltd.
Rm. 2917-25, Metroplaza Tower 1
223 Hing Fong Road
Kwai Chung, N.T., Hong Kong
President: Björn Ericsson
Activity: Marketing
Sales: SEK 139 m.
Employees: 60
Tel.: +852 2420 7388

Astra East Asia Area Office
Rm. 2917-25, Metroplaza Tower 1
223 Hing Fong Road
Kwai Chung, N.T., Hong Kong
Area Director: Björn Ericsson
Activity: Coordination of Astra's operations in Hong Kong, South Korea and Taiwan
Employees: 6
Tel.: +852 2420 7388

HUNGARY
Astra Pharmaceuticals Kft.
H-2045 Törökbálint
Park u. 3
President: Ulf Ljungberg
Activity: Marketing
Sales: SEK 119 m.
Employees: 127
Tel.: +36 1 457 7500

REPUBLIC OF IRELAND
Astra Pharmaceuticals (Ireland) Ltd.
33, Fitzwilliam Square
Dublin 2
President: Gerry Burke
Activity: Marketing
Sales: SEK 306 m.
Employees: 31
Tel.: +353 1-676 8822

ITALY
Astra Farmaceutici S.p.A.
Via Messina 38
I-201 54 Milan
President: Vittorio Bonazzi
Activity: Marketing
Sales: SEK 1,827 m.
Employees: 602
Tel.: +39 2-34 55 51

JAPAN
Astra Japan Ltd.
Midosuji Daiwa Bldg.
Kyutaromachi 3-6-8
Chuo-ku, Osaka 541-0056
President: Bent Andersen
Activity: Production, marketing
Sales: SEK 1,210 m.
Employees: 957
Tel.: +81 6-6244 7800

LUXEMBOURG
Astra Luxembourg S.A.R.L.
P.O. Box 62
L-3901 Mondercange
President: Jean-Pierre Mans
Activity: Marketing
Sales: SEK 50 m.
Employees: 6
Tel.: +352 37 89 89

MALAYSIA
Astra Pharmaceutical (Malaysia) Sdn. Bhd.
P.O. Box 11221
50740 Kuala Lumpur
President: David Gray
Activity: Marketing
Sales: SEK 68 m.
Employees: 89
Tel.: +60 3-254 5177

MEXICO
Astra Mexico S.A. de C.V.
Apartado Postal M-10770
06000 México D.F.
Edo de México
President: Rogelio A. Gonzalez
Activity: Production, marketing
Sales: SEK 348 m.
Employees: 524
Tel.: +52 5-300 6906

NETHERLANDS
Astra Pharmaceutica B.V.
P.O. Box 599
NL-2700 AN Zoetermeer
President: Anthony Dockheer
Activity: Marketing
Sales: SEK 1,528 m.
Employees: 201
Tel.: +31 79-363 2222

NEW ZEALAND
Astra Pharmaceuticals
(New Zealand) Ltd.
P.O. Box 1301
Shortland Street
Auckland
President: Tom Hart
Activity: Marketing
Sales: SEK 228 m.
Employees: 77
Tel.: +64 9-623 6300

NORWAY
Astra Norge AS
P.O. Box 1
N-1471 Skårer
President: Steinar Höeg
Activity: Marketing
Sales: SEK 448 m.
Employees: 124
Tel.: +47 67 92 1500

PHILIPPINES
Astra Pharmaceuticals
(Philippines) Inc.
P.O. Box 7689
Domestic Airport Post Office
Lock Box, Domestic Road,
Pasay City
Metro Manila
President: Edgardo C. Enriquez
Activity: Production, marketing
Sales: SEK 339 m.
Employees: 599
Tel.: +63 2-823 81 69

POLAND
Astra Pharmaceuticals
Poland Sp.z.o.o.
ul. Domaniewska 41, Neptun
02-672 Warsaw
President: Steen Kroyer
Activity: Marketing
Sales: SEK 86 m.
Employees: 123
Tel.: +48 22-874 3500

PORTUGAL
Astra Portuguesa – Produtos
Farmacêuticos, Lda
Apartado 276
P-2746-975 Queluz
President: Helmut Nowak
Activity: Marketing
Sales: SEK 315 m.
Employees: 97
Tel.: +351 1-434 6100

SINGAPORE
Astra Pharmaceuticals
(Singapore) Pte Ltd.
6 Temasek Boulevard
#06-01 Suntec Tower Four
Singapore 038986
President: David Gray
Activity: Marketing
Sales: SEK 39 m.
Employees: 91
Tel.: +65 333 8011

Astra South-East Asia Area Office
6 Temasek Boulevard
#06-01 Suntec Tower Four
Singapore 038986
Area Director: Jeays Lilley
Activity: Coordination of Astra's operations in the Philippines, Indonesia, Malaysia, Singapore, Thailand and Vietnam
Employees: 12
Tel.: +65 333 8011

SOUTH AFRICA
Astra Pharmaceuticals (Pty) Ltd.
Private Bag X30
Sunninghill 2157
President: Mark Lotter
Activity: Marketing
Sales: SEK 135 m.
Employees: 105
Tel.: +27 11-797 6000

SOUTH KOREA
Astra Korea Ltd.
1600-3, Seocho-Dong
Seocho-Gu
Seoul
President: Choi Won-soo
Activity: Marketing
Sales: SEK 145 m.
Employees: 98
Tel.: +82 2-587 1622

SPAIN
Laboratorio Astra España, S.A.
Mestre Joan Corrales, 95-105
E-08950 Esplugues de Llobregat
(Barcelona)
President: Carlos Trías
Activity: Production, marketing
Sales: SEK 1,363 m.
Employees: 369
Tel.: +34 93-480 5980

SWEDEN
Astra Läkemedel AB
S-151 85 Södertälje
President: Ulf Strinnholm
Activity: Marketing
Sales: SEK 731 m.
Employees: 121
Tel.: +46 8-553 260 00

Draco Läkemedel AB/
Tika Läkemedel AB
P.O. Box 2
S-221 00 Lund
President: Lone Aagaard
Activity: Marketing
Sales: SEK 613 m.
Employees: 136
Tel.: +46 46-33 70 00

Hässle Läkemedel AB
S-431 83 Mölndal
President: Dick Söderberg
Activity: Marketing
Sales: SEK 934 m.
Employees: 125
Tel.: +46 31-776 35 00

SWITZERLAND
Astra Pharmaceutica AG
Kanalstrasse 6
CH-8953 Dietikon ZH
President: Hans Seiler
Activity: Production, marketing
Sales: SEK 596 m.
Employees: 86
Tel.: +41 1-745 8111

TAIWAN
Astra Pharmaceutical
(Taiwan) Ltd.
12/F, No. 102, Sec. 2
Roosevelt Road
Taipei
President: Bryon Chen
Activity: Marketing
Sales: SEK 295 m.
Employees: 87
Tel.: +8862 2-365 9225

THAILAND
Astra (Thai) Limited
P.O. Box 43, Bangna Post Office
Bangkok 10260
President: Sitthichai Olankun
Activity: Marketing
Sales: SEK 89 m.
Employees: 131
Tel.: +66 2-361 4700

TURKEY
Astra Tibbi ve Kimyevi Maddeler
Sanayi ve Ticaret Limited Sirketi
Yapi Kredi Plaza
Büyükdere CD., B-Blok, Kat:4
80620 Levent
Istanbul
President: Per Wesslau
Activity: Marketing
Newly started company
Employees: 56
Tel.: +90 212 283 1550

UNITED KINGDOM
Astra Pharmaceuticals Ltd.
Home Park
Kings Langley
Herts WD4 8DH
President: Linda Kelly
Activity: Research, production, marketing
Sales: SEK 3,721 m.
Employees: 1,901
Tel.: +44 1923-26 61 91

USA
Astra Pharmaceuticals, L.P.
725 Chesterbrook Blvd.
Wayne, PA 19087-5677
President: Carl-Gustaf Johansson
Activity: Product development, production, marketing
Sales: SEK 21,862 m.*
Employees: 3,739*
Tel.: +1 610 695-1000

* The company was formed on July 1, 1998, following the combination of the wholly owned company Astra USA, Inc. and the half-owned company Astra Merck, Inc. Prior to July 1, 1998, Astra Merck was consolidated according to the proportionate method. Sales and the number of employees above include half of Astra Merck through June 30, 1998.

ASTRA TECH

Astra Tech AB
P.O. Box 14
S-431 21 Mölndal
President: Gösta Wennerström
Activity: Research and development, production, marketing
Sales: SEK 796 m.
Employees: 495
Tel.: +46 31-776 30 00

ASTRA EXPORT & TRADING

Astra Export & Trading AB
S-151 85 Södertälje
President: Per Larsson
Activity: Marketing
Sales: SEK 585 m.
Employees: 250
Tel.: +46 8-553 260 00

MAJOR COLLABORATING COMPANIES

INDIA
Astra-IDL Limited
Post Box No. 5039
Bangalore-560 001
President: A.R. Hegde
Activity: Production, marketing
Sales: SEK 200 m.
Employees: 760
Astra has a 26-percent interest in the company.
Tel.: +91 80-225 6941

OVERVIEW, 1988–98

Amounts in SEK m.

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	**1998**
SALES											
Sweden	1,102	1,304	1,518	1,776	2,065	2,334	2,663	2,952	3,553	2,535	**2,422**
Other Europe	2,968	3,379	4,927	6,577	8,871	12,956	16,100	18,531	18,745	20,885	**23,748**
North America	793	1,005	1,198	1,631	1,873	2,967	4,013	8,398	10,311	14,199	**24,248**
Other markets	1,415	1,769	1,777	2,517	2,759	4,343	5,254	5,919	6,379	7,284	**6,769**
Total	6,278	7,457	9,420	12,501	15,568	22,600	28,030	35,800	38,988	44,904	**57,187**
Pharmaceuticals	6,076	7,248	9,178	12,194	15,214	22,182	27,525	35,197	38,384	44,213	**56,391**
Astra Tech	202	209	242	307	354	418	505	603	604	691	**796**
Total	6,278	7,457	9,420	12,501	15,568	22,600	28,030	35,800	38,988	44,904	**57,187**
Product areas											
Gastrointestinal	204	569	1,659	3,222	4,489	7,261	10,124	15,463	17,754	21,796	**31,969**
Cardiovascular	1,868	2,008	2,192	2,503	3,083	4,230	5,144	6,310	6,966	8,258	**9,594**
Respiratory	1,547	1,828	2,279	2,864	3,725	5,197	6,103	7,100	7,642	7,994	**8,763**
Pain control	1,420	1,554	1,613	1,809	1,847	2,751	3,364	3,483	3,335	3,700	**3,829**
Other products	1,037	1,289	1,435	1,796	2,070	2,743	2,790	2,841	2,687	2,466	**2,235**
Astra Tech	202	209	242	307	354	418	505	603	604	691	**796**
Total	6,278	7,457	9,420	12,501	15,568	22,600	28,030	35,800	38,988	44,904	**57,187**
Products (year launched)											
Losec (1988)	30	380	1,470	3,032	4,347	7,115	9,956	15,282	17,559	21,526	**31,619**
Pulmicort (1982)	332	510	810	1,226	1,906	2,966	3,719	4,340	4,733	4,922	**5,486**
Seloken (1975)	1,307	1,310	1,331	1,346	1,427	1,813	2,099	2,425	2,602	3,162	**3,568**
Plendil (1986)	30	95	188	336	569	881	1,222	1,690	1,940	2,241	**2,625**
Xylocaine (1948)	930	1,002	1,008	1,134	1,145	1,696	1,943	1,954	1,792	1,915	**1,902**
Rhinocort (1983)	87	121	183	240	305	496	655	934	1,064	1,267	**1,248**
Bricanyl (1970)	524	567	670	792	894	1,080	1,149	1,220	1,297	1,275	**1,222**
Imdur (1985)	101	105	145	186	236	426	553	723	845	913	**962**
Marcaine (1974)	174	205	234	261	272	433	613	643	641	670	**636**
Ramace (1990)	–	–	13	76	117	223	350	401	432	488	**513**
Other products	2,763	3,162	3,368	3,872	4,350	5,471	5,771	6,188	6,083	6,525	**7,406**
Total	6,278	7,457	9,420	12,501	15,568	22,600	28,030	35,800	38,988	44,904	**57,187**
EARNINGS DATA											
Sales	6,278	7,457	9,420	12,501	15,568	22,600	28,030	35,800	38,988	44,904	**57,187**
Cost of goods sold	(1,848)	(2,272)	(2,472)	(3,154)	(3,781)	(5,277)	(6,007)	(6,230)	(6,180)	(7,316)	**(12,185)**
Gross earnings	4,430	5,185	6,948	9,347	11,787	17,323	22,023	29,570	32,808	37,588	**45,002**
Marketing and administration	(1,811)	(2,058)	(2,932)	(4,009)	(4,924)	(7,368)	(8,693)	(12,708)	(13,507)	(15,330)	**(20,542)**
Research and development	(1,220)	(1,395)	(1,689)	(2,222)	(2,726)	(3,539)	(4,124)	(5,784)	(7,057)	(8,746)	**(10,600)**
Operating exchange differences	9	(2)	(11)	(11)	16	411	(91)	37	(22)	32	**90**
Items affecting comparability	–	–	–	–	–	–	–	–	–	–	**1,293**
Operating earnings	1,408	1,730	2,316	3,105	4,153	6,827	9,115	11,115	12,222	13,544	**15,243**
Financial income	224	308	460	487	725	867	584	962	1,143	959	**1,091**
Financial expense	(101)	(162)	(234)	(205)	(194)	(189)	(206)	(180)	(172)	(141)	**(205)**
Financial exchange differences (1)	14	10	(13)	(57)	354	263	120	168	32	(60)	**315**
Minority interests in earnings	(42)	(40)	(22)	80	82	50	3	(4)	(5)	3	**0**
Pretax earnings	1,503	1,846	2,507	3,410	5,120	7,818	9,616	12,061	13,220	14,305	**16,444**
Taxes	(756)	(855)	(1,075)	(1,228)	(1,593)	(1,726)	(2,821)	(3,297)	(3,771)	(4,104)	**(4,641)**
Net earnings for the year	747	991	1,432	2,182	3,527	6,092	6,795	8,764	9,449	10,201	**11,803**
BALANCE SHEET DATA											
Noncurrent assets (2)	3,386	3,387	4,036	5,342	6,218	7,820	17,197	21,094	22,994	24,987	**36,571**
Inventories	737	913	1,128	1,270	1,689	2,144	2,468	2,793	2,993	3,785	**5,668**
Current receivables	1,620	2,013	2,003	2,992	4,170	6,207	6,212	7,215	8,074	9,029	**11,426**
Liquid assets	2,535	3,784	4,728	5,116	7,949	11,532	9,441	12,613	18,163	24,479	**22,473**
Total assets	8,278	10,097	11,895	14,720	20,026	27,703	35,318	43,715	52,224	62,280	**76,138**
Stockholders' equity	3,986	5,011	6,437	8,377	11,650	17,142	23,301	30,679	38,279	46,015	**54,855**
Provisions	1,811	1,709	1,671	2,093	2,614	2,767	3,411	4,269	5,135	6,399	**5,313**
Long-term liabilities	339	874	842	797	627	401	159	272	325	214	**151**
Trade accounts payable	481	581	721	1,057	1,407	1,897	1,794	2,209	2,190	2,283	**4,978**
Other current liabilities	1,661	1,922	2,224	2,396	3,728	5,496	6,653	6,286	6,295	7,369	**10,841**
Total liabilities and stockholders' equity	8,278	10,097	11,895	14,720	20,026	27,703	35,318	43,715	52,224	62,280	**76,138**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	**1998**
FINANCIAL KEY RATIOS											
Profitability											
Pretax return on capital employed, % (3)	22.6	23.6	26.6	28.7	32.2	35.1	33.3	32.5	29.2	26.3	**25.4**
After-tax return on equity, % (4)	22.3	23.6	27.4	33.9	42.1	52.3	39.6	37.6	30.8	26.6	**25.6**
Profit margin, % (5)	24.6	25.3	26.8	26.6	32.4	34.4	34.3	33.7	33.9	31.9	**28.8**
Interest cover (6)	17.2	12.8	12.3	15.4	31.8	–	37.9	99.7	88.8	77.5	**77.5**
Liquidity (7)	2.3	2.7	2.7	2.7	2.7	2.7	2.1	2.7	3.4	3.9	**2.5**
Equity ratio, % (8)	48.1	49.6	54.1	56.9	58.2	61.9	66.0	70.2	73.3	73.9	**71.5**
R&D as percent of sales	19	19	18	18	18	16	15	16	18	19	**19**
CASH FLOWS											
Cash flows from operating activities	671	1,063	2,066	2,468	4,297	5,593	8,757	9,016	10,130	10,453	**14,731**
Cash flows from investing activities	(501)	(544)	(985)	(2,062)	(1,880)	(2,437)	(10,698)	(5,845)	(4,113)	(4,495)	**(16,390)**
Cash flows from external financing	69	730	(137)	(18)	416	427	(150)	1	(467)	358	**(348)**
Change in liquid assets	239	1,249	944	388	2,833	3,583	(2,091)	3,172	5,550	6,316	**(2,006)**
CAPITAL EXPENDITURES											
Sweden	338	395	785	981	1,260	1,729	1,772	1,880	2,577	2,349	**2,401**
Other Europe	79	86	147	894	465	492	711	3,348	801	914	**1,498**
North America	26	49	66	158	133	133	6,075	428	489	685	**12,267**
Other markets	101	53	56	84	109	150	2,274	463	405	702	**502**
Total	544	583	1,054	2,117	1,967	2,504	10,832	6,119	4,272	4,650	**16,668**
Research and development	181	152	223	388	582	946	899	3,667	1,919	1,527	**1,918**
Production	234	283	546	765	808	850	778	1,285	1,548	1,970	**2,158**
Marketing and other	129	148	285	964	577	708	9,155	1,167	805	1,153	**12,592**
Total	544	583	1,054	2,117	1,967	2,504	10,832	6,119	4,272	4,650	**16,668**
DEPRECIATION	292	348	412	537	771	862	1,329	2,018	2,366	2,721	**3,435**
EMPLOYEE DATA											
Employees in Sweden											
Research and development	1,464	1,574	1,725	1,925	2,156	2,404	2,583	2,891	3,266	3,458	**3,691**
Production	1,312	1,420	1,560	1,734	1,931	2,056	2,129	2,334	2,623	3,042	**3,506**
Marketing and other	431	448	503	539	585	574	604	680	725	810	**863**
Total	3,207	3,442	3,788	4,198	4,672	5,034	5,316	5,905	6,614	7,310	**8,060**
Employees in other countries											
Research and development	283	334	406	465	517	659	881	1,510	2,386	2,630	**2,725**
Production	1,201	1,372	1,493	1,498	1,521	1,686	1,861	1,944	2,316	2,591	**2,732**
Marketing and other	2,286	2,652	3,159	4,075	4,578	5,434	6,319	7,603	8,535	9,675	**11,441**
Total	3,770	4,358	5,058	6,038	6,616	7,779	9,061	11,057	13,237	14,896	**16,898**
Total Sweden and other countries	6,977	7,800	8,846	10,236	11,288	12,813	14,377	16,962	19,851	22,206	**24,958**
Wages and salaries, including payroll overhead	1,728	2,102	2,537	3,100	3,587	4,625	5,501	6,860	7,718	9,129	**11,998**
Sales per employee (SEK 000s)	900	956	1,065	1,221	1,379	1,764	1,950	2,111	1,964	2,022	**2,291**
SHARE DATA											
Dividend (proposed dividend for 1998)	181	226	293	392	607	972	1,387	1,849	2,465	2,958	**3,122**
as percentage of net earnings	24	23	20	18	17	16	20	21	26	29	**26**
– per share (SEK) (9)	0.11	0.14	0.18	0.24	0.38	0.60	0.84	1.13	1.50	1.80	**1.90**
Number of shares (millions) (10)	72.2	90.3	90.3	120.6	121.4	607.2	616.2	616.2	616.2	1,643.2	**1,643.2**
Number of stockholders (thousands)	27.0	29.0	40.0	42.1	40.5	62.9	80.0	91.5	115.5	243.6	**256.4**
Astra share price, December 31 (SEK)											
Class A restricted (9)	11	22	26	39	–	–	–	–	–	–	**–**
Class A unrestricted (9)	11	24	28	45	55	71	72	99	126	138	**166**
Class B unrestricted (9)	11	23	28	44	54	70	71	98	123	134	**165**
Market capitalization (SEK bn.)	17	36	43	65	89	115	118	163	207	225	**272**
Earnings per share (SEK) (9)	0.45	0.61	0.89	1.35	2.16	3.72	4.14	5.33	5.75	6.21	**7.18**
Price/earnings multiple (11)	22	36	29	29	26	19	17	19	22	22	**23**

DEFINITIONS

(1) Including financial translation differences.

(2) Including blocked accounts with the Bank of Sweden.

(3) The pretax return on capital employed consists of Group earnings after financial income and translation differences, but before financial expenses, financial exchange differences and minority interests, divided by the Group's average assets less trade accounts payable.

(4) The after-tax return on equity consists of the Group's net earnings divided by the Group's equity at January 1.

(5) The profit margin consists of Group earnings before minority interests, divided by consolidated sales.

(6) Interest cover consists of Group earnings after financial income and translation differences, but before financial expenses, financial exchange differences and minority interests, divided by the sum of the Group's financial expenses and financial exchange differences.

(7) Liquidity has been calculated as total current assets divided by current liabilities.

(8) The equity ratio has been calculated as stockholders' equity as a percentage of total assets as per the balance sheet.

(9) The dividend, share price and earnings per share have been adjusted for stock dividends and splits. See pp. 20 and 21.

(10) The actual number of shares on December 31 of the respective years.

(11) The price/earnings multiple consists of the Astra share price at year-end divided by earnings per share.

REGISTERED TRADEMARKS

Astra has exclusive rights to a large number of registered trademarks in various countries. The most important of these are listed here.

GASTROINTESTINAL

Entocort
Entocord
Losec
Antra
Gastroloc
Mopral
Omepral
Prilosec
Losec MUPS
Novaluzid

CARDIOVASCULAR

Aptin
Atacand
Ratacand
Belnif
Canef
Cranoc
Vastin
Diblocin
Imdur
Coleb
Kalium Durules
Kinidin Durules
Logimax
Mobloc
Plendil
Flodil
Modip
Perfudal
Prevex
Splendil
Ramace
Pramace
Vesdil
Seloken
Beloc
Betaloc
Seloken ZOC
Selo-Zok
Toprol-XL
Tonocard
Treloc
Unimax
Xylocard

RESPIRATORY

Bambec
Oxeol
Bricanyl
Inspiryl
Mucret
Nezeril
Oxis
Pulmicort
Spirocort
Rhinocort
Symbicort
Theo-Dur
Turbuhaler
Turbohaler

PAIN CONTROL

Carbocaine
Citanest
Duranest
EMLA
Marcaine
Sensorcaine
Naropin
Narop
Naropeine
Nesacaine
Xylocaine

CENTRAL NERVOUS SYSTEM

Heminevrin
Distraneurin
Zendra

ASTRA TECH

LoFric

OTHER PRODUCTS

Alvedon
Citodon
Foscavir
Heracillin
Imacillin
Kåvepenin
Penglobe


Pulmicort®
Turbuhaler
400 micrograms
dose
Oxis®
Turbuhaler®
9 mikrog/dos

What is a financial statement?

QUESTIONS AND ANSWERS BASEDON ASTRA'S ANNUAL REPORT

READERS' GUIDE

The Astra Group's readers' guide, entitled "What is a Financial Statement?—Questions and Answers Based on Astra's Annual Report," can be ordered from Astra AB, Public Relations & Information, S-151 85 Södertälje, Sweden.