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Pension Plan Funding Effect on Shareholder Equity

Larisa Parchomovsky
Lubin School of Business, Pace University

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Pension Plan Funding Effect

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Larisa Parkhomovsky

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Dr. Samir El-Gazzar

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PRÉCIS

A pension plan often tends to be one of the company's biggest liabilities. Before 2008,

pension plans were not directly included in the financial statements, but could only be found in

the footnote disclosures. Such accounting convention essentially made pensions a type of off-balance sheet financing resulting in a misrepresentation of valuation ratios and earnings due to the exclusion of such a significant liability. The objective of this research is to determine whether the funded status of a pension plan will significantly affect a company's shareholder equity. As part of this research, I analyzed 4 years (2001-2004) of financial statements for a sample of 30 companies, focusing on earnings per share, book value per share, and percentage by which the pension plan is overfunded or underfunded. Using regression analysis, I determine whether the funded status of a pension plan will affect the company's stock price.

The results indicated a statistically significant correlation between level of pension plan funding and shareholder equity, with an R^2 of 0.65 and 0.59 in years 2001 and 2004 respectively. In 2002 and 2003 the results were less conclusive exhibiting a lower R^2 of ~0.44 and not providing enough evidence to conclusively reject the null hypothesis. The latter findings may be attributed to an inadequate sample size or other significant external factors such as interest rates and economic conditions, which may have a critical affect on my findings.

Pension plan underfunding, plan freezing, and the recent implementation of FAS 158 result in significant accounting issues for today's companies. The most notable example with wide media coverage was the General Motors debacle, which resulted from a massive pension liability. This liability would become the responsibility of the Pension Benefit Guaranty Corp (PBGC), an entity that protects the pensions of 44 million American workers and is funded by the premiums from the participating companies in case the company goes into bankruptcy. This could set precedence for companies with massively underfunded pension plans which don't want to pay pension obligations to their employees. Another important issue affecting companies and their pension plans is pension plan freezing. In order to reduce costs and stay competitive, more

firms are freezing their defined benefit pensions. The last issue considered is the recent

implementation of FAS 158, which requires companies to put their pensions on the financial

statements preventing off balance sheet reporting and leading to increased transparency.

Given current financial and actuarial challenges in valuing their plans, I would suggest

that companies use realistic discount rates, expected rates of return and longevity models.

Additionally, it is essential that the duration of plan investments is appropriately matched to

expected liabilities. Such practices will lead an increase in accuracy of pension plan valuations.

Since companies are now obligated to record their pensions on the financial statements, they will

be increasingly focusing on decreasing their liabilities as well as the volatility of their financials

in order to enhance shareholder value.

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INTRODUCTION

Company pension plans have always been a topic of discussion between employers, employees, investors, and regulation agencies. Beginning in the 1920s, the favorable tax treatment of employment-based retirement programs encouraged the expansion of the United States pension system (Rajnes). A pension plan is a "type of retirement plan, usually tax exempt, wherein an employer makes contributions toward a pool of funds set aside for an employee's future benefit. The pool of funds is then invested on the employee's behalf, allowing the employee to receive benefits upon retirement" (Investopedia.com).

Over 60 million American workers are covered by pension plans and the United States' pension funds are about the size of Japan's gross national product. While the corporate liability for providing pension plans is massive and pension cost constitutes one of the largest expenses many companies have, firms establish these plans to provide employees with retirement security, to increase job satisfaction and encourage company loyalty (Sepe, Spiceland, Tomassini, 828). This large liability is usually not found on companies' balance sheets and is referred to as off balance sheet financing (Investopedia.com). Off balance sheet financing is a "form of financing in which large capital expenditures are kept off of a company's balance sheet through various classification methods. Companies will often use off-balance-sheet financing to keep their debt to equity (D/E) and leverage ratios low, especially if the inclusion of a large expenditure would break negative debt covenants" (Investopedia.com). However, in recent years, the focus has shifted to the mobility of the retirement plan rather than company loyalty due to the increase in employee movement.

There are two types of pension plans: defined benefit plan and a defined contribution plan. In a defined-benefit plan, the employer guarantees that the employee will receive a definite amount of money based on a designated formula including years of service and final pay. This

obligation is borne by the employer regardless of how well the investment fund performs. On the other hand, in a defined-contribution plan the employer makes predefined contributions for the employee, but the final benefit received by the employee is based the investment's performance (Investopedia.com)**.** Currently, more companies are shifting away from defined benefit plans to defined contribution plans due to the lower costs associated with defined contribution plans and increased industry competitiveness.

There are many complexities in pension plan accounting. One difficulty is predicting the retiree population, longevity, salary increases, and other factors. While actuaries try to estimate these factors in order to discount the future stream of estimated payments into a single present value, there will always be deviations. The second complication is the use of accrual accounting. Accrual accounting states that items are recognized in the period they occur regardless if a cash transaction has taken place. This means that the actual cash flows are not counted each year and the annual pension expense is based on an attempt to capture changing assumptions about the future. The third problem is that companies smooth their pension accounts. Pension smoothing is done to decrease fluctuations in the plan from year to year. While it is a common practice, it tends to distort the quality of the financial statements and reduces transparency for investors.

Before the issuance of FAS 158 in 2008, the previous statement for accounting for pensions was FAS 87: Employer's Accounting For Pensions issued by the Financial Accounting Standards Board in 1985. FAS 87 summarizes delayed recognition, net cost and offsetting. Delayed recognition means that the changes in the pension obligations and value of assets are not recognized as they occur, but systematically and gradually over future periods. Losses, for example would not be recognized in the year they occur, but amortized or deferred to the future. Net cost is when the transactions affecting a pension plan are reported as a single net amount on

the financial statements because the assets and liabilities offset each other. Offsetting means "that recognized values of assets contributed to a plan and liabilities for pensions recognized as net pension cost of past periods are shown net in the employer's statement of financial position, even though the liability has not been settled, the assets may be still largely controlled, and substantial risks and rewards associated with both of those amounts are clearly borne by the employer" (Investopedia.com). Offsetting distorts the reliability of financial statements by not disclosing all the details that go into the net pension cost.

Other aspects that affect the pension plan cost are the discount rate, expected return of plan assets and salary increases.

Impact of Assumptions on Pension Cost/Expense – the income statement charge that reduces reported profits		
1. Discount Rate	⇧ Higher	Decrease in Service Cost + Increase in Interest Cost = Overall Decrease in Cost
	⇩ Lower	Increase in Service Cost + Decrease in Interest Cost = Overall Increase in Cost
2. Expected Return on Plan Assets	⇧	Decrease in Cost
	⇩	Increase in Cost
3. Rate of Salary (or Compensation) Increase	⇧	Increase in (Service & Interest) Cost
	⇩	Decrease in (Service & Interest) Cost

Source: Investopedia.com

The higher the discount rate, the greater overall decrease in plan cost because the service cost is decreasing at a bigger rate then interest rate is increasing. On the other hand, if the discount rate is lower, companies face cost increases. The expected return on assets also affects the plan's cost. When calculating the expected return on assets, companies should use conservative rates for their plan. By using unrealistically high rates, they decrease their costs by forecasting higher

returns in the future. This is considered an aggressive tactic and skews the true plan cost. Finally, salary increases also affect pension plans cost. More conservative forecasted salary increases lead to a decrease in plan cost. Companies must estimate realistic compensation increases when calculating the pension plan cost to present accurate financial statements.

Recently, a new statement was released called FAS 158 which is Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans—an amendment of FASB Statements No. 87, 88, 106, and 132(R). This statement changes the accounting practices around pensions by placing the liability on the balance sheet. It "improves financial reporting by requiring an employer to recognize the overfunded or underfunded status of a defined benefit postretirement plan (other than a multiemployer plan) as an asset or liability in its statement of financial position and to recognize changes in that funded status in the year in which the changes occur through comprehensive income of a business entity" (FASB). The reasoning for amending the prior statements is to address the concerns that they didn't communicate the funded status of a pension plan in a complete and understandable way. The prior statements didn't require the recognition of this liability or other financial effects of certain events that affected the plan's status as they occurred. Companies sometimes delayed the recognition of economic events that affected the cost of providing the benefits and recognized a liability that was less than the underfunded status of a plan. Other times, they recognized an asset on the balance sheet for a plan that was underfunded. These changes relate to the FASB's Conceptual Framework by presenting this information in a timely and complete way so it is relevant and reliable for investors. This is supported by Kwan in the FSRBF Economic Letter in 2003, "there is some evidence that the complexity in pension cost measurement, and the relegation of the net pension asset value to a footnote, could compromise financial transparency and lead to misevaluations."

Pension plans affect stock prices by creating an extra liability that could affect earnings and ratios. Using earnings per share, book value per share and funded status of a pension plan found on the financial statements in a regression analysis, we will determine the impact of a company's plan on its stock price. In the next section, I will discuss the research and findings on pension plans and their effect on companies' financial statements.

BACKGROUND

Over the years, the topic of pension plan accounting and related issues attracted a substantial amount of research and discussion. The major focus topics included pension smoothing, increased pension plan freezing, massively underfunded pension plans and shifts in the types of plans being offered. Pension plan smoothing is "the combination of using the expected rate of return and the market-related value, rather than the realized return and the marked-to-market value, in computing the dollar return on pension assets has the effect of smoothing pension earnings over time and, hence, the reported earnings"(Kwan). It distorts a company's financial health and potentially misleads investors. The increase in the number of companies opting to freeze their pension plans highlights the companies' focus on curbing their pension expense. In addition, massively underfunded pension plans pose a considerable problem due to the increased risk of companies failing to meet their pension plan obligations.

Pension smoothing is a common practice for companies when filing their yearly financial statements. The net periodic pension cost which is the annual accrued costs of the pension plan including the service cost, interest cost, and other costs minus the expected return on plan assets is what FASB requires companies to expense on their financial statement. The rules governing the net periodic pension cost are designed to smooth the impact of changes by using the same long term expected rate or return and amortizing the gains on plan assets over five years. This affected the market during 2001 – 2004 by cushioning the sharp fall in pension earnings and holding down pension cost thereby giving a lift to reported earnings.

Over the years, the increase in the freezing of defined benefit pension plans by companies has been motivated by the desire to reduce volatility and cost, stay competitive in the industry, and meet employee requests. With defined benefit funding rules tightening and transparency

requirements increasing, these plans added volatility to shareholder's equity and the balance sheet. In addition, by freezing their defined benefit plan and switching to a defined contribution plan, companies are staying competitive and enabling themselves to invest the extra money into profit generating activities. The increase in employee mobility also adds to the benefits of using a defined contribution plan because it is more portable (McFarland, Pang, Warshawsky). However, an analysis of 82 publicly-traded companies that closed or froze their pension plans during 2003 – 2007 showed that the freezing negatively affected their market value. This implied that while there are some accounting gains, freezing their defined benefit plans might not provide companies with long term cash flow relief for a long time (Watson Wyatt). According to the chart below, from years 1999 – 2004, with the exception of 2003, there has been an increase in the amount of companies that are freezing their pension plans.
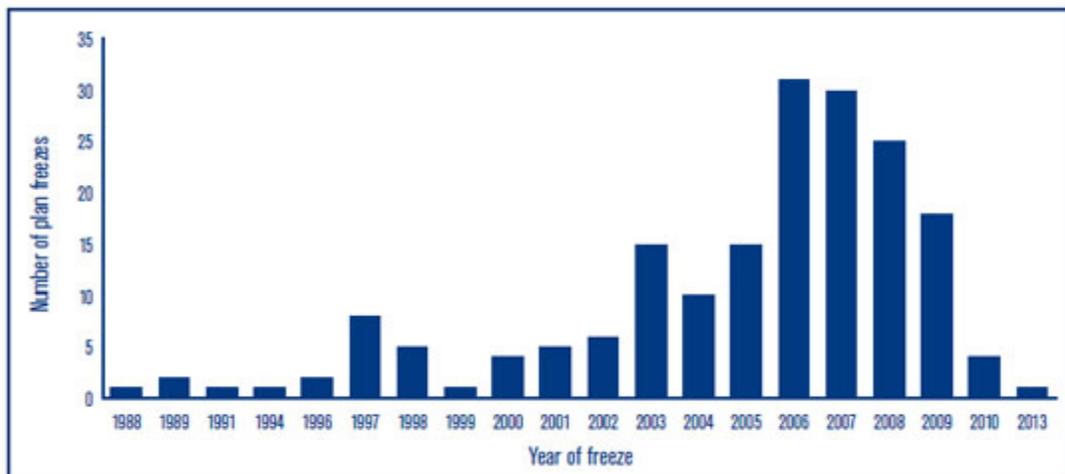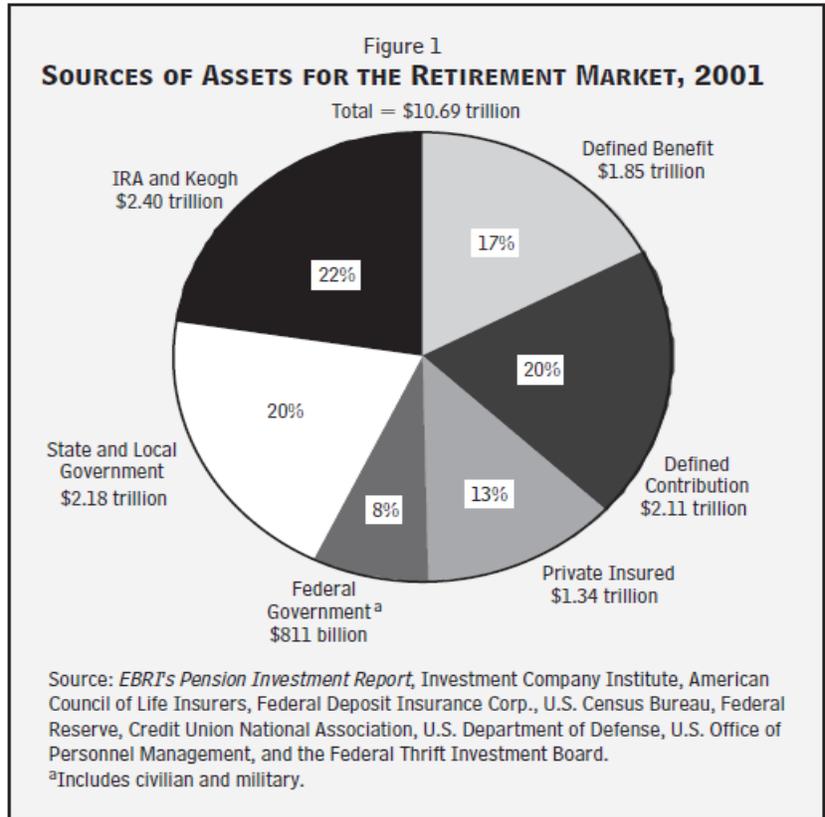

Source: Watson Wyatt

Massively underfunded pension plans can pose a systemic risk to the financial markets in case companies fail to meet their pension plan obligations. Defined benefit plans are guaranteed by the Pension Benefit Guaranty Corp. (PBGC), a government body, which is funded by

premiums from companies. Most of the time, especially for large corporations, the pension liability outweighs the premiums deposited. Therefore, if one major corporation would default on its pension obligations, the PBGC would be faced with a difficult challenge of meeting the above-discussed obligations. This might create moral hazard, a need for a taxpayer bailout and set a precedent for companies bailing on their pension plans because they know they have a safety net (Brush).

The shift from defined benefit plans to defined contribution plans represents companies' efforts to become more competitive in the global market, reduce expenses and risk and overcome financial difficulties (Watson Wyatt). Changing plans transfers the retirement responsibility and risk from the employer to the employee. The employees' pension plan does only as well as the investments and there is no guarantee on a set amount of benefits. After WWII and into the 1970s, the defined benefit plan was the preferred model for large employers while the small employers used defined contribution plans. The Employee Retirement Income Security Act of 1974 (ERISA) established new reporting and fiduciary requirements and affected plans from a legal, tax, investment and actuarial point. In addition, it also created a new agency called the Pension Benefit Guaranty Corporation (PBGC). The creation of ERISA moved companies toward a defined contribution plan due to the increased administrative costs and legal issues associated with it (Rajnes). The chart below shows the increase in defined contribution plans over the defined benefit plans.

Figure 1
SOURCES OF ASSETS FOR THE RETIREMENT MARKET, 2001
Total = $10.69 trillion

IRA and Keogh
$2.40 trillion — 22%

Defined Benefit
$1.85 trillion — 17%

Defined Contribution
$2.11 trillion — 20%

Private Insured
$1.34 trillion — 13%

Federal Government[a]
$811 billion — 8%

State and Local Government
$2.18 trillion — 20%

Source: *EBRI's Pension Investment Report*, Investment Company Institute, American Council of Life Insurers, Federal Deposit Insurance Corp., U.S. Census Bureau, Federal Reserve, Credit Union National Association, U.S. Department of Defense, U.S. Office of Personnel Management, and the Federal Thrift Investment Board.
[a]Includes civilian and military.

HYPOTHESIS

The focus of this analysis was whether a company's pension plan funded status impacts its share price. My hypothesis is that there is a statistically significant relationship between a company's pension plan funding level and its stock price. An underfunded pension plan is essentially a liability to the company. If this liability is not directly reflected on the financial statements, sophisticated investors still consider the footnote disclosure in their company valuation model. Therefore, this liability results reduced valuation which is reflected by a lower stock price. On the other hand, if the pension plan is overfunded, the company has an extra asset which improves company's valuation. While the funded status of a pension plan is not the only variable which might affect a company's share price, this experiment will try to prove that there is a strong correlation between them. To set up the regression analysis, I established the hypothesis in terms of H_0 and H_1:

$$H_0 : \mu = 0$$

$$H_1 : \mu \neq 0$$

H_0 : is the null hypothesis, which this analysis aims to reject. If the affect on μ which is the population mean is zero, then there is no affect on stock price by the funded status of the pension plan. If μ is not zero, then the funded status of a pension plan affects companies' stock price. To test the hypothesis I created a model that determines whether the dependent variable (Y) is affected by the independent variables (X). For this experiment, the dependent variable is the company's share price and the independent variables are the earnings per share, book value per share, and the percentage by which the pension plan is overfunded or underfunded.

$$\textbf{Price} = \textbf{A}_0 + \textbf{A}_1\,(\textbf{EPS}) + \textbf{A}_2\,(\textbf{BVS}) + \textbf{A}_3\,(\textbf{\% overfunded/underfunded}) + \textbf{e}_i$$

Where:

Price = Company's share price after release of yearly financial statements

A_1 **(EPS)** = Company's earnings per share

A_2 **(BVS)** = Company's book value per share

A_3 **(% overfunded/underfunded)** = The percentage amount a company's pension plan is overfunded or underfunded

e_I = noise term / other unknown variables

The use of earnings per share is required to accurately compare companies with different amounts of outstanding shares. It is calculated by dividing a company's net earnings by their total outstanding number of shares and usually found in form 10-K on the income statement or statement of financial condition. Book value per share can be used to determine whether a stock is overvalued or undervalued. To calculate book value per share, you divide shareholder's equity by the total number of outstanding shares usually found on a company's balance sheet. The percentage amount a company's pension plan is overfunded or underfunded allows the comparison of pension plans across all firms. It is calculated by:

percentage over /underfunded = (projected benefit obligation – plan assets)

projected benefit obligation

The information about the pension plan is found in the footnotes of the companies' financial statements.

To test this equation, we will be using regression analysis. Regression analysis is the determination of a relationship between a dependent variable (Y) and independent variable (X). To determine if there is a strong relationship between the variables, you must focus on the R-square (R^2) which is the coefficient of determination and gives the measure of the goodness of fit of the estimated regression model to the sample data. In other words, it gives you the percent of the variation of the dependent variable that is explained by the independent variable. It is between 0 – 1 with 0 being a bad fit and 1 being a good fit for the data.

METHODOLOGY

Companies have many determinants of stock price such as earnings, ratios, etc. This research is designed to show whether the funded status of a company's pension plan will affect its stock price.

I started with a population of 2784 U.S. public companies that are listed on the New York Stock Exchange and labeled it Set A. Since not all the companies in that population met the criterion of having a pension plan and NYSE listing during our time period of 2001 – 2004, I narrowed down the population to only include companies with those characteristics and called it Set B. The 2001 -2004 time period was chosen because this was before the release of Financial Accounting Standard (FAS) 158 by the Financial Accounting Standards Board (FASB). The new standard applies to companies whose year end is after December 15, 2008. It changes the accounting for pensions and forces companies to recognize the overfunded or underfunded status of a pension plan as an asset or liability in its statement of financial position. It also forces companies to recognize changes in the funded status in the year they originated. To select the sample of 30 companies from the new set, I numbered the companies and then used random number generation to create 30 values from which I then chose the corresponding company.

I then determined the earnings per share, book value per share, and the percentage the pension plan is overfunded/underfunded for the time period of 2001 – 2004 for each company from their financial statements, Form 10-K and on Bloomberg. When selecting the date of the share price, I chose the month end of the financial statements release date because I believe it represents the market's reaction to the published information. After organizing the data by year I then input the model into the regression analysis.

RESULTS

The thirty public companies that were randomly chosen for this analysis are listed in Table 1 with respective stock prices, earnings per share, book value per share and the pension plan funding percentage (overfunded / underfunded).

In the regression analysis, I set the stock price as the dependent variable (Y) while earnings per share, book value per share, and percentage overfunded/underfunded are the independent variables (X). The results appear below in Table B listing the R^2, p-value, Significance F and the coefficients.

Table 2

	2004	2003	2002	2001
R Square	0.588199	0.445666	0.428962	0.649620
Significance F	0.000032	0.001359	0.001967	0.001359
P- value				
Earnings Per Share	0.065002	0.065002	0.024453	0.147164
Book Value Per Share	0.077067	0.077067	0.045647	0.026909
% overfunded/underfunded	0.497848	0.497848	0.568229	0.109912
Coefficients				
A_0	20.47231614	25.2580005	20.874127	21.713495
Earnings Per Share	3.900887	3.518752	2.861678	7.024300
Book Value Per Share	0.909165	1.095326	0.754249	0.622256
% overfunded/underfunded	13.461607	33.321374	8.289910	5.788712

The R – Square is the most important statistic in the regression analysis. It can be described as

$$R^2 = \frac{\text{variation in y as x pulls it along the line}}{\text{total variation in observed values of y}}$$

(Duckworth, Mccabe, Moore, Sclove, 118)

R^2 is the coefficient of simple determination and is the percent of the variation in the y-variable, in this case stock price, which is explained by the x-variable (earnings per share, book value per share and percentage overfunded/underfunded). In other words, it is a measure of how applicable the regression model is in the case of your analysis. If R^2 is close to 0, then the regression analysis is practically ineffective. If R^2 is 1 then the line fits the data perfectly and is a very accurate predictor for future values. One limitation of R-square is that the more variables included in the regression analysis, the higher the value will be. An R-square about 0.75 is considered useful for business purposes and is statistically significant. Values below 0.75 are less conclusive. In our analysis, the R^2 for 2001 was the highest at 0.65 meaning that 65% of the values were predicted by the regression line, implying strong correlation. In 2003 and 2002, however, R^2 drops to ~0.44 which implies that while earnings per share, book value per share and percentage overfunded/underfunded affected stock price, it is likely that other variables not included in this analysis had a more substantial impact on the share price. This illustrates the regression analysis limitation due to omitted variables. The regression lines generated by this analysis are:

$2004 = Y = 20.472 + 3.901(\text{EPS}) + .909\ (\text{BVS}) + 13.462\ (\%\ \text{over/underfunded}) + e^i$

$2003 = Y = 25.258 + 3.519(\text{EPS}) + 1.0953\ (\text{BVS}) + 33.321\ (\%\ \text{over/underfunded}) + e^i$

$2002 = Y = 20.874 + 2.862(\text{EPS}) + .754\ (\text{BVS}) + 8.290\ (\%\ \text{over/underfunded}) + e^i$

$2001 = Y = 21.712 + 7.024(\text{EPS}) + .622\ (\text{BVS}) + 5.789\ (\%\ \text{over/underfunded}) + e^i$

In addition to R^2, we must also look at the p-value to evaluate to what extent the results are statistically significant. This test of significance assesses the evidence against the null hypotheses (Duckworth, Mccabe, Moore, Sclove, 118). For this analysis, I set the alpha ά = 0.1 and will consider a P-value of less than 0.1 as being statistically significant. If the results yield of a p-value of less than 0.1, then the evidence against the null hypothesis is strong. In our analysis, p-values for earnings per share were 0.15, 0.024, 0.065, and 0.065 for years 2001 – 2004, respectively. Except in 2001, the P-values fall significantly under the alpha of 0.1. The p-value for book value per share for all the years are 0.03, 0.05, 0.077, and 0.077 and also fall under the ά of 0.1 value signifying that we have strong enough evidence to reject the null hypothesis. However, in 2002 – 2004, the p-values for the percentage of the pension plan that is overfunded/underfunded are much greater than the ά. One reason might be that the sample size is insufficient. This however, does not necessarily prove that the null hypothesis is correct; it only shows that there is not enough evidence to reject the null.

In addition to looking at the p-value, I also examined the significance F which "measures the likelihood that the model as a whole describes a relationship that emerged at random, rather than a real relationship. As with the p-value, the lower the significance F value, the greater the chance that the relationships in the model are real" (www.state.tn.us). The values for 2001 – 2004 were 0.0013, 0.0020, 0.0014, 0.000032, respectively. Since for all 4 years the significance F is an extremely low value, we can say that there is a high chance that the relationship between stock price and earnings per share, book value per share and percentage overfunded/underfunded is "real".

Some limitations of a regression analysis are multicollinearity, omitted variables, endogenity and extrapolation. Multicollinearity is when one or more of the independent variables

are related to one another. Omitted variables are when independent variables that have significant relationships with the dependent variable are left out of the model. Endogenity is found when an independent variable and dependent variable have a circular relationship. And finally, extrapolation is the use of a regression line to predict values outside the range of data.

When performing a regression analysis, it is important to watch out for multicollinearity because it can result in a model that exhibits bias. If one or more of the independent variables are related to each other, it may skew the results and give an invalid p-value. Multicollinearity prevents holding all the other independent variables constant when determining the increase one independent variable will change in the dependent variable. A solution would be to remove the related variable but in some cases it might hurt the model even more. The researcher should analyze the data and determine what course to take (www.state.tn.us).

If a model omits significant independent variables, the results might be worse than if the variable was included. Omitted variables can cause an increase in the variance in the error term by excluding an important independent variable. This bias can also distort the other independent variables' coefficients and decrease R-square and increase the significance F. One solution for omitted variables is to insert the independent variable in the model. Sometimes however, the data may not be available for the missing independent variables or the variables might not be measurable and the researcher will be forced to leave it out of the model (www.state.tn.us).

Regression is an analysis that measures the effect of changes in the independent variable on the dependent variable. When endogeneity occurs, the relationship between the independent and dependent variable is two way meaning that the dependent variable can also affect the

independent variable. This may also bias the results and the easiest solution would be to remove the endogenous variable (www.state.tn.us).

Another limitation of regression analysis is extrapolation. Extrapolation is the use of the regression line for the prediction of values of the explanatory variable far outside the range of data from which the line was calculated. In this analysis, using this regression line on foreign companies would be considered extrapolation because they are not part of the original data. This would give us skewed results.

CONCLUSIONS

This experiment aims to prove that there is a significant relationship between companies' stock price and funded status of their pension plans. If you examine the companies selected for this analysis, majority of them have significantly underfunded pension plans from year to year. Underfunded pension plans create huge liabilities that are not put on the financial statements thereby distorting the company's financial position. When calculating numerous ratios such as the current ratio which is current assets/current liabilities or debt to worth which is total liabilities/ net worth, the result would be different than if the underfunded pension liability would be considered.

In this analysis, I took 30 randomly selected United States public companies for years 2001 – 2004 and their earnings per share, book value per share, percentage of underfunded/overfunded of the pension plan and stock price. I then created the data model and performed a regression analysis. The results showed that there is a significant correlation between stock price and the funded status of pension plans. However, in 2002 and 2003, the R^2 was lower than in the two other years used in the analysis. I believe that this inconsistency is due to the small sample size and/or other significant variables that influenced the stock price in those years. Getting a relatively low R^2 means that we do not have enough evidence to reject our null hypothesis and that the analysis is inconclusive.

Some of the biggest issues facing companies today are pension freezing and underfunding. With the recent recession and companies scrambling to find a way to lower costs, freezing their defined benefit plans is one of the most popular options. The service cost for pensions has been increasing due to increases in salaries. Companies that freeze their plans usually reduce their net pension expense. Pension plan underfunding is also major issue because

before FAS 158, these huge liabilities were not on the balance sheet and distorted the picture. Out of the sample of 30 companies chosen for this experiment, only 10% were overfunded in 2004, 6.7% in 2003 and 2002 and a surprisingly 30% in 2001. The chart below shows the amount of companies with underfunded pension plans from years 2001 – 2004.
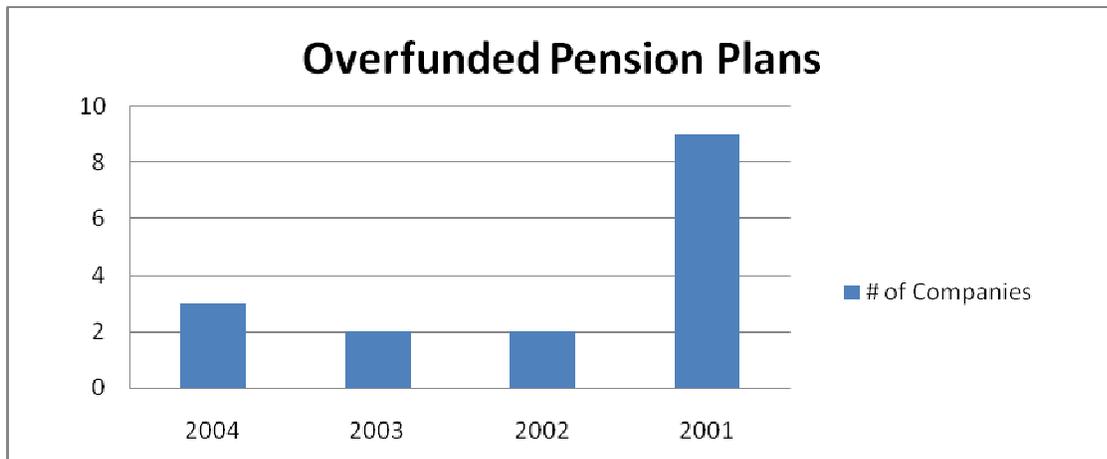
The decrease in number of overfunded pension plans from 2001 to 2004 was caused by several factors including unfavorable market and economic conditions in 2002-2003 due to technology bubble burst resulting in reduced valuations of pension plan investments. Another major factor was the fact that most companies underestimated the number of retirees claiming pension benefits due to a significant increase in longevity. The baby boomer generation is aging and retiring every year in increasing numbers. As we progress to 2010, more plans will be underfunded under the strain of supporting the increasing number of retirees. General Motors (GM) currently has a huge issue with underfunded pension plans. Since GM went into bankruptcy, it exposed $13.5 billion pension liability and if GM would default on their pension obligation, the Pension Benefit Guaranty Corp would be forced to take on the liability (Burr). The PBGC protects the pensions of more than 44 million workers in more than 29,000 private

single employer and multiemployer defined benefit pension plans with operations financed by insurance premiums set by Congress and paid by the sponsors of the plans (PBGC.gov).

FAS 158 is the new statement released by FASB as an amendment to statements No. 87, 88,106 and 132R. This statement will improve financial reporting because the information reported will be more "complete, timely and more representationally faithful because the sponsor is forced to report the status in their financial status rather than the footnotes. Overall, it will make financial reporting more understandable by eliminating the need for reconciliation in the notes to financial statements" (www.fasb.gov). This will affect the financial ratios widely used in equity valuation models presenting investors with a more transparent as well as accurate view of a company financial health. If companies will have substantial liabilities resulting from the low level of pension plan funding, I believe that their stock prices will be negatively impacted.

I would suggest that companies use realistic discount rates, expected rates of return and longevity models. Additionally, it is essential that the duration of plan investments is appropriately matched to expected liabilities. Such practices will lead an increase in accuracy of pension plan valuations. In the upcoming years, with the number of retirees increasing, many companies, to remain viable, will be forced to deal with their sizeable pension plan liabilities, formulating fiscally responsible policies such as proper duration matching and provision of additional funding when necessary.

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