

**A Financial Risk and Fraud Model
Comparison of Bear Stearns and Lehman
Brothers: Was the Right or Wrong
Firm Bailed Out?**

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Abstract

In March 2008, the US government bailed out a failing Bear Stearns by arranging a sale to JP Morgan Chase, with US government guarantees for many Bear Stearns' toxic assets that came with the acquisition. In September 2008, the US government failed to bail out a failing Lehman Brothers, which then went into bankruptcy. Soon thereafter, the US government established a bailout program for many other failing financial institutions. This paper uses financial risk and fraud models to attempt to answer the question as to why Bear Stearns was bailed out, but Lehman Brothers was not. Based on the analysis, was the right or wrong firm bailed out? In summary, these financial risk and fraud models show potential for developing effective risk management monitoring and stronger corporate governance in order to enhance relationships between management, financial reporting, and the stability of the economic system in crisis and post-crisis conditions.

Key Words: Financial Risk, Fraud Models, Risk Management Monitoring

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Introduction

At the beginning of 2008, there were 5 bulge bracket US investment banks – Bear Stearns, Lehman Brothers, Merrill Lynch, Goldman Sachs, and Morgan Stanley. In March 2008, Bear Stearns was in financial distress and was acquired by JP Morgan Chase in a deal with substantial US government support. In September 2008, Lehman Brothers and Merrill Lynch were in financial distress. There was no US government support for Lehman brothers, and it went into bankruptcy. Merrill Lynch was acquired by Bank of America. Shortly thereafter, Goldman Sachs and Morgan Stanley both became bank holding companies. Thus, by the end of 2008, all 5 bulge bracket investment banks were either gone, or no longer investment banks.

The financial institution problems in 2008 resulted in the US government's decision to spend almost \$800 billion dollars for the Troubled Asset Relief Program (TARP), the bailout program for financial institutions that were judged to be “too big to fail”. This bailout was controversial, and many questioned both the cause of this financial crisis and the need for bailouts.

The Financial Crisis Inquiry Commission (Commission) was a ten-member commission appointed by the U.S. government with the goal of investigating the causes of the financial crisis of 2007-2010. At the end of January, 2011, the Commission finished its report and concluded: “*the greatest tragedy would be to accept the refrain that no one could have seen this coming and thus find nothing could have been done. If we accept this notion, it will happen again.*” The Commission also concluded that the financial crisis was an “avoidable” disaster caused by widespread failures in government regulation, corporate mismanagement and heedless risk-taking by Wall Street. It found that the Securities and Exchange Commission (SEC) had failed to require big banks to hold more capital to cushion potential losses and to halt risky practices and that the Federal Reserve Bank “*neglected its mission by failing to stem the tide of toxic mortgages*” (Chan 2011).

Citing dramatic breakdowns in taking on too much risk, the Commission portrayed incompetence with the following examples. A Citigroup executive conceded that they paid little attention to mortgage-related risks. Executives at American International Group were blind to its \$79 billion exposure to credit-default swaps. Merrill Lynch managers were surprised when seemingly secure mortgage investments suddenly suffered huge losses. The banks hid their excessive leverage with derivatives, off-balance-sheet entities and other accounting tricks. Their speculations were aided by a giant “shadow banking system” in which banks relied heavily on short-term debt. The Commission concluded: “*when the housing and mortgage markets cratered, the lack of*

transparency, the extraordinary debt loads, the short-term loans and the risky assets all came home to roost” (Chan 2011).

The Commission had also cited another avoidable failure, the inconsistent treatment by the federal government in helping to bail out Bear Stearns in March, 2008 but letting Lehman Brothers go into bankruptcy in September, 2008. By using financial risk and fraud models, Bear Stearns and Lehman brothers can be compared during their March-September 2008 financial crisis periods. This comparison can help to provide the answer to the following question: was the wrong firm bailed out?

Financial Statements

By coincidence, the last annual financial statements for Bear Stearns and Lehman Brothers were both November 30, 2007, due to Bear Stearns’ acquisition by JP Morgan Chase in March, 2008 and Lehman Brothers’ bankruptcy in September, 2008. These financial statements are shown for Bear Stearns in Tables 1-3 and for Lehman Brothers in Tables 4-6 with both firms’ stock prices for each fiscal year-end shown in Tables 2 and 5.

---Insert Tables 1- 6 Here---

To help assess the risk management of both firms, their condensed balance sheets were compiled in Tables 7 and 8 for 2003 and 2007. A major problem was the traditional lack of classified balance sheets for banks. No current and long-term categories of assets and liabilities are typically provided by banks. For guidance, the following comments from Lehman Brothers’ Atlanta office manager, who retired early at age 55, may be considered. In an interview, he said that over the years, the firm’s culture had shifted from managing money for clients to proprietary trading for itself. A permissive management style increasingly favored short-term investment gains and unrealized profits through mark-to-market accounting over the sustainability of the company. He said: *“the firm traded at the expense of the customers in some cases and on the trading desk, there was almost disdain for the customer”* (Lewis 2011). This strategy was reinforced by Lehman Brothers’ change in its balance sheet terminology for its investments from “Securities” in 2003 (as a brokerage firm for its customers) to “Financial Instruments” in 2007 (as a trading firm for its own shareholders and management). Thus, such investments were classified as short-term assets in 2003 and as long-term assets in 2007 for both firms to summarize this strategic shift in investment banking over this period.

Financial Risk Ratios and Fraud Models

To help assess financial risk, the following financial risk ratios and fraud models have been successfully applied as investment strategies in an empirical market study: quality of earnings,

quality of revenues, the Sloan accrual measure, the Beneish fraud model, the Dechow fraud model, and the Altman bankruptcy model (Grove et.al. 2010). These ratios and models are described in Appendix A.

---Insert Appendix A here---

Similarly, traditional ratios have been used to assess financial risk and use the Yahoo.finance categories of ratios (Grove and Basilico 2011) as follows:

- **Valuation ratios:** price/book, price/earnings, price/sales, and price/operating cash flow
- **Profitability:** profit margin, top-line growth, and bottom-line growth
- **Management Effectiveness:** return on assets and return on equity
- **Financial Strength:** current ratio and debt/equity

Benchmark comparisons of all these ratios and models for Bear Stearns and Lehman Brothers were compiled with four major banks (Citigroup, Wells Fargo, JP Morgan Chase, and GE which would be the third largest bank if its capital services division were spun off) and five fraudulent financial reporting companies (Enron, WorldCom, Qwest, Global Crossing, and Tyco). Table 7 shows the statements and calculations for Bear Stearns; Table 8 does the same for Lehman Brothers. Table 9 provides the comparisons for all the institutions examined.

---Insert Tables 7-9 here---

Analysis of the Comparisons

The financial risk ratios and fraud models are discussed in the order they appear in Tables 7 and 8 for Bear Stearns and Lehman Brothers, respectively. The Dechow fraud or risk management model signals a red flag for Lehman Brothers, but not for Bear Stearns. The Altman bankruptcy model predicts bankruptcy for both firms. The Beneish fraud or risk management model signals a red flag for Bear Stearns, but not for Lehman Brothers. Several of the ratio index inputs to the Beneish model also show red flag signals for both firms. The Sloan accrual measure is not a red flag for both firms. The quality of earnings is a red flag for Bear Stearns, but not Lehman Brothers. The quality of revenues is a red flag for both firms. Concerning the traditional ratios, the valuation ratios only show one out of eight possible red flags for both firms together. However, all the other traditional ratios in profitability, management effectiveness and financial strength show red flags for both firms.

Concerning benchmark comparisons in Table 9, Bear Stearns and Lehman Brothers show aggregate red flags from all these ratios and models 64% of the time and 55% of the time, respectively. The four big banks, Citigroup, Wells Fargo, JP Morgan Chase, and GE show red flags 73%, 27%, 36%, and 41% of the time, respectively or an average of 44%. The five financial

reporting fraud firms, Enron, WorldCom, Qwest, Global Crossing, and Tyco show red flags 64%, 41%, 59%, 73%, and 73% of the time or an average of 62% of the time. In summary, Bear Stearns and Lehman Brothers are quite similar in red flags, 64% and 55% or an average of 59% of the time which is between the big banks' average of 44% and the fraud firms' average of 62% as shown in Table 9 although they are closer to the fraud firms' risk management profiles. From the percentage of red flags, Lehman Brothers appears to be slightly stronger than Bear Stearns and much stronger than Citigroup. These numbers suggest that Lehman Brothers was at least as worthy of a bailout as both Bear Stearns, which was bailed out in March 2008, and Citigroup, which later was bailed out with funds through TARP.

Conclusions

In summary, the financial risk and fraud models used in this analysis show potential for developing effective risk management monitoring and stronger corporate governance in order to enhance relationships between management, financial reporting, and the stability of the economic system in crisis and post-crisis conditions. The analysis shows that both Bears Stearns and Lehman Brothers seemed to be in similar, very weak financial positions. Bear Stearns bailout may have been helped by Wall Street connections, like Henry Paulsen, the U.S. Treasury Secretary and former CEO of Goldman Sachs. However, possibly the U.S. federal government later thought that Lehman Brothers was "too big to save" since it was twice the size of Bear Stearns. Then, after the Lehman Brothers bankruptcy ignited the world financial crisis, the federal government reversed its thinking and bailed out the largest 19 U.S. banks since they were now "too big to fail." This bailout occurred despite the fact that all these banks had received unqualified audit opinions on their financial statements and internal controls in their last annual reports before the bailout. No "going concern" qualified audit opinions were issued for possible bankruptcies in these banks. Thus, audit opinions appear not to be a tool for assessing the risk of financial distress for these institutions.

In response to an email about this issue of why Bear Stearns was saved and Lehman Brothers let go into bankruptcy, Lynn Turner, former SEC chief accountant, replied: "Both were highly risky with very, very arrogant CEOs and chairmen. Neither has a great board but Bear Stearns may have had better connections on their board and in this instance, Lehman Brothers being second was fatal. Both depended way too much on very short term financing, including overnight commercial paper or repo's---a very ill advised and highly risky strategy for any company let alone one with very little capital."

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Appendix A

Financial Risk Ratios and Models

Six different emerging models and ratios have been used to develop a red flag approach in screening for and identifying financial risk problems in publicly held companies in addition to traditional ratios. The models are available from the authors in an Excel file.

1. Quality of Earnings

The quality of earnings ratio is a quick and simple way to judge the quality of a company's reported net income. The ratio is operating cash flow for the period divided by net income for the period. The red flag benchmark is a ratio of less than 1.0 (Schilit 2003). Also, large fluctuations in this ratio over time may be indicative of financial reporting problems, i.e., Enron's quality of earnings ratios were 4.9, 1.4, and 2.3 over its last three years of operation. In its last year of operation, Enron forced its electricity customers to prepay in order to receive any electricity which dramatically increased its operating cash flows and quality of earnings ratio. Quality of earnings is also meant to measure whether a company is artificially inflating earnings, possibly to cover up operating problems. This ratio may indicate that a company has earnings which are not actually being converted into operating cash. Methods for inflating earnings (but not operating cash flows) include early booking of revenue, recognizing phony revenues, or booking one-time gains on sales of assets.

2. Quality of Revenues

The quality of revenues ratio is similar to the quality of earnings, except that the emphasis is on cash relative to sales rather than cash relative to net income. It is the ratio of cash collected from customers (revenues plus or minus the change in accounts receivable) to the company's revenue. Similar to the quality of earnings ratio, the red flag benchmark is a ratio of less than 1.0 (Schilit 2003). For example, Enron's quality of revenues went down from 0.98 to 0.92 in its last year of operation. Since manipulation of revenue recognition is a common method for covering up poor results, this simple metric can help uncover schemes used to inflate revenues without the corresponding cash collection. Common methods include extending increased credit terms to spur revenues but with slow collections, shifting future revenues into the current period, or booking asset sales as revenue.

3. Sloan Accrual Measure

The Sloan accrual measure (1996 and updated as discussed by Robinson 2007) is based on the analysis of accrual components of earnings. It is calculated as follows: net income less free cash flows (operating cash flow minus capital expenditures) divided by average total assets. The red flag benchmark is a ratio of more than 0.10. For example, Sloan calculated that JetBlue had a ratio of 0.50 and his employer, Barclays Global Investors, shorted the stock and made over 12% in less than one year. This ratio is used to help determine the quality of a company's earnings based on the amount of accruals included in income. If a large portion of a company's earnings are based more on accruals, rather than operating and free cash flows, then, it is likely to have a negative

impact on future stock price since the income is not coming from the company's actual operations (Sloan 1996). Since many of the accrual components of net income are subjective, managers are able to manipulate earnings to make the company appear more profitable. In essence, the Sloan accrual measure is used to help determine the sustainability of a company's earnings.

4. Altman Z-Score

The Altman (1968 and updated in 2005) Z-Score is a multivariate statistical formula used to forecast the probability a company will enter bankruptcy within the next two years. The model contains five ratios which are listed below with their coefficients, based on Altman's research. The model was originally developed in 1968 for evaluating the bankruptcy risk of traditional public firms, such as manufacturing, energy, and retail, but it can also be applied to non-traditional and service public firms, such as software, consulting, and banking, as well as private firms. All three versions of the model are available on the Bloomberg software subscription package. The red flag bankruptcy prediction of the original model is a Z-Score of less than 1.8, with a score between 1.8 and 3.0 indicating possible bankruptcy problems (Altman 2005). For example, Altman had previously predicted that General Motors would "absolutely" seek bankruptcy protection and *"they still come up very seriously in the Z-Score test into the bankrupt zone after a 30 to 60 day reorganization"* (Del Giudice 2009).

(Working Capital / Total Assets) x 1.2

This ratio is a measure of a firm's working capital (or net liquid assets) relative to capitalization. A company with higher working capital will have more short-term assets and, thus, will be able to meet its short term obligations more easily. This ratio is one of the strongest indicators of a firm's ultimate discontinuance because low or negative working capital signifies the firm may not be able to meet its short-term capital needs.

(Retained Earnings / Total Asset) x 1.4

This ratio is a measure of a firm's cumulative profits relative to size. The age of the firm is implicitly considered due to the fact that relatively young firms have a lower ratio and the incidence of business failures is much higher in a firm's early years.

(EBIT / Total Assets) x 3.3

A healthy company will be able to generate income using its assets on hand. If this ratio is low, it demonstrates that profitability is poor and the company is in danger of bankruptcy as it is more vulnerable to market downswings which affect earnings.

(Market Value of Equity / Book Value of Total Liabilities) x 0.6

This ratio adds a market emphasis to the bankruptcy model. The theory is that firms with high capitalizations would be less likely to go bankrupt because their equities have higher values. In addition, it will gauge the market expectations for the company which should take into account

relevant future financial information.

(Sales / Total Assets) x 0.999

This ratio, also known as total asset turnover, demonstrates how effective the company is utilizing its assets to generate revenue. If this number is low, it indicates that the company is not being run efficiently which creates a higher bankruptcy risk.

5. Z-Score (Beneish Fraud Model)

Beneish (1999) developed a statistical model used to detect financial statement fraud and earnings management through a variety of metrics. There are five key ratios used in the model, which are the Sales Growth Index (SGI), Gross Margin Index (GMI), Asset Quality Index (AQI), Days Sales in Receivables Index (DSRI), and Total Assets to Total Accruals (TATA). Each of these measures with its model coefficient, based upon Beneish's research, is outlined below. There is also a constant value in the model of -4.840. The red flag benchmark is a Z-Score greater than a negative 1.49, i.e., a smaller negative number or a positive number indicates possible financial reporting problems (Beneish 1999). For example, Enron had a Z-Score of a positive 0.045 in its last year.

SGI – Sales Growth Index x 0.892

This measure is current year sales divided by prior year sales. It is meant to detect abnormal increases in sales which may be the result of fraudulent revenue recognition. If a company experiences a very large increase in sales from one period to the next, it may be due to shifting revenue to a later period or booking phony revenue.

GMI – Gross Margin Index x 0.528

This measure is last year's gross margin divided by this year's gross margin. While not necessarily a direct measure for potential manipulation, companies that are experiencing declining gross margins may have increased pressure to improve financial performance. Such pressure may cause them to turn to fraud or questionable financial reporting to maintain net income margins.

AQI – Asset Quality Index x 0.404

This measure is the percentage of total assets that are intangible assets this year divided by the same percentage calculation for last year. An increase in this index may represent additional expenses that are being capitalized to preserve profitability. Rather than expensing various costs, such as research and development or advertising, these costs are being capitalized as intangible assets. Capitalization increases assets while helping to maintain the profitability of the company.

DSRI – Days Sales in Receivables Index x 0.920

This measure is DSRI this year divided by DSRI last year. Companies that are trying to boost revenue and profit may allow customers to have greatly extended credit terms so that they

will buy earlier. This practice increases revenue in the current quarter but may hurt future performance. This metric is meant to detect companies which make significant changes in their collection policies and/or recognize phony or early revenues.

TATA – Total Accruals to Total Assets x 4.679

This measure represents total accruals to total assets. Accruals represent non-cash earnings. Similar to Sloan's accrual measure and the accrual measure in the Dechow fraud model, an increase in accruals represents an increased probability of earnings manipulation and possible operating and free cash flow problems.

6. F-Score (Dechow Fraud Model)

This F-Score fraud model (Dechow, Ge, Larson, and Sloan 2007) can be used as a test for determining the likelihood of financial reporting manipulation. Similar to the other models and ratios, a fraudulent score for this model does not necessarily imply such manipulation but it serves as a red flag for further analysis. The model contains measures to identify problems in accruals, receivables, inventory, cash sales, earnings and stock issuances as discussed below with their coefficients, based upon their research. There is also a constant value of -6.753 in the model. The red flag benchmark is an F-Score greater than 1.0 and is calculated using an exponential model. For example, the F-Score for Enron in its last year of operation was 1.85. This research is the more extensive of the two fraud models since it was based upon an examination of all Accounting and Auditing Enforcement Releases (AAERs) issued by the SEC between 1982 and 2005 while the older Beneish study was based only on AAERs issued between 1982 and 1992.

Accruals x 0.773

Firms that engage in earnings manipulation typically have abnormally high accruals. A significant amount of non-cash earnings results in inflated earnings and is a warning sign for earnings manipulation. This measure is a complex calculation based upon numerous accrual measures and is scaled by average total assets. Essentially any business transactions other than common stock are reflected in accrual measures (Dechow et.al. 2007).

Change in receivables x 3.201

The change in receivables from last year to this year is scaled by average total assets. Large changes in accounts receivables may indicate revenue and earnings manipulation. Such manipulation can occur through the early or phony recognition of revenue and large swings in accounts receivable will distort cash flows from operations.

Change in inventory x 2.465

The change in inventories from last year to this year is scaled by average total assets. Large changes in inventory may indicate inventory surpluses, shortages, obsolescence, or liquidation. For example, if the company uses the last-in first-out (LIFO) method of accounting for inventory

in a period of rising prices, selling older inventory will result in lower cost of goods sold, i.e., LIFO liquidation of inventory units or layers. This practice leads to inflated earnings.

Change in cash sales x 0.108

This measure is the percentage change in cash sales from last year to this year. For a firm not engaged in earnings manipulation, the growth rate in cash sales should approximate the growth rate in revenues. Thus, the change in cash sales is a key metric to monitor when evaluating the potential for earning manipulation.

Change in earnings x -0.995

This measure is a percentage calculated as earnings divided by total assets this year less the same measure last year. Volatile earnings may be indicative of earnings manipulation. According to Dechow, Ge, Larson, and Sloan (2007), a consistent theme among manipulating firms is that they have shown strong performance prior to manipulations. The cause for such manipulations may be a current decline in performance which may be covered up by manipulating financial reporting.

Actual issuance of stock x 0.938

This measure is a dummy variable that is ON if additional securities are issued during the manipulation year and is OFF if no such securities are issued. Such issuances may indicate operating cash flow problems that need to be offset by additional financing. Also, issuance of stock may indicate that managers are exercising their stock options. The exercise of stock options may signify that managers are attempting to sell at the top because they foresee future underperformance of the company. Such insider sales resulted in the criminal conviction of Qwest's Chief Executive Officer and have been a significant non-financial red flag. For example, Qwest and Enron insiders made \$2.1 billion and \$1.1 billion, respectively, by exercising and selling their stock options before their firms' financial reporting problems became public.

Table 1
Bear Stearns Companies Inc
Balance Sheets
November 30, 2007 and 2006
(in millions)

| | 2007 | 2006 |
|--|-------------------------|-------------------------|
| ASSETS | | |
| Cash and cash equivalents | \$21,406 | \$4,595 |
| Cash and securities deposits | 12,890 | 8,804 |
| Collateralized agreements: | | |
| Securities purchased to resell | 43,477 | 58,486 |
| Securities borrowed | 82,245 | 80,523 |
| Receivables: | | |
| Customers | 41,115 | 29,482 |
| Brokers, dealers, and others | 12,407 | 6,864 |
| Financial instruments at fair value | 138,242 | 125,168 |
| Mortgage loan special purpose entities | 33,553 | 30,245 |
| Property, equipment and leasehold improvements, net of accum. depreciation | 605 | 480 |
| Other assets | <u>9,422</u> | <u>5,786</u> |
| Total Assets | <u><u>\$395,362</u></u> | <u><u>\$350,433</u></u> |
| LIABILITIES & STOCKHOLDERS' EQUITY | | |
| Short-term borrowings | \$27,242 | \$45,435 |
| Financial instruments sold but not yet purchased at fair value | 43,807 | 42,257 |
| Collateralized financings: | | |
| Securities sold under agreements to repurchase | 102,373 | 69,750 |
| Securities loaned | 3,935 | 11,451 |
| Other secured borrowings | 12,361 | 3,275 |
| Payables: | | |
| Customers | 83,204 | 72,989 |
| Brokers, dealers and others | 5,402 | 4,520 |
| Accrued liabilities | 6,102 | 4,977 |
| Mortgage loan special purpose entities | 30,605 | 29,080 |
| Long-term borrowings | <u>68,538</u> | <u>54,570</u> |
| Total Liabilities | \$383,569 | \$338,304 |
| Stockholders' Equity | | |
| Preferred stock | 352 | 359 |
| Common stock | 185 | 185 |
| Additional paid-in capital | 4,986 | 4,579 |
| Acc. Other comprehensive (loss) income | 2,470 | 2,066 |
| Retained earnings | 9,441 | 9,385 |
| Treasury stock | <u>-5,641</u> | <u>-4,445</u> |
| Total Stockholders' Equity | <u>11,793</u> | <u>12,129</u> |
| Total Liabilities and Stockholders' Equity | <u><u>\$395,362</u></u> | <u><u>\$350,433</u></u> |

Table 2
Bear Stearns Companies Inc
Income Statements
November 30, 2007, 2006, and 2005
(in millions)

| | 2007 | 2006 | 2005 |
|---|-------------|-------------|-------------|
| REVENUES | | | |
| Commissions | \$1,269 | \$1,163 | \$1,200 |
| Principal transactions | 1,323 | 4,995 | 3,836 |
| Investment banking | 1,380 | 1,334 | 1,037 |
| Interest and dividends | 11,556 | 8,536 | 5,107 |
| Asset management | 623 | 523 | 372 |
| | <hr/> | | |
| Total revenues | \$16,151 | \$16,551 | \$11,552 |
| Interest expense | 10,206 | 7,324 | 4,141 |
| | <hr/> | | |
| Revenues, net of interest expense | \$5,945 | \$9,227 | \$7,411 |
| NON-INTEREST EXPENSES | | | |
| Employee compensation and benefits | 3,425 | 4,343 | 3,553 |
| Brokerage, exchange and clearance fees | 279 | 227 | 222 |
| Communications and technology | 578 | 479 | 402 |
| Occupancy | 264 | 198 | 168 |
| Business development | 179 | 147 | 127 |
| Professional fees | 362 | 280 | 229 |
| Other expenses | 665 | 406 | 503 |
| | <hr/> | | |
| Total non-interest expenses | 5,752 | 6,080 | 5,204 |
| Income before taxes | \$193 | \$3,147 | \$2,207 |
| Provision for income taxes | -40 | 1,093 | 745 |
| | <hr/> | | |
| Net income | \$233 | \$2,054 | \$1,462 |
| Preferred stock dividends | 21 | 21 | 24 |
| | <hr/> | | |
| Net income applicable to common stock | \$212 | \$2,033 | \$1,438 |
| | <hr/> | | |
| Basic earnings per share | \$1.68 | \$15.79 | \$11.42 |
| Diluted earnings per share | \$1.52 | \$14.27 | \$10.31 |
| Weighted average common shares outstanding: | | | |
| Basic | 130 | 132 | 130 |
| Diluted | 146 | 149 | 147 |
| Fiscal year-end stock price | \$10 | \$170 | \$150 |

Table 3
Bear Stearns Companies Inc
Statements of Cash Flows
November 30, 2007, 2006, and 2005
(in millions)

| | 2007 | 2006 | 2005 |
|---|-----------|---------|---------|
| Cash Flows From Operating Activities | | | |
| Net income | \$233 | \$2,054 | \$1,462 |
| Adjustments to reconcile net income to cash provided by operating activities: | | | |
| Depreciation and amortization | 14 | 10 | 10 |
| Non-cash compensation | 31 | 1,010 | 801 |
| Equity in earnings of subsidiaries | -1,292 | -493 | -876 |
| Decreases (increases) in assets: | | | |
| Securities purchased under resale agreements | -1,312 | 77 | 99 |
| Financial instruments | -2,397 | 1,007 | -34 |
| Increases (decreases) in liabilities: | | | |
| Payables to customers | 388 | 1,566 | 1,276 |
| Accrued liabilities | 2,071 | -50 | 306 |
| | <hr/> | | |
| Cash provided by operating activities | (\$2,264) | \$5,181 | \$3,044 |
| Cash Flows From Investing Activities | | | |
| Receivables from subsidiaries | 16,215 | -23,468 | -12,782 |
| Investments in subsidiaries | 1,170 | -228 | -321 |
| | <hr/> | | |
| Cash provided by (used) in investing activities | 17,385 | -23,696 | -13,103 |
| Cash Flows From Financing Activities | | | |
| Short-term borrowings | -10,622 | 9,898 | 4,524 |
| Long-term borrowings | 21,193 | 16,503 | 14,112 |
| Deposit liabilities | 254 | 363 | 426 |
| Issuance of common stock | 155 | 276 | 126 |
| Retirement of long-term borrowings | -8,865 | -7,143 | -5,966 |
| Purchase of treasury stock | -1,670 | -1,374 | -870 |
| Cash dividends paid | -172 | -155 | -139 |
| | <hr/> | | |
| Cash provided by financing activities | 273 | 18,368 | 12,213 |
| Net change in cash and cash equivalents | \$15,394 | (\$147) | \$2,154 |
| Cash and equivalents at beginning of year | 2,007 | 2,154 | 0 |
| | <hr/> | | |
| Cash and equivalents at end of year | \$17,401 | \$2,007 | \$2,154 |
| | <hr/> | | |

Table 4
Lehman Brothers Holdings Inc
Balance Sheets
November 30, 2007 and 2006
(in millions)

| | 2007 | 2006 |
|--|-------------------|-------------------|
| ASSETS | | |
| Cash and cash equivalents | \$7,286 | \$5,987 |
| Cash and securities deposits | 12,743 | 6,091 |
| Collateralized agreements: | | |
| Securities purchased to resell | 162,635 | 117,490 |
| Securities borrowed | 138,599 | 107,666 |
| Receivables: | | |
| Customers | 29,622 | 18,470 |
| Brokers, dealers, and others | 11,005 | 7,449 |
| Financial instruments at fair value | 313,129 | 226,596 |
| Other assets | 8,056 | 7,165 |
| Property, equipment and leasehold improvements, net of accum. depreciation | 3,861 | 3,269 |
| Goodwill net of amortization | 4,127 | 3,362 |
| | <u> </u> | <u> </u> |
| Total Assets | <u>\$691,063</u> | <u>\$503,545</u> |
| LIABILITIES & STOCKHOLDERS' EQUITY | | |
| Short-term borrowings | \$28,066 | \$20,638 |
| Financial instruments sold but not yet purchased at fair value | 149,617 | 125,960 |
| Collateralized financings: | | |
| Securities sold under agreements to repurchase | 181,732 | 133,547 |
| Securities loaned | 53,307 | 23,982 |
| Other secured borrowings | 22,992 | 19,028 |
| Payables: | | |
| Customers | 61,206 | 41,695 |
| Brokers, dealers and others | 3,101 | 2,217 |
| Accrued liabilities | 16,039 | 14,697 |
| Deposit liabilities at banks | 29,363 | 21,412 |
| Long-term borrowings | 123,150 | 81,178 |
| | <u> </u> | <u> </u> |
| Total Liabilities | \$668,573 | \$484,354 |
| Stockholders' Equity | | |
| Preferred stock | 1095 | 1095 |
| Common stock | 61 | 61 |
| Additional paid-in capital | 9,733 | 8,727 |
| Acc. Other comprehensive (loss) income | -2,573 | -1,727 |
| Retained earnings | 19,698 | 15,857 |
| Treasury stock | -5,524 | -4,822 |
| | <u> </u> | <u> </u> |
| Total Stockholders' Equity | <u>22,490</u> | <u>19,191</u> |
| | <u> </u> | <u> </u> |
| Total Liabilities and Stockholders' Equity | <u>\$691,063</u> | <u>\$503,545</u> |

Table 5
Lehman Brothers Holdings Inc
Income Statements
November 30, 2007, 2006, and 2005
(in millions)

| | 2007 | 2006 | 2005 |
|---|-------------|-------------|-------------|
| REVENUES | | | |
| Commissions | \$2,471 | \$2,050 | \$1,728 |
| Principal transactions | 9,197 | 9,802 | 7,811 |
| Investment banking | 3,903 | 3,160 | 2,894 |
| Interest and dividends | 41,693 | 30,284 | 19,043 |
| Asset management | 1,739 | 1,413 | 944 |
| | <hr/> | <hr/> | <hr/> |
| Total revenues | \$59,003 | \$46,709 | \$32,420 |
| Interest expense | 39,746 | 29,126 | 17,790 |
| | <hr/> | <hr/> | <hr/> |
| Revenues, net of interest expense | \$19,257 | \$17,583 | \$14,630 |
| NON-INTEREST EXPENSES | | | |
| Employee compensation and benefits | 9,494 | 8,669 | 7,213 |
| Brokerage, exchange and clearance fees | 859 | 629 | 548 |
| Communications and technology | 1,145 | 974 | 834 |
| Occupancy | 641 | 539 | 490 |
| Business development | 378 | 301 | 234 |
| Professional fees | 466 | 364 | 282 |
| Other expenses | 261 | 202 | 200 |
| | <hr/> | <hr/> | <hr/> |
| Total non-interest expenses | 13,244 | 11,678 | 9,801 |
| Income before taxes | \$6,013 | \$5,905 | \$4,829 |
| Provision for income taxes | 1,821 | 1,898 | 1,569 |
| | <hr/> | <hr/> | <hr/> |
| Net income | \$4,192 | \$4,007 | \$3,260 |
| Preferred stock dividends | 67 | 66 | 69 |
| | <hr/> | <hr/> | <hr/> |
| Net income applicable to common stock | \$4,125 | \$3,941 | \$3,191 |
| | <hr/> <hr/> | <hr/> <hr/> | <hr/> <hr/> |
| Basic earnings per share | \$7.63 | \$7.26 | \$5.74 |
| Diluted earnings per share | \$7.26 | \$6.81 | \$5.43 |
| Weighted average common shares outstanding: | | | |
| Basic | 541 | 543 | 556 |
| Diluted | 568 | 578 | 587 |
| Fiscal year-end stock price | \$60 | \$70 | \$45 |

Table 6
Lehman Brothers Holdings Inc
Statements of Cash Flows
November 30, 2007, 2006, and 2005
(in millions)

| | 2007 | 2006 | 2005 |
|---|-------------|-------------|-------------|
| Cash Flows From Operating Activities | | | |
| Net income | \$4,192 | \$4,007 | \$3,260 |
| Adjustments to reconcile net income to cash provided by operating activities: | | | |
| Depreciation and amortization | 577 | 514 | 426 |
| Non-cash compensation | 1,791 | 1,659 | 51 |
| Deferred tax provision (benefit) | 304 | -104 | -329 |
| Decreases (increases) in assets: | | | |
| Securities purchased under resale agreements | 3 | 6,111 | -475 |
| Financial instruments | -55,488 | -30,878 | -22,496 |
| Securities deposits | -4,296 | -22,818 | 4,671 |
| Receivables from brokers, dealers, and others | -3,556 | 5 | -4,054 |
| Increases (decreases) in liabilities: | | | |
| Payables to customers | 17,395 | 9,899 | 4,834 |
| Accrued liabilities | -1,401 | 765 | -456 |
| | <hr/> | <hr/> | <hr/> |
| Cash provided by operating activities | (\$45,595) | (\$36,376) | (\$12,205) |
| Cash Flows From Investing Activities | | | |
| Purchase of property and equipment | -966 | -586 | -409 |
| Investments in subsidiaries | -732 | -206 | -38 |
| | <hr/> | <hr/> | <hr/> |
| Cash provided by (used) in investing activities | -1,698 | -792 | -447 |
| Cash Flows From Financing Activities | | | |
| Short-term borrowings | 4,057 | 5,814 | 224 |
| Long-term borrowings | 86,302 | 48,115 | 23,705 |
| Deposit liabilities | 7,068 | 6,345 | 4,717 |
| Issuance of common stock | 84 | 119 | 230 |
| Retirement of long-term borrowings | -46,255 | -19,636 | -14,233 |
| Purchase of treasury stock | -2,246 | -2,160 | -2,229 |
| Cash dividends paid | -418 | -342 | -302 |
| | <hr/> | <hr/> | <hr/> |
| Cash provided by financing activities | 48,592 | 38,255 | 12,112 |
| Net change in cash and cash equivalents | \$1,299 | \$1,087 | (\$540) |
| Cash and equivalents at beginning of year | 5,987 | 4,900 | 5,440 |
| | <hr/> | <hr/> | <hr/> |
| Cash and equivalents at end of year | \$7,286 | \$5,987 | \$4,900 |
| | <hr/> | <hr/> | <hr/> |

Table 7

| Bear Stearns | | | |
|---|--------|------------|-----------|
| Risk Management | Ratios | and Models | |
| | | 2007 | 2006 |
| Income Statement | | | |
| Total Revenues | | 16,151 | 16,551 |
| | | -2% | 43% |
| Cost of sales (Interest expense) | | 10,206 | 7,324 |
| Gross Profit (Net revenues) | | \$5,945 | \$9,227 |
| Operating Expenses | | \$5,752 | \$6,080 |
| EBITDA (without adding back interest expense) | | 207 | 3,157 |
| Depreciation & Amortization | | 14 | 10 |
| Change: Depreciation & Amortiz. | | 4 | 0 |
| Operating Income | | 193 | 3,147 |
| Net Income Before Taxes | | 193 | 3,147 |
| Income Tax Expense | | -40 | 1,093 |
| Taxes Paid See Notes | | -40 | 1,093 |
| Change: Current Taxes Payable | | -1,133 | 348 |
| Net Income Core Earnings | | 233 | 2,054 |
| Net Income GAAP | | 233 | 2,054 |
| Preferred stock dividends | | 21 | 21 |
| Earnings available to common | | 212 | 2,033 |
| Balance Sheet | | | |
| Cash | | 34,296 | 13,399 |
| Change: Cash | | 20897 | 2270 |
| AR net | | 53,522 | 36,346 |
| Inventory | | | |
| Current Assets | | 87,818 | 49,745 |
| Change: Current Assets | | 38,073 | 1,383 |
| Net Fixed Assets | | 605 | 480 |
| Total Assets | | 395,362 | 350,433 |
| Current Liabilities | | 315,031 | 283,734 |
| Change: Current liabilities | | 31,297 | 45,380 |
| Deferred Income Taxes | | 0 | 0 |
| Change: Working Capital | | 6,776 | -43,997 |
| Short Term Debt | | 11,643 | 25,787 |
| Long Term Debt | | 68,538 | 54,570 |
| Total Stockholder's Equity | | 11,793 | 12,129 |
| Additional Data | | | |
| Common Stock Share Price | | \$10.00 | \$170.00 |
| Common Shares Outstanding | | 130 | 132 |
| Diluted Common Shares outstanding | | 146 | 149 |
| Diluted Earnings Per Share | | \$1.52 | \$14.27 |
| Sales Per Basic Common Share | \$ | 124.24 | \$ 125.39 |
| Operating Cash Flow | | -2,264 | 5,181 |
| Operating CF per Basic Common Share | \$ | (17.42) | \$ 39.25 |

| Current Year | T | T-1 | T-2 |
|------------------|------------|------------|------------|
| CA | \$ 87,818 | \$ 49,745 | |
| Cash | \$ 34,296 | \$ 13,399 | |
| STI | \$ - | \$ - | |
| CL | \$ 315,031 | \$ 283,734 | |
| LTI | \$ - | \$ - | |
| TA | \$ 395,362 | \$ 350,433 | \$ 292,635 |
| TL | \$ 383,569 | \$ 338,304 | |
| LTD | \$ 68,538 | \$ 54,570 | |
| STD | \$ 11,643 | \$ 25,787 | |
| Pref. Stock | | | |
| AR | \$ 53,522 | \$ 36,346 | \$ 37,233 |
| Inv. | \$ - | \$ - | |
| Sales | \$16,151 | \$16,551 | \$11,552 |
| Earnings | \$ 233 | \$ 2,054 | |
| Tax provision | \$ (40) | \$ 1,093 | |
| # shares out | 130 | \$ 132 | |
| Price of Stock | \$10.00 | | |
| Cost of Sales | \$ 10,206 | \$ 7,324 | |
| Dep + Amort | \$ 14 | | |
| OCF | \$ (2,264) | | |
| CAPEX | \$ 40 | | |
| Net Fixed Assets | \$ 605 | 480 | |

Dechow Fraud F-Score

| | | | |
|-----------------|-------------------|--|-------|
| Δ WC | \$ (14,121) | | |
| Δ NCO | \$ 6,856 | | |
| Δ FIN | \$ (28,112) | | |
| Avg. TA | \$ 372,898 | \$ 321,534 | |
| Accrual | -0.09487 | | |
| Δ AR | 0.0461 | | |
| Δ Inv. | 0.0000 | | |
| % Δ Cash Sales | -1.0588 | -1025 | 17438 |
| Δ Earnings | -0.0058 | | |
| Actual Issuance | 1 | | |
| Predicted Value | -5.8495077 | 0.9034923 | |
| Probability | 0.00287304 | | |
| Constant | 0.00343184 | | |
| F-Score | 0.83717104 | Red >1.0 Fraud Warning Green < 1.0 No Fraud Warning | |

Altman Z-score

| | | | |
|------------------|--------------|--------------|----------|
| Market Cap | \$ 1,300 | | |
| WC | \$ (227,213) | \$ (233,989) | |
| EBIT | \$ 193 | | |
| | Variables | multiples | |
| X1 (WC/TA) | -0.5747 | 6.56 | (3.7700) |
| X2 (RE/TA) | 0.0093 | 3.26 | 0.0304 |
| X3 (EBIT/TA) | 0.0005 | 6.72 | 0.0033 |
| X4 (mkt cap/TSE) | 0.1102 | 1.05 | 0.1157 |

Altman Z-score **(3.6206)** Green >2.6 bankruptcy unlikely
Yellow 1.1 to 2.6 uncertain
Red <1.1 bankruptcy likely

| Beneish Fraud Z-score | | | |
|---|----------------------|---|----------------------------|
| | Variable | NMMI good | MMI bad |
| Days' Sales in Receivables | 1.509 | 1.031 | 1.465 |
| Gross Margin Index | 1.515 | 1.014 | 1.193 green = good |
| Asset Quality Index | 0.906 | 1.039 | 1.254 yellow = uncertain |
| Sales Growth Index | 0.976 | 1.134 | 1.607 red = bad |
| Change in WC | \$ 6,776 | | |
| Change in Cash | \$ 20,897 | | |
| Current Taxes Payable | \$ (1,133) | | |
| Total Accruals to Total Assets Index | (0.033) | 0.018 | 0.031 |
| Z-score | (1.57) | Red > -1.99 Fraud Warning Green < -1.99 No Fraud Warning | |
| Sloan Accrual Measure | | | |
| Free Cash Flow | \$ (2,304) | Red > 0.10 Bad | |
| Sloan Accrual Measure | 0.0068 | Green < 0.10 Good | |
| Quality of Earnings | | | |
| Quality of Earnings | -9.7167 | Red < 1.0 Bad Green > 1.0 Good | |
| Quality of Revenue | | | |
| Cash Collected | \$ (1,025) | Red < 1.0 Bad | |
| Quality of Revenue | (0.0635) | Green > 1.0 Good | |
| Traditional Ratio Analysis | | | |
| | Company Ratio | Benchmark | |
| Valuation Ratios | | | |
| Price/Book | 0.11 | 4.1 | Less than Benchmark |
| Book Value | 91 | | |
| Price/Earnings | 6.58 | 35.7 | Less than Benchmark |
| Diluted EPS | 1.52 | | |
| Price/Sales | 0.08 | 1.9 | Less than Benchmark |
| Price/Cash Flow | -0.57 | 15.1 | Less than Benchmark |

Income Statement Profitability

| | | | |
|---------------|----|----------|--------------------------------|
| Profit Margin | 1% | 4% to 8% | Outside Benchmark Range |
|---------------|----|----------|--------------------------------|

| | | | |
|-----------------|-----|-----------|--------------------------------|
| Top-Line Growth | -2% | 5% to 15% | Outside Benchmark Range |
|-----------------|-----|-----------|--------------------------------|

| | | | |
|--------------------|------|-----------|--------------------------------|
| Bottom-Line Growth | -89% | 5% to 15% | Outside Benchmark Range |
|--------------------|------|-----------|--------------------------------|

Management Effectiveness

| | | | |
|------------------|----|-----------|--------------------------------|
| Return on Assets | 0% | 8% to 12% | Outside Benchmark Range |
|------------------|----|-----------|--------------------------------|

| | | | |
|------------------|----|-----------|--------------------------------|
| Return on Equity | 2% | 9% to 13% | Outside Benchmark Range |
|------------------|----|-----------|--------------------------------|

Financial Strength

| | | | |
|---------------|------|--------|--------------------------------|
| Current Ratio | 0.28 | 1 to 2 | Outside Benchmark Range |
|---------------|------|--------|--------------------------------|

| | | | |
|-------------|------|---------|--------------------------------|
| Debt/Equity | 6.80 | .5 to 1 | Outside Benchmark Range |
|-------------|------|---------|--------------------------------|

Table 8

| Lehman Brothers | | | | |
|---|--------|------------|----------|----------|
| Risk Management | Ratios | and Models | | |
| | | 2007 | 2006 | 2005 |
| Income Statement | | | | |
| Total Revenues | | 59,003 | 46,709 | 32,420 |
| | | 26% | 44% | |
| Cost of sales (Interest expense) | | 39,746 | 29,126 | 17,790 |
| Gross Profit (Net revenues) | | \$19,257 | \$17,583 | \$14,630 |
| Operating Expenses | | \$13,244 | \$11,678 | \$9,801 |
| EBITDA (without adding back interest expense) | | 6,590 | 6,419 | 6,310 |
| Depreciation & Amortization | | 577 | 514 | 1481 |
| Change: Depreciation & Amortiz. | | 63 | -967 | |
| Operating Income | | 6,013 | 5,905 | 4,829 |
| Net Income Before Taxes | | 6,013 | 5,905 | 4,829 |
| Income Tax Expense | | 1,821 | 1,945 | 1,569 |
| Taxes Paid See Notes | | 1,821 | 1,945 | 1569 |
| Change: Current Taxes Payable | | -124 | 376 | |
| Net Income Core Earnings | | 4,192 | 4,007 | 3,260 |
| Net Income GAAP | | 4,192 | 4,007 | 3,260 |
| Preferred stock dividends | | 67 | 66 | 69 |
| Earnings available to common | | 4,125 | 3,941 | 3,191 |
| Balance Sheet | | | | |
| Cash | | 20,029 | 12,078 | 10,644 |
| Change: Cash | | 7951 | 1434 | |
| AR net | | 43,277 | 27,971 | 21,643 |
| Inventory | | | | |
| Current Assets | | 63,306 | 40,049 | 32,287 |
| Change: Current Assets | | 23,257 | 7,762 | |
| Net Fixed Assets | | 3,861 | 3,269 | 2,885 |
| Total Assets | | 691,063 | 503,545 | 410,063 |
| Current Liabilities | | 545,423 | 404,271 | 484,370 |
| Change: Current liabilities | | 141,152 | -80,099 | |
| Deferred Income Taxes | | 0 | 0 | 0 |
| Change: Working Capital | | -117,895 | 87,861 | |
| Short Term Debt | | 359,415 | 280,145 | 119,096 |
| Long Term Debt | | 123,150 | 81,178 | 57,473 |
| Total Stockholder's Equity | | 22,490 | 18,096 | 16,794 |
| Additional Data | | | | |
| Common Stock Share Price | | \$60.00 | \$70.00 | \$45.00 |
| Common Shares Outstanding | | 541 | 543 | 556 |
| Diluted Common Shares outstanding | | 568 | 578 | 587 |
| Diluted Earnings Per Share | | \$7.26 | \$6.81 | \$5.43 |
| Sales Per Basic Common Share | \$ | 109.06 | \$ 86.02 | \$ 58.31 |
| Operating Cash Flow | | 45,595 | 36,376 | 7,488 |
| Operating CF per Basic Common Share | \$ | 84.28 | \$ 66.99 | \$ 13.47 |

| Current Year | T | T-1 | T-2 |
|------------------|------------|------------|------------|
| CA | \$ 63,306 | \$ 40,049 | |
| Cash | \$ 20,029 | \$ 12,078 | |
| STI | \$ - | \$ - | |
| CL | \$ 545,423 | \$ 404,271 | |
| LTI | \$ - | \$ - | |
| TA | \$ 691,063 | \$ 503,545 | \$ 410,063 |
| TL | \$ 668,573 | \$ 485,449 | |
| LTD | \$ 123,150 | \$ 81,178 | |
| STD | \$ 359,415 | \$ 280,145 | |
| Pref. Stock | | | |
| AR | \$ 43,277 | \$ 27,971 | \$ 21,643 |
| Inv. | \$ - | \$ - | |
| Sales | \$ 59,003 | \$ 46,709 | \$ 32,420 |
| Earnings | \$ 4,192 | \$ 4,007 | |
| Tax provision | \$ 1,821 | \$ 1,945 | |
| # shares out | 541 | 543 | |
| Price of Stock | \$60.00 | | |
| Cost of Sales | \$ 39,746 | \$ 29,126 | |
| Dep + Amort | \$ 577 | | |
| OCF | \$ 45,595 | | |
| CAPEX | \$ 630 | | |
| Net Fixed Assets | \$ 3,861 | 3,269 | |

Dechow Fraud F-Score

| | | | |
|-----------------|--------------------|--|-------|
| Δ WC | \$ (125,846) | | |
| Δ NCO | \$ 164,261 | | |
| Δ FIN | \$ 37,298 | | |
| Avg. TA | \$ 597,304 | \$ 456,804 | |
| Accrual | 0.12676 | | |
| Δ AR | 0.0256 | | |
| Δ Inv. | 0.0000 | | |
| % Δ Cash Sales | 0.0821 | 43697 | 40381 |
| Δ Earnings | -0.0018 | | |
| Actual Issuance | 1 | | |
| Predicted Value | -5.62437649 | 1.12862351 | |
| Probability | 0.003595836 | | |
| Constant | 0.003431842 | | |
| F-Score | 1.047785806 | Red >1.0 Fraud Warning Green < 1.0 No Fraud Warning | |

Altman Z-score

| | | | |
|------------------|--------------|--------------|----------|
| Market Cap | \$ 32,460 | | |
| WC | \$ (482,117) | \$ (364,222) | |
| EBIT | \$ 6,013 | | |
| | Variables | multiples | |
| X1 (WC/TA) | -0.6976 | 6.56 | (4.5766) |
| X2 (RE/TA) | 0.0163 | 3.26 | 0.0531 |
| X3 (EBIT/TA) | 0.0087 | 6.72 | 0.0585 |
| X4 (mkt cap/TSE) | 1.4433 | 1.05 | 1.5155 |

Altman Z-score **(2.9495)** Green >2.6 bankruptcy unlikely
Yellow 1.1 to 2.6 uncertain
Red <1.1 bankruptcy likely

| Beneish Fraud Z-score | | | |
|---|----------------------|---|--------------------------|
| | Variable | NMMI good | MMI bad |
| Days' Sales in Receivables | 1.225 | 1.031 | 1.465 |
| Gross Margin Index | 1.153 | 1.014 | 1.193 green = good |
| Asset Quality Index | 0.988 | 1.039 | 1.254 yellow = uncertain |
| Sales Growth Index | 1.263 | 1.134 | 1.607 red = bad |
| Change in WC | \$ (117,895) | | |
| Change in Cash | \$ 7,951 | | |
| Current Taxes Payable | \$ (124) | | |
| Total Accruals to Total Assets Index | (0.183) | 0.018 | 0.031 |
| Z-score | (2.43) | Red > -1.99 Fraud Warning Green < -1.99 No Fraud Warning | |
| Sloan Accrual Measure | | | |
| Free Cash Flow | \$ 44,965 | Red > 0.10 Bad | |
| Sloan Accrual Measure | -0.0683 | Green < 0.10 Good | |
| Quality of Earnings | | | |
| Quality of Earnings | 10.8767 | Red < 1.0 Bad Green > 1.0 Good | |
| Quality of Revenue | | | |
| Cash Collected | \$ 43,697 | Red < 1.0 Bad | |
| Quality of Revenue | 0.7406 | Green > 1.0 Good | |
| Traditional Ratio Analysis | | | |
| | Company Ratio | Benchmark | |
| Valuation Ratios | | | |
| Price/Book | 1.44 | 4.1 Less than Benchmark | |
| Book Value | 42 | | |
| Price/Earnings | 8.26 | 35.7 Less than Benchmark | |
| Diluted EPS | 7.26 | | |
| Price/Sales | 0.55 | 1.9 Less than Benchmark | |
| Price/Cash Flow | 0.71 | 15.1 Less than Benchmark | |

Income Statement Profitability

| | | | |
|---------------|----|----------|-------------------------------|
| Profit Margin | 7% | 4% to 8% | Within Benchmark Range |
|---------------|----|----------|-------------------------------|

| | | | |
|-----------------|-----|-----------|--------------------------------|
| Top-Line Growth | 26% | 5% to 15% | Outside Benchmark Range |
|-----------------|-----|-----------|--------------------------------|

| | | | |
|--------------------|----|-----------|--------------------------------|
| Bottom-Line Growth | 5% | 5% to 15% | Outside Benchmark Range |
|--------------------|----|-----------|--------------------------------|

Management Effectiveness

| | | | |
|------------------|----|-----------|--------------------------------|
| Return on Assets | 1% | 8% to 12% | Outside Benchmark Range |
|------------------|----|-----------|--------------------------------|

| | | | |
|------------------|-----|-----------|--------------------------------|
| Return on Equity | 19% | 9% to 13% | Outside Benchmark Range |
|------------------|-----|-----------|--------------------------------|

Financial Strength

| | | | |
|---------------|------|--------|--------------------------------|
| Current Ratio | 0.12 | 1 to 2 | Outside Benchmark Range |
|---------------|------|--------|--------------------------------|

| | | | |
|-------------|-------|---------|--------------------------------|
| Debt/Equity | 21.46 | .5 to 1 | Outside Benchmark Range |
|-------------|-------|---------|--------------------------------|

Table 9: Financial Risk and Fraud Red Flags

| Ratio Summary | Bear | Lehman | Wells | | World | | | Global | | Red Flag Totals: | | | | | |
|----------------------------------|------------------|----------|-----------|-------|-----------|-----|----------|--------|-------|------------------|------|--------------|---------------|--------------|-----|
| | Stearns | Brothers | Citigroup | Fargo | JP Morgan | GE | Enron | Com | Qwest | Crossing | Tyco | Bear S+Leh B | 4 Other Banks | 5 Fraud Cos. | |
| <u>Newer Models</u> | | | | | | | | | | | | | | | |
| Dechow Fraud F Score | N (No) | Y | N | N | N | N | Y | N | N | Y | Y | 1 | 0 | 3 | |
| Altman Z Score | Y (YES) | Y | Y | Y | Y | Y | P (Poss) | Y | Y | Y | P | 2 | 4 | 5 | |
| Beneish Fraud Z Score | Y | N | Y | N | N | N | Y | N | N | Y | N | 1 | 1 | 2 | |
| DSRI | Y | P | N | N | N | P | P | Y | N | N | P | 2 | 1 | 3 | |
| GMI | Y | P | P | P | N | N | Y | P | P | Y | N | 2 | 2 | 4 | |
| AQI | N | N | N | N | P | N | N | N | N | N | Y | 0 | 1 | 1 | |
| SGI | N | P | P | N | P | N | Y | N | P | Y | P | 1 | 2 | 4 | |
| TATA | N | N | N | N | N | N | N | P | N | N | N | 0 | 0 | 1 | |
| Sloan Accrual | N | N | N | N | N | N | N | N | Y | Y | N | 0 | 0 | 2 | |
| Quality of Earnings | Y | N | Y | N | Y | N | N | N | Y | Y | N | 1 | 2 | 2 | |
| Quality of Revenue | Y | Y | Y | N | N | N | Y | N | Y | Y | Y | 2 | 1 | 4 | |
| <u>Traditional Ratios</u> | | | | | | | | | | | | | | | |
| Valuation Ratios | | | | | | | | | | | | | | | |
| Price to Book | N | N | N | N | N | Y | Y | N | N | N | Y | 0 | 1 | 2 | |
| Price to Earnings | N | N | Y | N | N | N | Y | N | Y | Y | Y | 0 | 1 | 4 | |
| Price to Sales | N | N | Y | Y | Y | Y | N | N | N | N | Y | 0 | 4 | 1 | |
| Price to OCF | Y | N | N | N | N | N | N | N | N | N | Y | 1 | 0 | 1 | |
| Profitability | | | | | | | | | | | | | | | |
| Profit Margin | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | 1 | 4 | 5 | |
| Top-Line Growth | Y | Y | Y | N | Y | N | Y | Y | Y | Y | Y | 2 | 2 | 5 | |
| Bottom-Line Growth | Y | Y | Y | N | N | Y | N | Y | Y | Y | Y | 2 | 2 | 4 | |
| Management Effectiveness | | | | | | | | | | | | | | | |
| Return on Assets | Y | Y | Y | N | N | N | Y | Y | Y | Y | Y | 2 | 1 | 5 | |
| Return on Equity | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | N | 2 | 3 | 4 | |
| Financial Strength | | | | | | | | | | | | | | | |
| Current Ratio | Y | Y | Y | N | N | Y | N | Y | Y | Y | Y | 2 | 2 | 4 | |
| Debt to Equity | Y | Y | Y | Y | Y | Y | N | N | N | N | Y | 2 | 4 | 1 | |
| Totals: | Red Flags | 14 | 12 | 16 | 6 | 8 | 9 | 14 | 9 | 13 | 16 | 16 | 26 | 38 | 69 |
| | % | 64% | 55% | 73% | 27% | 36% | 41% | 64% | 41% | 59% | 73% | 73% | 59% | 43% | 63% |

