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# Crunching Numbers: A Critical Look at Annual Reports

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## **Background**

“I mean, the company had a lot of strong cash flows when it went into bankruptcy,” Enron CEO Ken Lay stated. Unfortunately for the company – and the whole country – Kenneth Lay did not completely understand the information that was presented on Enron’s financial statements. He was not alone in his incompetence. Much of the American business population is lacking in its financial-analysis skills, skills that should be put into use before making any investment. One way to learn how to analyze the financial reports is to examine the statements of two different companies. But to truly understand these comparisons, one should begin with a brief background of financial statements themselves.

The story of the financial statement’s birth begins around 1929 with the crash of the stock market. The havoc that reigned in that era led many Americans to call for the government to regulate and supervise the financial arena. In response, the federal government passed the Securities Act of 1933. This act had two basic objectives: (1) to require that investors receive significant (“material”) information concerning securities offered for public sale, and (2) to prohibit deceit, misrepresentation, and other forms of fraud in the sale of securities. To further extend federal regulation on securities, the Securities Act of 1934 established the Securities and Exchange Commission, known to businesses and business students alike as the SEC. Following the guidelines set out for it in the 1934 Securities and Exchange Act, the SEC began dictating accounting practices

and standards (Kieso 6). However, the SEC's guidance focused primarily on publicly traded securities and the markets in which they are traded. It was through the American Institute of Certified Public Accountants (AICPA) and the Financial Accounting Standards Board (FASB) that the accounting guidelines began an even greater evolution.

The AICPA, which has been around much longer than the SEC, is a professional organization composed of Certified Public Accountants. It was through the urging of the SEC that the AICPA began its contribution to the Generally Accepted Accounting Principles (GAAP). In 1939 the SEC convinced the AICPA to form a Committee on Accounting Procedure (CAP), and from 1939-1959 this committee issued fifty-one Accounting Research Bulletins. These bulletins covered a variety of accounting problems, but these were not enough to properly establish true accounting principles (Kieso 7). Thus, there was the inception of the Accounting Principles Board (APB).

The APB, also created by the AICPA, was formed "(1) to advance the written expressions of accounting principles, (2) to determine appropriate practices, and (3) to narrow the areas of difference and inconsistency in practice" (Kieso 8). With its eighteen to twenty-one members, the APB sought to release APB Opinions to resolve problems as they became evident. Eventually, the APB came under fire for a lack of prompt response to problems, and was dissolved in 1973, having released a total of thirty-one opinions (Kieso 8). At this time the AICPA formed yet another committee to evaluate the situation. This committee, headed by Francis Wheat, determined that the APB should be replaced by three separate entities: the Financial Accounting Foundation (FAF), the Financial Accounting Standards Board (FASB), and the Financial Accounting Standards

Advisory Council (FASAC) (Kieso 8). While each has its designated duties, it's the FASB that is of primary importance.

The premise for the foundation of the FASB was to improve upon the format of the APB. This time the committee would have only seven members rather than a minimum of eighteen. These members were to be appointed by the FAF and would serve for renewable five-year terms, occupying paid, full-time positions, unlike members of the APB. Furthermore, members of FASB were not required to be either CPAs or members of AICPA, and answered solely to the FAF rather than the AICPA. FASB members also severed all links to their previous companies (Kieso 8). Such regulations have allowed the FASB to survive for more than thirty years.

In its lifetime the FASB has had a profound effect on the accounting profession. Thanks to this organization, the Generally Accepted Accounting Principles (GAAP) are constantly reviewed and amended in a timely fashion, something that was lacking under the AICPA's previous committees. As society evolves to face new challenges, so do these principles. Accordingly, the FASB has proven to be a vital guide for the accounting world.

While GAAP is considered the main source of rules and regulations, it is not the only major influence on the accounting profession. In light of recent accounting scandals involving such corporations as Enron and WorldCom, Congress approved legislation that attempts to prevent future fraud. This legislation – known to the world as the Sarbanes-Oxley Act (or SOX, for short) – goes to great lengths to increase the validity of financial statements. With the enacting of SOX came the creation of yet another committee: The Public Company Accounting Oversight Board (PCAOB). It was formed to ensure that

regulations of SOX were upheld by both companies and accountants (Tracy 136). Given the length of restrictions imposed by SOX, this is and will likely continue to be a daunting task.

Included among the restrictions of SOX is an effort to hold both Chief Executive Officers and Chief Financial Officers responsible for a company's financial reports. Both officers are required to sign off on the documents, so lack of knowledge about the financial affairs of the company is no longer a valid defense. Other major provisions covered in SOX include the following:

- Prohibition of personal loans to any Executive Officer and Director
- Quicker reporting of inside trading
- Ban on insider trades during pension-fund blackout periods
- Disclosure of CEO and CFO compensation and profits
- Full disclosure on a number of segments
- Longer jail sentences for executives who knowingly falsify financial statements
- Penalties, both civil and criminal, for a violation of a security law
- Disallowing firms that offer audit services to a company from also providing other services to that company, such as advising
- Requiring publicly traded companies to supply separate annual audit reports of the existence and reliability of internal controls in regard to financial reporting

(Sarbanes-Oxley Act Wikipedia)

Complying with all these regulations can prove costly and time-consuming for a business, but for the present, companies have no other option.

While this is the case, there is one constant to be considered: what must be reported by the company. In each annual report, a company has to provide the public with four different reports: the income statement, the balance sheet, the statement of owners' equity, and the statement of cash flows. Without knowledge of these reports, the numbers presented mean absolutely nothing.

To most investors, the important numbers are all found on the income statement. As the name indicates, this statement presents the income information. Here one will find a company's revenues and expenses. The income statement also houses the earnings-per-share figures, which are indicative of how much earnings shareholders would receive if a company were to distribute all of its net earnings, something that rarely happens as this income is usually reinvested into the company.

The income statement begins with revenues for the period and progresses with deductions for expenses that were incurred to earn this income. On any income statement, the first number will always be sales, or gross revenue, since expenses have yet to be deducted. Following this, a deduction will be made for adjustments (such as discounts, returns, and allowances) to sales. This total is the company's net revenue. From net revenue, the cost of goods sold, or cost of sales, will be deducted to come to a figure known as the company's gross profit. At this time, any operating expenses (including depreciation, administrative costs, and research and development) that have occurred will be subtracted to show the income from operations (income before taxes and interest). The next step is to account for gains, losses, interest income, and interest expense to determine the company's income before taxes. Finally, income-tax expense is deducted to reach the company's "bottom line," the net income or loss for the period ("Beginner's Guide to Financial Statements" U.S. Securities and Exchange Commission).

Statement number two, the balance sheet, is often defined as "a snapshot of a company's assets, liabilities and shareholders' equity at the end of the reporting period" ("Beginner's Guide to Financial Statements" U.S. Securities and Exchange Commission). The amount of the company's assets is equivalent to liabilities plus equity. Under assets,

one can find the property of the company (ex. buildings, land, equipment, cash, patents, etc.). These assets are divided into current (assets that are expected to be converted into cash within the next year) and noncurrent (assets that will not be converted within the next year, including any fixed assets, i.e., goods not available for sale). Within the current classification, the items are listed in order of liquidity (how quickly the item could be converted into cash, with the most liquid being listed first). Liabilities catalog what the company owes to others (ex. loans, rent, payroll, taxes due, etc.). Items in this category are subdivided into current (within the year) or long-term (due in more than one year). The stockholder's equity section can also be expressed as the owners' claims to assets. "It's the income that would be left if a company sold all of its assets and paid off all of its liabilities" ("Beginners' Guide to Financial Statements" U.S. Securities and Exchange Commission). This amount belongs to the shareholders, who are essentially the owners of the company. It includes the income invested by the shareholders, plus/minus the earnings/losses of the company since its founding (the retained earnings) minus any dividend distributions.

Often the stockholder's equity section can be viewed in greater detail on its own statement, the statement of owners' equity. Here, changes in individual equity balance during the year are explained. This section typically shows a snapshot of comprehensive income plus/minus receipts from the issuance of new stock, repurchase of outstanding shares, stock options exercised, and settlements of call spreads.

The final report enclosed in the annual report is the statement of cash flows, an account of a company's cash in- and outflows, indicating where the company's cash came from and went to. The cash flow is divided up into three categories based on its

purpose: operating, investing, and financing. The operating activities section includes cash flow from the net income or loss. It begins with the net income and then adds back any non-cash operating expenses (i.e. depreciation expense). To get cash used/provided by operating activities, adjustments are made for changes in the current assets and liabilities accounts. Under investing, the cash flow from investments is listed. This includes the acquisition or sale of property, plant, equipment or securities. Finally, one will come to the financing section, which typically includes cash flow from issuing stocks and bonds as well as any debt retired or distributions made to the owners (“Beginner’s Guide to Financial Statements,” U.S. Securities and Exchange Commission).



## **Two Pharmaceutical Companies**

### **Sepracor**

Sepracor, a pharmaceutical company founded in 1984, is based in Marlborough, Massachusetts. Over the years, it has developed such drugs as Clarinex and Allegra, both of which have been licensed to other pharmaceutical companies. Currently, Sepracor markets three products on its own: Xopenex, Xopenex HFA, and Lunesta. When it comes to accounting matters, Sepracor relies on Computershare in Providence, Rhode Island, to take care of stock issuances. PricewaterhouseCoopers, LLC in Boston makes sure that Sepracor's financial statements are all in line.

For the year ending December 31, 2005, Sepracor initially appeared to be a good investment. In his letter to the shareholders, Timothy Barberick, Sepracor's president, attempted to sell this idea as well. Barberick noted that for the first time in years, Sepracor was headed toward profitability. Thanks to Xopenex and Lunesta sales, the company earned upward of \$700 million. Today, Sepracor has another drug up for approval with the FDA, a drug which could potentially provide the company with additional revenues. Unfortunately, when it is a matter of investing earnings, words cannot be taken at face value. One must delve into Sepracor's financial statements to see how true Barberick's words were. A good place to begin investigating is within Sepracor's income statement.

In the 2005 Annual Report, Sepracor provided income statement information dating back to 2001, but the data for years 2004 and 2005 are of primary importance here.

At first glance, one may notice Sepracor’s sales growth from 2004 to 2005:

$$\frac{(769,685,000 - 319,781,000)}{319,781,000} = 140.69\%$$

In one year’s time, Sepracor’s sales revenue grew nearly 141 percent, which can likely be accredited to the “commercial introduction of Lunesta in April 2005 and a significant increase in Xopenex Inhalation Solution revenue” (21 *Sepracor: 2005 Annual Report*).

Sepracor’s change in net income is also worth noting:

$$\frac{(4,971,000 - (295,658,000))}{|-295,658,000|} = 101.68\%$$

Net income in 2005 more than doubled from 2004.

Yet it is imperative to dig deeper. At this time, a common-size analysis is in order. Common-size analysis measures the various accounts as a percentage of sales.

	<b>2005</b>	<b>2004</b>
Cost of Sales	(8.80%)	(11.10%)
Gross Profit	91.20%	88.90%
Selling, General, and Administrative Expenses	(81.30%)	(121.30%)
Interest Expense	(3.03%)	(7.40%)
Income Tax Expense	(0.02%)	0.00%
Earning from Continuing Operations	0.65%	(92.50%)
Net Income	0.65%	(92.50%)

From this illustration, it is evident that Sepracor was able to better manage income in nearly every category on the income statement. For the first time in all years listed, Sepracor posted a positive net income. In the overall picture, expenses were a decreasing part of the finances, while net income was exceptionally higher (from a negative 92.5

percent of sales to a positive .65 percent) due to a vast increase in sales. In reference to this turnaround for Sepracor, President Barberick observed:

The year 2005 was a tremendous year for Sepracor and our stakeholders and marks a significant inflection point in the history of the company. In 2005, we turned the corner in our advance to profitability...a 116 percent increase over 2004. (Sepracor 1)

Investors can only hope that Sepracor continues down its current path. For insight into its staying power, one should next consult Sepracor's balance sheet.

Following the same format as the income statement, another common-size analysis is in order, but to find the relation of an account to Sepracor's total assets.

<b>% of Total Assets</b>	<b>2005</b>
Current Assets	82.10%
Fixed Assets	5.70%
Investments	10.80%
Intangible Assets	1.40%
Other Assets	0.01%
Current Liabilities	21.80%
Total Liabilities	113%
Total Equity	-13%

One can see that Sepracor is holding more liabilities than assets, which could prove detrimental. However, this fact alone is not sufficient to deter an investor's interest. Instead, one should then look at the specifics about assets to determine the validity of the aforementioned conclusion.

If a company's assets increase from one year to the next, it is considered to be growing. This can be measured via the asset-growth calculation using the current and previous year total assets figures:

$$\frac{1,274,497,000 - 1,039,118,000}{1,039,118,000} = 22.65\%$$

Because of its expansion in the drug market, there was a significant increase in short-term investments, accounts receivable, inventories, other current assets, long-term investments, and property and equipment, leading Sepracor's total assets to increase more than 22 percent in 2005, a good sign for the future of the business. Growth alone cannot sustain a business, though.

Sepracor's ability to pay current liabilities is crucial to its survival. Working capital helps to calculate Sepracor's liquidity.

	2005	2004
Current Assets	1,046,545,000	839,930,000
Current Liabilities	(277,906,000)	(204,110,000)
Working Capital	<u>768,639,000</u>	<u>635,820,000</u>

Currently, Sepracor has more than enough assets to cover its liabilities. Liquidity of the company even increased from 2004 to 2005 by 20.89 percent:

$$\frac{768,639,000 - 635,820,000}{635,820,000} = 20.89\%$$

The balance sheet suggests that such a change can be attributed to considerable increases within short-term investments, accounts receivable, and inventory. At the bottom of the balance sheet is another important figure: Sepracor's retained-earnings amount. For details concerning this number, one can turn to the Statement of Shareholders' Equity (Deficit) and Comprehensive Income.

For the year 2005, Sepracor's capital stock amounts changed due to the issuance of 3,045 shares to employees under stock plans. Other than that, few changes occurred within Sepracor's stockholders' equity to result in the following overall change:

	<b>2005</b>	<b>2004</b>
Retained Earnings, Beginning	(1,625,486,000)	(1,329,828,000)
Dividends	0	0
Net Income	4,971,000	(295,658,000)
Retained Earnings, End	(1,620,515,000)	(1,625,486,000)

In this area, Sepracor does not bode well. The amount in retained-earnings is increasing, but is still a rather large negative.

With Sepracor's fourth and final statement, one can analyze the company's cash-flow management. The report indicates that cash was spent in the following manners:

	<b>2005</b>	<b>2004</b>
Operating	(22,617,000)	(183,329,000)
Investing	(400,908,000)	(279,730,000)
Financing	165,591,000	193,060,000
Effect of Exchange Rate	173,000	102,000
Change in Cash	(257,761,000)	(269,897,000)

The 2005 change in cash is also reflected upon the balance sheet:

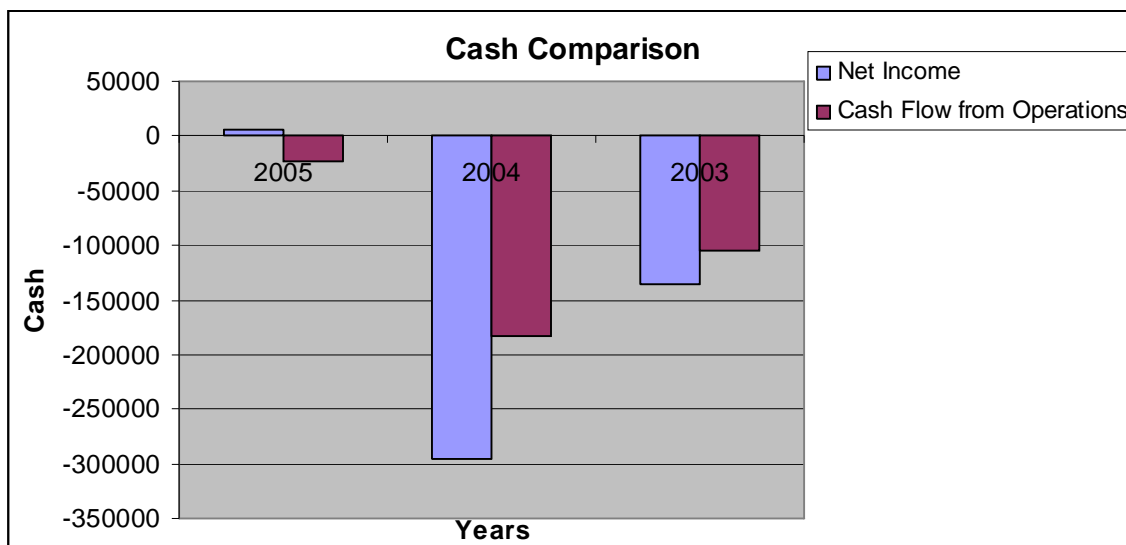
Cash, 2005	178,144,000
Less: Cash, 2004	435,905,000
Change in Cash	(257,761,000)

As one can see, Sepracor's cash balance decreased overall by \$257,761,000. Typically, it is desirable for income to come from operating activities rather than investments or debts.

However, the net income figure was largely comprised of funds from other sources:

$$(22,617,000) - 4,971,000 = (27,588,000)$$

Yet one must consider that Sepracor obtained much of its income through product sales, which aren't reflected in this figure if a cash payment was received. Royalty payments also inflated the net income figure, but are not found in the operating section of the cash-flow statement.



Analysis of the statement of cash flows shows that Sepracor expended \$1,293,075,000 on short- and long-term investments. Call-spread options provided the company with \$123,798,000. Investments in non-affiliates and loss on disposal of property and equipment both decreased the cash balance, while a gain of the sale of equity investments increased cash.

While these four reports provide investors with useful information, some of the most valuable facts can be found within the notes and supporting schedules of the annual report. These sections include footnotes with crucial information about the methods employed in running the company.

It is in the subsequent notes that one can find specifically what investments Sepracor is holding. Here, one will find that Sepracor is accounting for its investment in BioSphere Medical, Inc. under the equity method, meaning it owns twenty to fifty percent of Biosphere. As part of the equity method, Sepracor must recognize a percentage of BioSphere's income as part of its own. For 2005, (\$665,000) was recognized. The notes also name Sepracor's marketable equity securities (investments of

less than twenty percent of another company) as Point Therapeutics and ACADIA Pharmaceuticals, as well as Vicuron, which was sold during 2005. Overall, the value of its marketable securities changed by \$7,143,000, which was amortized on Sepracor's financial statements.

The notes also define important terms found within the financial reports. "Cash equivalents," found on the balance sheet, are described as "highly liquid, temporary cash investments having original maturity dates of three months or less" (50). The valuation of inventory is identified as first-in, first-out, which results in a higher net income, but also a higher tax expense. One will also find that Sepracor employs straight-line depreciation for its property and equipment. Sepracor's notes reveal that it relies upon three customers for sixty-nine percent of its total business. For this reason, Sepracor must closely manage its receivables.

The notes also assess credit risk. This risk may come from cash and cash equivalents, short- and long-term investments, and trade accounts receivable. According to the report, there are no significant off-balance-sheet concentrations of credit risk. To avoid potential credit risk, Sepracor places any "risky" accounts with high-credit-quality financial institutions. When examining Sepracor's receivables accounts, though, one will find that it is becoming slightly less conservative with its allowance for uncollectible accounts. For the year 2005:

$$\frac{3,103,000}{(140,465,000 + 3,103,000)} = 2.20\%$$

Of all receivables, Sepracor believed only 2.2 percent would not be collected. For the year 2004:

$$\frac{1,786,000}{(68,914,000 + 1,786,000)} = 2.57\%$$

Sepracor believed a slightly larger 2.57 percent would not be collectible. Since Sepracor estimated a smaller percentage in 2005, more assets were available to apply toward the bottom line, though this addition is minimal. The validity of Sepracor's assumption can be tested in a variety of manners.

One such test involves measuring the average number of days it took Sepracor to collect on accounts:

$$\frac{140,465,000}{769,685,000/365} = 66.61 \text{ Days}$$

This number was down from the previous year:

$$\frac{68,914,000}{319,781,000/365} = 78.66 \text{ Days}$$

Measuring the turnover of accounts receivable is also indicative of how well Sepracor collected payments. For 2005 the turnover rate was:

$$\frac{769,685,000}{(140,465,000+68,914,000)/2} = 7.35 \text{ Times}$$

In 2004, Sepracor saw a turnover rate of

$$\frac{319,781,000}{(68,914,000+50,591,000)/2} = 5.35 \text{ Times}$$

Examination of this information suggests that 2005 was a more efficient year for Sepracor as it was more successful in collecting accounts receivable and receiving this money at a quicker rate.



Inventory acts as an inflation of net assets. While Sepracor may have a large number of dollars in inventory, it is important to consider how liquid this figure is. Upon investigating, one can find an average of how many days a good spent in inventory. For 2005:

$$\frac{38,951,000}{66,682,000/365} = 213.21 \text{ Days}$$

While in 2004:

$$\frac{13,086,000}{34,451,000/365} = 138.64 \text{ Days}$$

It is not a good indication when Sepracor is holding inventory for nearly a hundred days longer in 2005 than 2004. When goods are held for 213 days, it is likely that this account is not a very liquid one.

The inventory turnover ratio also measures how quickly the goods were completely sold to provide a picture of product demand. The 2005 ratio:

$$\frac{34,451,000}{(13,086,000 + 38,781,000)/2} = 1.33 \text{ Times}$$

It is apparent that Sepracor did not quickly sell its goods during 2005. If for some reason the drugs that Sepracor sells should become obsolete, the company's situation would be dire. According to the notes, approximately \$17 million of inventory is in the finished goods state, so this would all have to be written off as a loss. Not only would this hurt the growing company, the market implications would be horrific.

Specific information about Sepracor's debt can also be found within the pages of the subsequent notes. As of December 31, 2005, the balance of borrowings stood at

\$1,160,820,000. This debt is divided amongst several zero-percent notes and a five-percent debenture. Because of the arrangement of debt, there were no principal payments for 2005. However, within the next five years, Sepracor has a large amount of debt coming due. Sepracor is also committed to a debt for leases for office facilities, a vacated office, laboratory and production facilities, and regional offices. Under these leases, it is required to pay an allocated amount of taxes and operating costs in addition to rent.

This section of the annual report also defines benefits for the employees. Sepracor has a defined contribution plan, meaning employees are only guaranteed money that they put in as well as any monies that the company contributes to match their investments. In 2005, Sepracor allocated \$2,286,000 toward employee pension expense. The company personnel are also granted stock options. The company gives options to purchase stock as of the day the options are granted. However, the total number of options is vested over a period of time so that employees will have the incentive to stick around to use the options. A typical employee will have twenty to forty thousand options, with executives and board members getting more than that. In 2005, employees used \$6,725,000 worth of said stock options. This was equivalent to 3,400,000 stocks at a price of \$33.94 a share. At year's end, the value of outstanding options was \$115,396,000.

Income taxes are also addressed in this section. In 2005, Sepracor paid \$151,000 in income tax. However, in 2004, Sepracor paid \$0 as it had a taxable loss, thus generating a tax credit. This tax credit was also carried forward to 2005, making the effective tax rate only 2.9 percent.

Another important issue covered is legality. Upon publication of the annual report, Sepracor's current and former officers and the current director were all defendants in a case concerning possible deception in getting FDA approval of tecastemizole. The case was filed by the people who purchased common stock and/or debt securities between May 17, 1999, and March 6, 2002. However, Sepracor and its attorneys are unsure how the matter will turn out, but state that "Any conclusion of these matters in a manner adverse to us would have a material adverse effect on our financial position and results of operations" (60). Sepracor has also filed suit against Breath Limited and Dey, L.P. for patent infringement of XOPENEX.

The company also notes that after the close of the 2005 financial statements, Sepracor purchased 813,393 shares of ACADIA at a premium of \$12.29 a share. This investment completed an agreement between the two companies, making Sepracor a large owner of ACADIA's stocks. Thus, the performance of ACADIA could have a great impact upon Sepracor's future finances.

Beyond the subsequent notes, one can find supplemental disclosures. These disclosures include the management report and the auditors' report. In the management report, Timothy Barberick, Sepracor's CEO, and Robert Scumaci, the executive vice president of finance and administration, are identified as the individuals responsible for the validity of the annual report. The two subscribe to the Private Securities Litigation Reform Act of 1995 to ensure that they properly complete the financial statements.

Within the Report of the Independent Auditors, Pricewaterhouse Cooper expresses its opinion on the accuracy of Sepracor's annual report. Pricewaterhouse follows the guidelines set-up by Sarbanes-Oxley and the Public Company Accounting

Oversight Board. Upon review, the auditors issued an unqualified opinion of Sepracor's statements, meaning the report followed GAAP guidelines. Pricewaterhouse stated:

"...in our opinion, management's assessment included in Management's Report on Internal Control Over Financial Reporting...based on criteria established in *Internal Control-Integrated Framework*...is fairly stated" (45). However, the auditors added the disclaimer:

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evolution of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may detect. (45)

This was indeed the case when in 2006 the SEC began investigating Sepracor's accounting for stock options. This investigation led to a restatement of income for 2006 as well as prior years. These figures have not been used in any calculations shown.

Profitability ratios help to measure the corporation's success in operations. The profit-margin calculation measures how much of each sale goes toward the earnings.

Sepracor's 2005 profit-margin:

$$\frac{4,971,000}{769,685,000} = 0.65\%$$

This may seem small, but is a vast improvement from Sepracor's 2004 figures:

$$\frac{-295,658,000}{319,781,000} = -92.46\%$$

Another measure to indicate how well Sepracor managed to turn its assets into profit lies within the return on assets figure:

$$\frac{4,971,000}{(1,274,497,000 + 1,039,118,000)/2} = 0.43\%$$

According to this figure, Sepracor's assets appear poorly managed. If borrowed monies are taken out of this figure, one can measure Sepracor's return on equity in 2005:

$$\frac{4,971,000}{(-165,489,000 + -331,115,000)/2} = -2.00\%$$

This figure does not improve things at all for Sepracor's outlook. Past occurrences must be taken into consideration, though. For the past few years, Sepracor has suffered a net loss, which resulted in a large impact on equity. Thus, equity has been a negative number, leading to a negative return on equity. Sepracor is taking steps toward a more positive future, which is reflected in the fact that 2005 was the first year it was actually profitable thanks to Lunesta and XOPENEX. This profit led to an earnings per share of \$.05, up from \$(3.21) in 2004.

The next step is to gauge Sepracor's ability to pay its impending debt via liquidity ratios. The current ratio measures current assets against current liabilities. This figure for Sepracor in the year 2005 was as follows:

$$\frac{1,046,545,000}{277,906,000} = 3.77 :1$$

Versus 2004:

$$\frac{839,930,000}{204,110,000} = 4.12 :1$$

According to these calculations, Sepracor does currently have the funds available to pay its upcoming debt three times over, but the coverage has decreased for 2004 to 2005.

However, the current ratio does not account for the fact that some of the current assets are not as liquid as others. Thus, one can perform a quick ratio to determine a more accurate ability to pay liabilities by only considering cash, marketable securities, and net receivables: In 2005, this came to

$$\frac{178,144,000 + 666,615,000 + 140,465,000}{277,906,000} = 3.55 :1$$

Whereas 2004 saw this number at

$$\frac{435,905,000 + 303,303,000 + 68,914,000}{204,110,000} = 3.96 :1$$

Again, Sepracor's liquidity weakened as the current liabilities grew more quickly than did its current assets.

The final set of ratios measure the company's solvency. These ratios are important for lenders to consider. If Sepracor has a small debt-to-total-assets ratio, it is more likely to receive monies because it likely has the funds to cover its debt. In 2005, Sepracor's debt to total assets ratio came in at

$$\frac{1,439,986,000}{1,274,497,000} = 112.98\%$$

And in 2004:

$$\frac{1,370,233,000}{1,039,118,000} = 131.87\%$$

As of 2005, Sepracor is able to cover more of its debt, but does not have the ability to pay off all of its liabilities. While debt did increase due to increased expenses and payables

accounts, the company's assets grew more quickly due to short-term investments, accounts receivables, inventories, and long-term investments.

The times-interest-earned ratio measures the amount paid in interest compared to a company's income. This figure helps to determine if too much is being spent to service debt. This ratio for Sepracor for 2005 came to

$$\frac{4,971,000 + 23,368,000 + 151,000}{23,368,000} = 1.22 \text{ times}$$

Whereas this figure for 2004 came to

$$\frac{-295,658,000 + 23,646,000 + 0}{23,646,000} = -11.50 \text{ times}$$

When considering these figures it is important to remember that Sepracor performed so poorly that it received a tax credit from the government, which skews the 2004 figure.

An important figure to many investors involves the book value of a share. The value of a share at the end of 2005 was

$$\frac{-165,489,000}{104,093,000} = -\$1.59$$

In comparison to 2004:

$$\frac{-331,115,000}{103,376,000} = -\$3.20$$

The value of the share has increased in the past year. With the belief that Sepracor will continue to grow, investors may be willing to pay a premium to hold these shares.

There is one final way to predict the future of a company. Financial distress prediction models can help investors by measuring the probability that a company will go

bankrupt. Altman's "Z-score" Model and Hopwood, McKeown, and Mutchler's Logistic Regression Model are both viewed as being very accurate on the matter. Following Altman's method, Sepracor scored as follows:

$$\begin{array}{rclcl}
 X1= & 768,639,000/1,274,497,000 & = & 0.603 & X\ 1.2 & = & 0.724 \\
 X2= & -1,620,515,000/1,274,497,000 & = & -1.271 & X\ 1.4 & = & -1.780 \\
 X3= & [5,122,000+27,462,000]/1,274,497,000 & = & 0.026 & X\ 3.3 & = & 0.084 \\
 X4= & [51.6*104,093]/1,439,986,000 & = & 0.004 & X\ .6 & = & 0.002 \\
 X5= & 769,685,000/1,274,497,000 & = & 0.604 & X\ 1.0 & = & \underline{0.604} \\
 & & & & Z & = & -0.366
 \end{array}$$

This model defines a company as safe if it scores higher than a 3.0. A score from 1.8 to 3.0 is viewed as gray. Less than a 1.8 means the company is an unsafe investment, which is the category Sepracor's score falls in. Using Hopwood, McKeown, and Mutchler's Logistic Regression method, which measures a company's probability of bankruptcy, the company scores poorly:

$$\begin{array}{rclcl}
 X1= & 4,971,000/1,274,497,000 & = & 0.004 & X\ -32.36 & = & -0.126 \\
 X2= & 1,046,545,000/769,685,000 & = & 1.360 & X\ .55 & = & 0.748 \\
 X3= & 1,046,545,000/277,906,000 & = & 3.766 & X\ -.07 & = & -0.264 \\
 X4= & 1,046,545,000/1,274,497,000 & = & 0.821 & X\ 1.42 & = & 1.166 \\
 X5= & 178,144,000/1,274,497,000 & = & 0.140 & X\ -7.45 & = & -1.041 \\
 X6= & 1,162,080,000/1,274,497,000 & = & 0.912 & X\ 2.7 & = & \underline{2.462} \\
 & & & & & & 2.145
 \end{array}$$

$$\text{Probability} = \frac{1}{(1 + 2.71^{-2.145})} = 89.46\%$$

According to the first model, Sepracor is not truly classifiable. However, the second method predicts that there is an 89.46 percent chance that it will fail, making Sepracor a very risky investment. For further details regarding these models, see Appendix A. Upon completion of these figures, the investor is ready to compare Sepracor to others in its market.



## King Pharmaceutical

King Pharmaceuticals began operations during 1994 in Bristol, Tennessee. It started off by manufacturing pharmaceutical products for other corporations such as SmithKline Beecham and Novartis. In the years since then, the company has shifted its focus and now concerns itself with acquiring pharmaceutical products that are late in the development process, as well as developing drugs of its own. Currently, the key products King markets include Altace, Skelaxin, Thrombin-JMI, Sonata, Levoxyl, and Meridian Auto injector products. As for its finances, King relies on American Stock Transfer and Trust Company in New York City to issue its stock and PriceWaterhouseCooper in Raleigh, North Carolina, to ensure the accuracy of its financial statements.

At the end of 2005, King's CEO, Brian Markison, sang the praises of his company, calling it a year of "significant accomplishments...revenues rose to approximately \$1.8 billion, and cash flow from operations increased to \$520 million, both record highs" (*King Pharmaceuticals 2005 Annual Report 2*). Markison went on to note that during 2005, King managed to overcome many challenges en route to a successful business plan, focusing on the therapeutic areas of cardiovascular/metabolics, neuroscience, and hospital/acute care. But just how successful has King been?

Income during the year 2005 rose

$$\frac{1,694,753,000 - 1,225,890,000}{1,225,890,000} = 38.25\%$$

Although the income change was not nearly as dramatic as Sepracor's 140.25 percent, it did not have quite as much room to grow as Sepracor did either. Compared to the 101.68

percent increase in net income, King also overcame a negative net income in 2004 to post a rise of

$$\frac{117,833,000 - (160,288,000)}{|-160,288,000|} = 173.51\%$$

An overall comparison of the income statement shows the following:

	<u>Sepracor</u>		<u>King</u>	
	2005	2004	2005	2004
Cost of Sales	-8.80%	-11.10%	-19.06%	-28.79%
Gross Profit	91.20%	88.90%	85.55%	77.61%
Selling, General, and Administrative Expenses	-81.30%	-121.30%	-24.16%	-33.43%
Interest Expense	-3.03%	-7.40%	0.70%	-1.03%
Income Tax Expense	-0.02%	0.00%	-3.63%	-0.60%
Earning from Continuing Operations	0.65%	-92.50%	6.88%	-4.13%
Net Income	0.65%	-92.50%	6.95%	-13.08%

While the income statement of King almost clearly gives the impression that it is better off than Sepracor, this is not basis enough to make a decision. Analysis of the balance sheet will provide more insight into the matter.

When comparing balance sheet figures to total assets, one can observe that Sepracor relies more on current assets and investments than does King, and it also has a much larger percentage of liabilities compared to assets:

	2005	
	<u>Sepracor</u>	<u>King</u>
Current Assets	82.10%	42.08%
Fixed Assets	5.70%	10.20%
Investments	10.80%	0.62%
Intangible Assets	1.40%	32.62%
Other Assets	0.01%	2.60%
Current Liabilities	21.80%	32.76%
Total Liabilities	113%	33.45%
Total Equity	-13%	66.55%

King's asset growth for 2005

$$\frac{2,965,242,000 - 2,924,156,000}{2,924,156,000} = 1.41\%$$

It appears that King's business is fairly well established and cannot grow as much in one year as Sepracor managed to do with its 22.65 percent increase during 2005. Yet this just means that the two are at different points in development. King's business is one that is more stable, likely making it less risky. However, when looking at the working capital for the two companies, one observes that Sepracor had more of a cushion with its \$768,639,000 difference in 2005 compared to King's:

	<u>2005</u>	<u>2004</u>
Current Assets	1,247,789,000	1,127,063,000
Current Liabilities	(971,460,000)	(688,930,000)
Working Capital	<u>276,329,000</u>	<u>438,133,000</u>

which was a change of

$$\frac{276,329,000 - 438,133,000}{438,133,000} = -36.93\%$$

Alternatively, Sepracor's working capital increased nearly 21 percent. Overall it appears that Sepracor is better managing its current assets and liabilities accounts. However, with its negative shareholders' equity, Sepracor likely does not measure up to King's management of retained earnings.

For the past two years, King's retained earnings activity has looked like this:

	<u>2005</u>	<u>2004</u>
Retained Earnings, Beginning	637,120,000	797,408,000
Dividends	0	0
Net Income	117,833,000	(160,288,000)
Retained Earnings, Ending	<u>754,953,000</u>	<u>637,120,000</u>

Compared to Sepracor's million-plus-dollar deficit, King appears much more successful in this area.

King's cash flow can be categorized in the following manner:

<b><u>Cash Flow Activity</u></b>	<b><u>2005</u></b>	<b><u>2004</u></b>
Operating	519,508,000	260,907,000
Investing	-683,007,000	-154,071,000
Financing	857,000	4,580,000
Cash provided from operating activities of a discontinued operation	0	10,185,000
Cash provided from investing activities of a discontinued operation	0	27,927,000
Increase (Decrease) in Cash	-162,642,000	149,528,000

For the year 2005, both Sepracor and King witnessed a significant decrease in overall cash. Sepracor's activities led to a \$257,761,000 decrease, whereas King's cash flow led to a \$162,642,000 decrease. King declined less, but neither company has a desirable appearance in this category. However, it is important to note that King is not as heavily reliant upon financing activities as Sepracor is. Operating activities provided a significant portion toward the overall cash-flow for King, meaning that the company is making money off of its products and not having to rely on borrowings to continue functioning.

While it is important to analyze the statements individually to understand the management of company assets, ratio analysis provides an easy way to compare companies side-by-side.

	<b>Sepracor</b>	<b>King</b>
<b>Accounts Receivable</b>		
Allowance for Doubtful Accounts	2.20%	5.21%
Days Sales in Accounts Receivable	66.61 days	48.15 Days
Accounts Receivable Turnover	7.35 times	8.38 Times
<b>Inventory</b>		
Days Sales in Inventory	213.21 days	257.73 Days
Inventory Turnover Ratio	1.33 times	1.29 Times
<b>Profitability Ratios</b>		
Profit Margin	0.65%	6.88%
Return on Assets	0.43%	3.96%
Return on Shareholders' Equity	-2%	6.10%
Earnings Per Share	\$0.05	\$0.48
<b>Liquidity Ratios</b>		
Current Ratio	3.77:1	1.28 :1
Quick Ratio	3.55:1	0.26 :1
<b>Coverage Ratios</b>		
Debt-to-Total Assets	112.98%	33.45%
Times-Interest-Earned	1.22 times	16.09 Times
Book Value Per Common Stock Share	(\$1.59)	\$0.01

These ratios provide a lot of insight into the management strategies of both companies.

The allowance for doubtful accounts percentage shows that King is more conservative in accounting for income as it reserves more than five percent for receivables it believes to be uncollectible, while Sepracor only has a little more than two percent allotted for the same cause. Oddly enough, taking just 50.8 days versus 68.08, King appears to collect on its receivables more quickly than Sepracor. Yet the accounts receivable turnover for the two does not vary by much. King's account was collected in full and reestablished 7.84 times to Sepracor's 7.18 times.

When it comes to inventory matters, Sepracor did somewhat better. During the year, Sepracor's manufactured products averaged sitting around 213.21 days before being sold, whereas King's sat around 257.73 days. This resulted in Sepracor's having a slightly higher inventory turnover of 1.33 times over King's 1.29 times. Neither

company has anything to be proud of in this area. Both need vast improvements on their ability to move products.

In profitability matters, King looks better. For every dollar of sales at King, 6.88 percent went to net income. For Sepracor that number was only .65 percent. King also better managed assets. Each dollar invested in assets contributed to 3.96 percent of sales versus Sepracor's .43 percent return. When dealing with stockholders' equity, for each dollar invested by its shareholders, King was able to earn 6.1 percent of its net income. Sepracor's losses in the past resulted in -2 percent return on stockholder investments. Thus, while each shareholder at King earned 48 cents for the year, Sepracor's shareholders earned only a nickel.

However, Sepracor again takes the lead in liquidity. For each dollar of current liability, Sepracor has it covered 3.77 times. King only has a ratio of 1.28:1 of current assets-to-current liabilities, which is not much of a cushion at all. When only the most liquid accounts are used to figure this matter, Sepracor's ratio does not change much, going down to 3.55:1, but King's drops to .26:1. A company with a ratio of less than 1:1 is seen as risky by lenders, which could potentially become a problem for King.

In the question of coverage, King is clearly the victor. A 33.45 percent figure resulting from debt-to-total assets means that most of King's assets were purchased using dollars from equity rather than borrowing. Sepracor, however, has a score of 112.98 percent, meaning it has heavily relied upon lenders' money rather than investors' money. Should lenders demand repayment, Sepracor might be in trouble, but King would likely be able to handle its small portion. The times-interest-earned ratio shows that King could cover its debt obligations 16.09 times versus Sepracor's 1.22 times. Taking into

consideration the amount of each company’s shareholders’ equity and the number of shares each were able to sell, King’s books indicate that one share is equal to approximately one cent. However small this figure is, it is still better than Sepracor’s \$(1.59) per share.

There is just one final comparison to perform, the results of the financial distress prediction. Under Altman’s “Z-Score” Model, King received a score of

Z-Score				
X1=	276,329,000/2,965,242,000	=	0.093 X 1.2	= 0.112
X2=	754,953,000/2,965,242,000	=	0.255 X 1.4	= 0.356
X3=	(117,833,000+673,000+61,485,000+11,931,000)/2,965,242,000	=	0.065 X 3.3	= 0.214
X4=	(16.92*241,802,724)/796,395,000	=	5.137 X .6	= 3.082
X5=	1,694,753,000/2,965,242,000	=	0.572 X 1.0	= 0.572
				Z = 4.336

The score of 4.336 puts King in the “Safe” classification area. Sepracor was far from that with its score of -0.366. Using the Hopwood, McKeown, and Mutchler’s Logistic Regression Model, King’s likelihood of going bankrupt is

					-0.8
X1=	117,833,000/2,965,242,000	=	0.040 X -32.36	=	-1.286
X2=	1,247,789,000/1,694,753,000	=	0.736 X .55	=	0.405
X3=	1,247,789,000/971,460,000	=	1.284 X -.07	=	-0.090
X4=	1,247,789,000/2,965,242,000	=	0.421 X 1.42	=	0.598
X5=	30,014,000/2,965,242,000	=	0.010 X -7.45	=	-0.075
X6=	0/2,965,242,000	=	0.000 X 2.7	=	<u>0.000</u>
					-1.249

$$\text{Probability} = \frac{1}{(1 + 2.71^{-1.249})} = 22.35\%$$

Compared to the 89.46 percent chance of bankruptcy that Sepracor scored, King’s 22.35 percent looks much less risky. Upon completion of this analysis it is apparent that at the end of 2005 King’s finances indicate that it is a better and safer investment than Sepracor.

While such an analysis may be a lengthy process, some form of it needs to be performed before an investment is made in any portfolio. Many investors will look just to income figures, but investors must make sure to examine the notes contained within the report, as they are key to understanding some of the numbers and all of the accounting policies a company has adopted. It is also important to keep in mind that these figures reflect a specified period of time and will be constantly updated. What is a good investment one year will not necessarily be a good investment the following year; thus, a reevaluation is needed for each new endeavor.



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