EFFECTS OF PENSION FREEZE ON FINANCIAL STATUS OF COMPANIES

by

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Submitted in partial fulfillment of the

requirements for Departmental Honors in

the Department of Finance

Texas Christian University

Fort Worth, Texas

May 7, 2018

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ABSTRACT

My thesis analyzes the impact of pension freeze on financial reporting of public companies in the US. In recent years, most companies have the tendency to freeze defined benefit plans and switch to defined contribution plans in order to cut costs and transfer risk to employees. My thesis aims to explore the reasons of this switch in greater details and understand the effects (if any) of pension freeze on financial status of companies. Specifically, the thesis analyzes pension expense and pension liabilities five years before and after pension freeze of different companies to evaluate whether pension freeze has any significant impact on financial statements.

After conducting detailed analysis, my thesis concludes that pension freeze does not enable companies to reduce their pension obligations significantly five years after the freeze. However, companies are able to stabilize their total liabilities as a result of pension freeze to focus their resources on restructuring their business. This thesis aims to inform companies, employees, and shareholders of the implications of pension freeze by providing them with more insights into the financial impact of pension freeze.

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INTRODUCTION

Pension policies have undergone major changes over the past several years. While defined benefit plan was very popular in the mid-1990s, defined contribution plan is slowly emerging as a great alternative to this traditional form of pension plan. Understanding the shifting trends of pension plans in the US, I am motivated to explore this trend in greater details and from different perspectives. My research explains the reasons US companies decide to switch from defined benefit plans to defined contribution plans and the implications of this switch. In addition, as pension plans have great impact on financial statements of companies, I also analyze how the switch in pension plan affects companies in terms of financial status. I use different financial metrics to determine the impact of pension freeze such as pension expense, pension liabilities, etc. Most importantly, I strive to gain great insights into what factors drive the changes of those metrics. The purpose of this research is to enhance awareness of the potential impact of pension plans on financial statements of companies. My thesis aims to inform shareholders and other stakeholders how pension policies may impact a company's expenses and profits, which serve as important indicators of future prospect and potential of a company. In other words, this research seeks to answer two fundamental questions. First, does pension freeze have any impact on the financial status of companies? Second, what main factors account for the impact (if any) of pension freeze?

I review existing literature on this topic to gain good insights into the shift of defined benefit plans to defined contribution plans and the underlying reasons behind it. This helps answer the questions of what drives companies to adopt defined contribution plans as their primary pension plan. Although defined contribution plans are becoming more popular, there is evidence that defined benefit plan is still in existence, especially in large-cap companies and

S&P 500 companies. I elaborate on this point later in literature review and analyze why these types of companies still use defined benefit plans. The literature review lays important foundation for the thesis and sheds additional light on the impact of different pension policies. This thesis also briefly discusses differences in accounting methods of defined benefit and defined contribution plans, as well as recent changes in those methods. I utilize existing research on pension policies to clarify the reasons most companies freeze their defined benefit plans.

Although much research has been done to analyze the reasons of pension freeze, little has been done on the impact of such a freeze. Therefore, I collect data on pension expense of 10 companies in the US and analyze the change in their financial status after they decide to switch to defined contribution plans. The main focus of my thesis is to find any interesting trends that occur as a result of this switch. After I determine the recurring theme of the switch in pension plan, I pick a few companies that represent the trends well to analyze their background and pension plans in more details.

After careful analysis, my research shows that pension freeze does not enable companies to decrease their pension expense and pension liabilities significantly after the freeze. Most companies in my sample exhibit little fluctuations in pension expense and liabilities five years after they decided to freeze defined benefit plans. Interestingly, one company in the sample Boeing had a big increase in both pension expense and liabilities following the pension freeze. I conducted further analysis into this company and found that the company is heavily unionized, which impacted its pension policies and caused an increase in pension obligations.

I believe that this thesis enables companies and different stakeholders to understand more about pension freeze and its potential impact on financial reporting. In addition, shareholders

could benefit from understanding the effects of pension freeze as well, since pensions have a great impact on liabilities and expenses in financial statements.

LITERATURE REVIEW

Bodie, Marcus and Merton (1988) study the differences between defined contribution plans and defined benefit plans. Defined benefit plan is calculated based on tenure and final salary of employees. The longer you work and the more you earn, the higher your benefits. Therefore, early termination can have a detrimental effect on the benefits accrued under this pension plan. Defined contribution plans, on the other hand, depends on the amount of contribution employees make to their pension account and the returns of their investment. This allows employees to switch companies at little extra cost to their pension benefits. As a result, employees who place great importance on portability would prefer defined contribution plans to defined benefit plans. In addition, as defined benefit plans depends on the final salary, employees under this pension plan will have stronger incentives during their career in order to earn great benefits when they retire. The authors also discuss how defined contribution plans are disadvantageous for employees in terms of risk. Employees under defined contribution plans choose which funds and asset classes to invest their pension benefits. In other words, they are subject to investment risks and interest rate risk generated by their own portfolio. Under defined benefit plans all these risks are borne by the employers. The differences between defined contribution plans and defined benefit plans explained in this study laid important foundation for understanding why defined contribution plans are in dominance in the past few years.

Broadbent, Palumbo, and Woodman (2006) attribute workforce mobility to the shift of defined benefit plans to defined contribution plans. This ties in closely with the differences in portability that were proven in Bodie, Marcus and Merton's (1988) research. In the 1980s, people usually had only one or two jobs before they retired. On the contrary, nowadays people switch jobs more often during their entire career. As people do not want to lose the benefits they have earned with their previous employer(s) when they change companies, an increase in workforce mobility leads to the shift from defined benefit plans to defined contribution plans. Although this change in pension plans benefits employees who often switch jobs, it also places employees at a disadvantage regarding interest rate risk and market uncertainty. Employees must make their own decisions regarding which types of assets to invest in and are subject to different types of risk, which were borne by the employers under defined benefit plans.

Costo (2006) also points out workforce mobility as an important factor in the decline of defined benefit plans. However, he also included in his research some factors explaining why employers are favoring defined contribution plans. He found that defined contribution plans provided employers and employees with good tax advantages. Under defined contribution plans, both the employees and employers contribute to the pension benefits, and these contributions are tax-deferred. Another reason why employers prefer defined contribution plans is employers are able to predict their costs with this plan and shift most of the risk to employees. Costo (2006) also finds a relationship between the level of unionization and decline of defined benefit plans. He collected data on the number of employees whose rights are protected by union and found that "union membership has declined steadily in the past decade; in 1993, 15.8 percent of workers were union members, compared with 12.5 percent in 2005". He asserted that as defined benefit plan is more popular for union members, a decrease in unionization leads to a decline of

defined benefit plans. Cobb (2015) also finds similar results regarding the effects of unionization on defined benefit plans. He believes that the presence of unions enhances employees' bargaining power and is positively correlated with number of defined benefit plans. In addition, Cobb (2015) analyzes how ownership structure can affect the choice of pension plans. Companies that are owned by large and institutional investors mainly use defined benefit plans as they focus on investing for long-term growth by retaining the best talents for their companies. On the other hand, companies owned by individual investors are more interested in short-term financial gains. Therefore, they prefer defined contribution plans as it involves contribution from both employers and employees and places less financial burden on companies.

Beside from workforce mobility, degree of risk, unionization, gender and age are believed to have an effect on the choice of pension plans as well, which has been proven in Kapinos' (2012) study. Kapinos (2012) asserts that women tend to have more gaps during their career compared to men. As a result, women would prefer defined contribution plans in order to protect their existing pension benefits. The idea behind this is similar to the reasons why defined contribution plans are in dominance with great workforce mobility. The more likely it is for people to switch jobs, the more they prefer defined contribution plans for the sake of flexibility. In addition, Kapinos concludes that companies with younger workforce, as opposed to large and unionized companies, are more likely to use defined contribution plans. She explains that "younger employees may have a preference for more portable plans with more even accrual to accommodate their career trajectories which differ from previous generations' employment patterns".

Contrary to most existing study, Almeida & Fornia (2009) assert that defined benefit plans provide employers and employees with great economic benefits. They find that the cost to

fund the target retirement benefit under defined benefit plan is 46 percent lower than that of defined contribution plan. In addition to providing employers with significant cost savings, defined benefit plan is also more attractive to employees as it involves predictable monthly retirement benefits and low management fees. Although it is hard to deny the benefits that defined benefit plans provide, defined contribution plan is more popular as employers can shift the risk to employees and employees can enjoy the great amount of flexibility to switch jobs without negatively affecting their pension benefits.

Since most companies tend to switch from defined benefit to defined contribution plans in the past few years, Phan & Hedge (2013) explored the effects of this change on performance of companies in the short run and in the long run. They study a sample of more than 1000 companies that had defined benefit plans in the past and then later switched to defined contribution plans. Under defined benefit plans, only employers make contributions to pension accounts. When interest rates drops, pension liabilities increase, which has negative effects on financial statements of those companies. In addition, during financially-shaken time such as the financial crisis in 2008-2009, companies witness considerable drop in their pension assets. Their pension obligations forced them into a shortage of funds. As a result, when most companies announced their decision to freeze defined benefit plans, they experienced positive abnormal stock returns almost immediately. Investors perceive the switch from defined benefit plans from defined contribution plans to relieve companies of financial leverage pressure and increase firms' value. However, this change in pension plan is found to have little correlation with an increase in stock value in the long run. All companies under study showed to signs of positive abnormal returns after three or more years of switching to defined contribution plans.

Sundaram & Yermack (2007) choose a different perspective and analyze top CEO's compensation instead of focusing on entire labor force's compensation. Interestingly, although the number of employees under defined contribution plans outweigh that of defined benefit plans, more than 50% of CEOs of S&P 500 companies are under this pension plan, according to Sundaram & Yermack's (2007) research. One possible explanation for this fact is that these companies want to give their CEOs strong incentives to remain in their position in order to earn a great amount of pension benefits when they retire. As pension is calculated based on final year salary, remaining with their current companies will enable them to enjoy annual growth in pay and in turn increase their pension benefits. Begley, Chamberlain, Yang, & Zhang (2015) also take a similar perspective in analyzing the relationship between CEO wealth and pension plans. According to the study, the more CEOs are endowed in a specific pension plan, the higher the funding levels of that plan. In addition, they find that freezing pension plans are much less likely in companies with CEOs having high pension benefits. Those CEOs may not want to forfeit their existing pension benefits, which makes it less likely for the freeze to be passed without support from executive level.

Similar to Sundaram & Yermack's (2007) study, Ciesielski (2017) focus on pension policies of S&P 500 companies. Interestingly, as illustrated in Figure 1, 67% of S&P 500 companies use defined benefit plans as their pension plans as of the end of 2015. Those companies have been in existence for a long periods of time and are heavily represented by unions, which explains why defined benefit plans are in dominance.

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Beginning PBO count	334	331	329	326	321	322	321	314	309	299
PBOs falling out	(1)	(1)	(2)	(2)	0	(5)	(3)	(1)	(2)	(1)
PBOs added	4	4	4	5	5	4	4	8	7	11
Ending PBO count	**337**	**334**	**331**	**329**	**326**	**321**	**322**	**321**	**314**	**309**
Net change in PBO count	**3**	**3**	**2**	**3**	**5**	**(1)**	**1**	**7**	**5**	**10**
Cumulative:	**#**	**% chg.**								
Five years	16	*5%*								
Ten years	38	*13%*								
% representation in S&P 500	**67%**	**67%**	**66%**	**66%**	**65%**	**64%**	**64%**	**64%**	**63%**	**62%**

Table 1: S&P 500 companies with defined benefit plans

Ciesielski (2007) also pointed out that some S&P 500 companies even did the opposite thing compared to the majority of employers by adding defined benefit plans to their pension plans. Therefore, we could conclude that although defined benefit plans are being replaced by defined contribution plans, this change is taking place slowly and defined benefit plans are still suitable for a certain type of companies. Most companies in the list below, for example Allergan and Dr. Pepper Snapple Group, require manufacturing plants. Therefore, their workers are usually represented by a union.

2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Harris Corp	Boston Scientific	CSRA Inc.	Allergan Plc	Allegion Plc	Abbvie	Autodesk	Alexion Pharmaceuticals	Cisco Systems	Capital One Financial
Mylan NV	Micron Technology	Fortive Corp.	Citizens Financial Group	Coty	Phillips 66	Fortune Brands Home & Security	Broadcom Ltd.	Kansas City Southern	Dr Pepper Snapple Group
Skyworks Solutions	Perrigo Co Plc	Hewlett Packard Enterprise	Express Scripts Holding Co	Level 3 Communications	Ralph Lauren	Marathon Petroleum	Chubb Ltd.	Qorvo	Franklin Resources
Walgreens Boots Alliance	Waste Management	Intercontinental Exchange	Western Digital Corp	Mallinckrodt Plc	Zoetis	Mead Johnson Nutrition			Hologic
			Xylem	News Corp.			LyondellBasell Industries NV	Spectra Energy	Mohawk Industries
							Republic Services	Teradata	Omnicom Group
							Staples	Verisk Analytics	Philip Morris International
							Visa		Scripps Networks Interactive
									TE Connectivity Ltd.
									TechnipFMC Plc
									XL Group Ltd.

Table 2: S&P 500 companies with defined benefit plans (cont.)

Extensive research has been done on the reasons why most companies switch from defined benefit plans to defined contribution plans and the implications of this trend. This is largely driven by the need to decrease financial leverage pressure and shift more risks to employees of companies. As a result, employees have to take a greater amount of risk and pay higher management fees to maintain their pension accounts. However, employees are also given greater amount of flexibility to switch jobs with little effect on the existing pension benefits they have accrued. In other words, employees must face a trade-off between risk and flexibility with the shifting trends from defined benefit plans to defined contribution plans.

ACCOUNTING OF PENSION PLANS

Under defined contribution plans, employers contribute a certain amount of cash to employees' pension accounts. Employees then choose to invest these funds and their retirement benefits will depend entirely on the earnings of these investments. Journal entries of defined contribution plans are also fairly simple, which involves recording the pension expense and cash contributed to employees' pension accounts. Under defined contribution plans, no liability is added to the balance sheets whatsoever; only cash and pension expenses are affected.

On the other hand, accounting procedures of defined benefit plans are more complicated and include different components. There are three elements of defined benefit plans: projected benefit obligation, plan assets, and periodic expense. First, projected benefit obligation is calculated based on certain assumptions regarding employees' years of service and annual salary in the year of retirement; this is usually performed by an actuary. The primary responsibility of an accountant is to determine the change in projected benefit obligation, which includes service cost, interest cost, prior service cost and any gain or loss. Service cost and interest cost are

incurred every year to account for employee service and time value of money. Prior service cost and gain or losses only arise in case of an amendment or revising estimate. Second, accountants also need to determine actual return and any gain or loss on plan assets. Plan assets will then be netted together with projected benefit obligation to evaluate the status of pension plan. Last but not least, pension expense is calculated based on service cost, interest cost, return on plan assets, and amortized portion of prior service cost and gains or losses. After determining the three elements of defined benefit plan, accountants will make appropriate journal entries to record these expenses. Defined benefit plans have more profound effects on financial statements of companies compared to defined contribution plans, specifically on total liabilities in the balance sheet. Therefore, the freeze of defined benefit plans of most companies aims at decreasing their leverage level.

These standards are currently in use; however, accounting standards of pension plans have undergone major changes over the past years. The three most recent revisions occurred in 1985, 2006, and 2017. As of December 1985, the Accounting Principles Board (APB) implemented three important changes to pension standards. First, the new standards require all pension obligation to be calculated using a standardized method instead of applying different methods under different circumstances. This change aims to enhance the comparability of pension plans of different companies. Second, if the projected benefit obligation is larger than the value of fair assets, employers must recognize a liability immediately. Third, the Board requires more disclosures to be made in financial statements to improve the transparency of pension plans.

In 2006, the Accounting Principles Board (APB) issued new guidance that replaced any previous accounting standard. The most important change of this standard is the recognition of

the funded status of a pension plan. Employers must calculate the difference between projected benefit obligation and plan assets at the end of each period to determine the status of defined benefit plans. In addition, employers must record any gains or losses and prior service costs as part of other comprehensive income. These items are not reflected on financial statements under pension asset or liability and pension expense according to previous accounting standards issued in 1985. Therefore, this change will allow investors to understand the nature of defined benefit plans more clearly.

Recently, FASB just added another change to pension accounting standards which require service cost to remain a separate cost element instead of combining it into projected benefit obligation. This change will be reflected on financial statements of publicly traded companies for fiscal years after December 31st, 2017. Currently, projected benefit obligation comprises of seven distinctive costs: service cost, interest cost, expected returns on plan assets, gains/losses, etc. However, these costs carry different meanings and have different implications for employers. For example, service cost reflects the value of employee services, while interest cost is incurred due to the time value of money. Bundling these different types of cost into a single cost may lead to misunderstanding among investors. Therefore, this change will enhance the clarity and transparency of projected benefit obligation, allowing investors to see a good picture of service cost by separating it from any other expenses.

Accounting standards for pension plan have gone through many different changes over the past decades. These changes aim at different items on financial statements, from pension assets or liabilities on balance sheet to pension expense on income statement. However, a common theme of those changes is that all changes strive to enhance the clarity and transparency of financial statements by applying a standardized method for all companies, reporting the

funded status of pension assets or liabilities, and separating service cost from other cost elements.

RESEARCH METHODOLOY

Most existing literature analyze the reasons why companies freeze their defined benefit plans and switch to defined contribution plans. However, few research has been done into how this freeze affects financial statements of companies. My thesis aims to evaluate the status of companies after they switch to defined contribution plans and the impact of this change. First, I study companies that had defined benefit plans in the past but later decided to freeze this type of pension plan. These companies are usually large-cap companies that aim for a restructuring of their organization through the freeze. These companies had difficulty in the past due to the huge pension liabilities on their balance sheet. Defined benefit plans often negatively affect financial statements of companies, especially when they have pension liabilities on their balance sheet. As a result, freezing defined benefit plans may help alleviate financial pressure of those companies as proven in previous literature. Companies that decided to freeze defined benefit plans in the past include Lockheed Martin, Boeing, American Airlines, General Motors, General Electric, etc. Second, I pick a sample of 7 companies that switched to defined contribution plans and analyze how they are performing financially. These companies belong to a wide range of industries in order to prove the impact of the freeze on a large scale, not limited to any specific industry. My research monitors the change in pension expenses of those companies over a period of 10 years to determine the impact of the change in pension plan. Specifically, I collect data five years before and after the freeze from 10-K forms issued by those companies. Lastly, I use statistical measures to determine if there are any significant trends exhibited by 7 companies in

my sample and explain any notable companies that are representative of the sample trends to analyze their background and financial status in details after the freeze.

Below is the list of 7 companies under study and the effective date of their pension freeze according to Pension Rights Center data:

Company	**Effective Date**
American Airlines	11/1/2012
Kimberly-Clark	1/1/2010
HP	4/1/2008
Equifax	1/1/2009
Boeing	1/1/2009
3M	1/1/2009
Walt Disney	12/31/2012

Table 3: List of companies under study

I collect data of pension expenses over a period of 10 years of companies from their 10-K forms and determine the average percentage change in pension expense to analyze the impact of pension freeze. The preliminary data model is as follows:

		-5	-4	-3	-2	-1	0	1	2	3	4
American Airlines	2012	502	511	805	845	832	891	384	584	691	921
Kimberly-Clark	2010	156.8	166.9	120	97	251	133	119	122	69	110

Table 4: Sample data model

(with 0 as the first year the company freezes defined benefit plan and switches to defined contribution plan)

Based on my analysis of the differences in accounting methods of companies, defined contribution plans have no effect on the liability of companies. Therefore, the freeze of defined benefit plan is expected to decrease total liability in the balance sheet. Also, as defined contribution imposes less financial pressure on companies, total pension expense may potentially decrease as well. In other words, the freeze of defined benefit plans could allow companies to improve their balance sheet (by decreasing pension liabilities) and income statements (by decreasing pension expense).

RESULTS

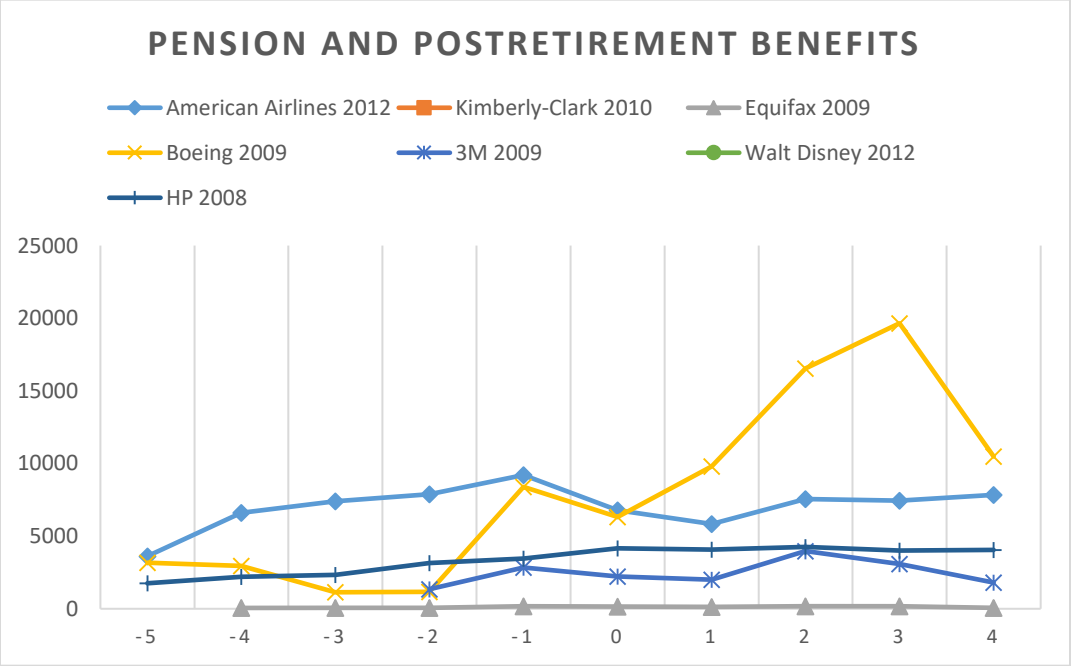

Figure 1: Pension and postretirement benefits

First, this research analyzes the trend of pension and postretirement benefits five years before and after the freeze. Pension and postretirement benefits are determined by subtracting

pension assets from pension liabilities. All companies in my sample have recorded a net liability regarding their pension plans in their balance sheet during the entire period under analysis. Time 0 on the x-axis marks the year a company freezes its defined benefit plans and switches to defined contribution plans. Most companies in the sample show little fluctuations in their pension and postretirement benefits following the pension freeze, with the exception of Boeing. Boeing witnesses a sharp increase in its pension and postretirement benefits. Pension expense of Boeing also increases after the freeze, while that of other companies stays relatively the same over the time. Except for Boeing, other companies in the sample show little change and fluctuation in their pension expense and pension liabilities, which are contrary to expectations that pension freeze would allow companies to alleviate their financial burden.

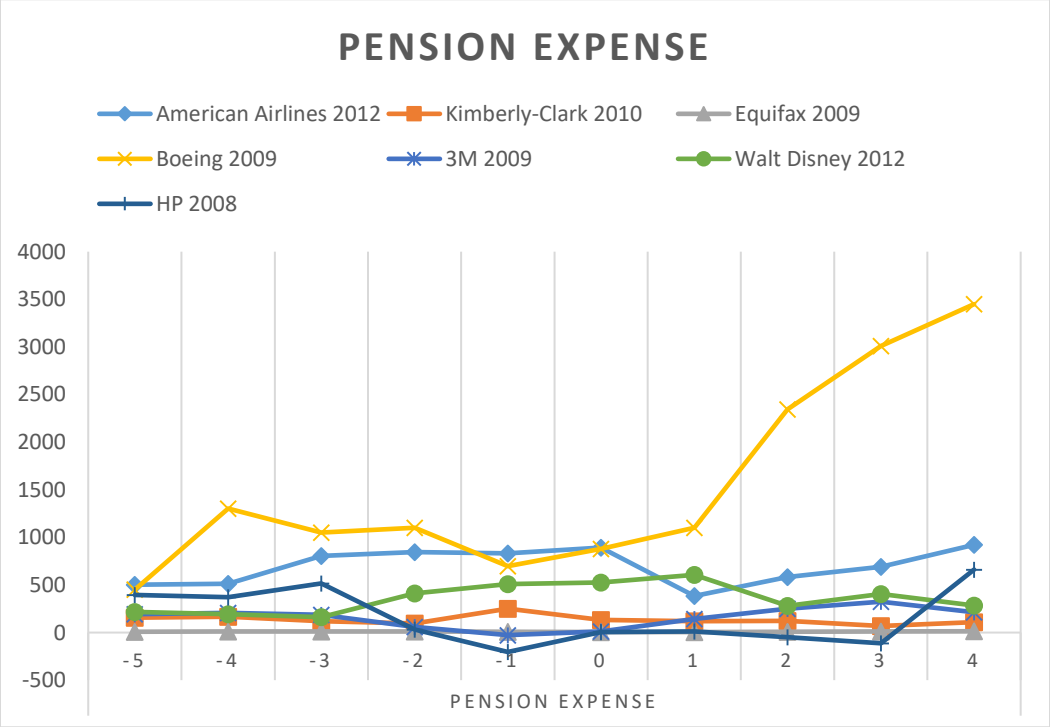

Figure 2: Pension expense

Detailed analysis into Boeing's case is necessary to understand why Boeing exhibits different trends compared to other companies in the sample. According to Boeing's 10-K for the year ended December 31, 2010, almost all of Boeing's employees are covered by defined benefit plans, with the exception of nonunion members hired after December 31, 2008. In addition, the number of union employees at Boeing increased over the year after 2009, which explains why pension and postretirement benefits increase after the pension freeze in 2009. In other words, although Boeing began to cover their nonunion members with defined contribution plans starting in 2009, union workers still make up a large portion of Boeing's workforce. Therefore, the company is not able to enjoy the benefits that pension freeze might provide.

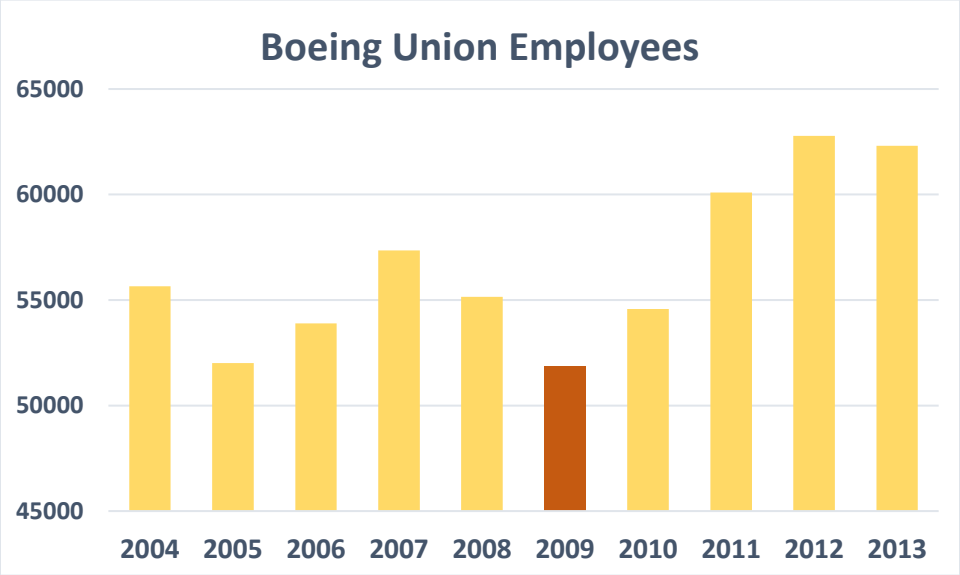

Figure 3: Number of union employees at Boeing 2004-2013

Although it has been speculated that the freeze of defined benefit plan might decrease total liability of companies as there is no liability recorded under defined contribution plans, this research has shown that pension freeze alone is not enough to decrease total liability. Liabilities

of seven companies in sample still increase over time. As total liabilities include many different items such as accounts payable, accrued expenses, unearned revenue, etc., the decrease of pension liabilities could not decrease total liabilities if all other items still increase over time. Therefore, it is fair to say that pension freeze might not always decrease total liability and alleviate a company's leverage level.

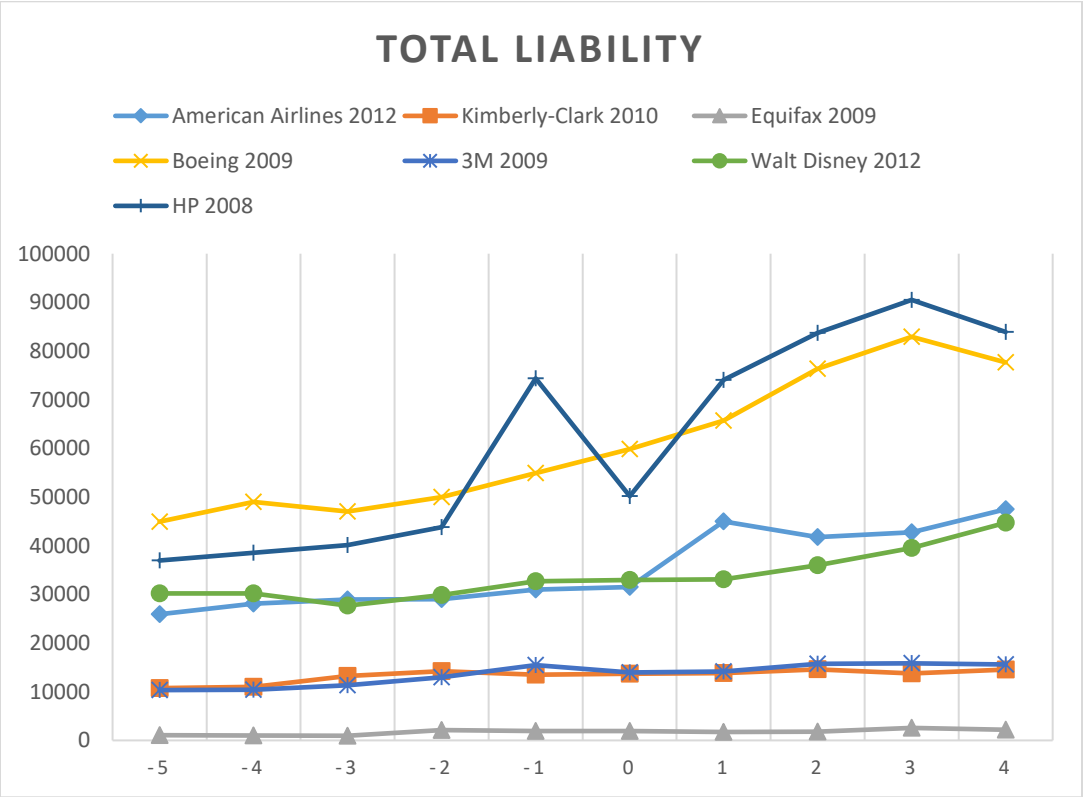

Figure 4: Total liability

In addition, my research finds that after pension freeze, standard deviation of total liabilities of 7 companies in my sample even increases significantly. However, as total liabilities of most companies tend to remain stable even after the freeze, one explanation for the huge variance of liabilities is the increasing pension liabilities of Boeing, which is caused by the prevalence of unionization as explained above.

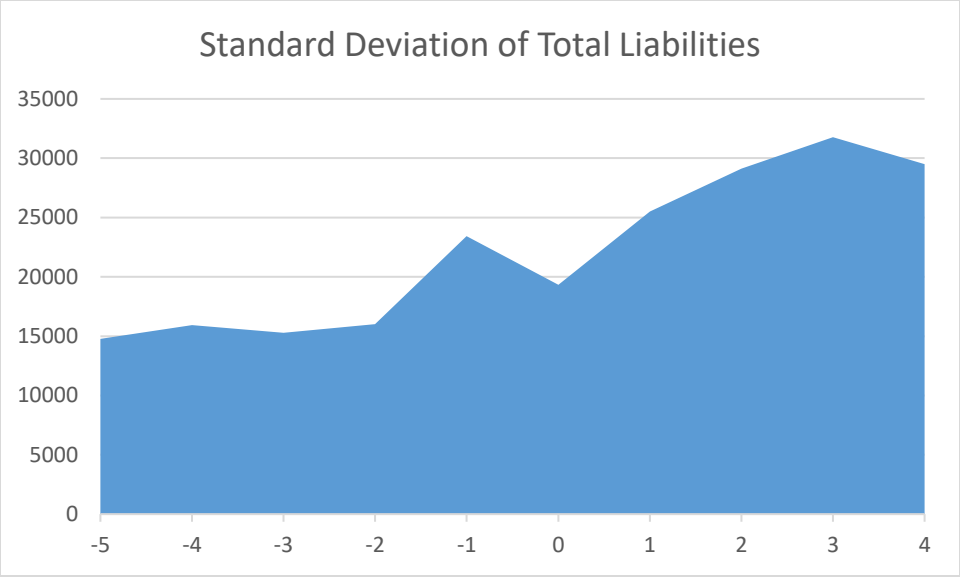

Figure 5: Standard deviation of total liabilities

DISCUSSION

As proven in my data analysis, all companies in the sample show no signs of decreasing their total liability following the freeze of defined benefit plans. One explanation for this could be the fact that after the freeze, companies still accrue all benefits for their current employees by defined benefit plans. Therefore, although new employees hired after the freeze could not enjoy the benefits of defined benefit plans, companies still have an increase in their pension liabilities due to prior obligations with current employees.

In addition, pension freeze does not always allow companies to cover all the new employees with defined benefit plans, as with the case of Boeing. As Boeing is a manufacturing company, they employee a large number of workers, and those workers are protected by a union. Due to Boeing's existing contracts with their unions, all union employees shall be covered under

defined benefit plans. As a result, the pension freeze does not enable Boeing to use defined contribution plans for all new employees.

After the pension freeze, each company may still apply different policies and regulations to pension plans. For example, Boeing only allows nonunion employees to receive defined contribution benefits. However, other companies may apply defined contribution to all groups of new employees, regardless of their involvement with unions or not. As a result, in order to fairly evaluate the impact of pension freeze, it is important to understand different pension policies and existing contractual agreements that pension freeze could not overturn.

In addition, after the pension freeze, except for Boeing, pension liabilities, pension expense, and total liabilities of other companies stay pretty consistent and stable over time. Although pension freeze may not help companies alleviate a great amount of financial pressure, it allows companies to stabilize their liabilities. This may be important for companies which are restructuring their operations, as they could focus on revamping their financial status without having to worry about the increasing liabilities on their balance sheet. Many companies which aim to restructure their Therefore, the benefit of pension freeze may not be recognized immediately right after the freeze takes effect. However, pension freeze still provides companies with intangible benefits such as stable liabilities and expense in their financial statements.

Another intangible benefit of pension freeze is the change in perception of shareholders, as proven in Phan & Hedge (2013). After pension freeze, most companies out of 100 companies in their sample witness positive abnormal stock returns in the short run. As a result, pension freeze could enhance shareholders' perception of companies immediately after the freeze, as most people view defined contribution plans as less financially demanding than defined benefit plans.

IMPLICATIONS

This research allows different group of stakeholders to understand and evaluate the impact of pension freeze on financial statements of companies. Shareholders could utilize those information and determine what potential scenarios could take place in case a company decides to freeze its pension plans. As pension liabilities and pension expense account for a good portion of a company's liabilities and expense, it is very important to analyze pension policies carefully and its impact. By understanding the differences between pension policies, potential investors will have a better look at the financial status of companies they plan to invest in as well.

Beside shareholders and potential investors, companies could benefit from understanding the differences between different pension policies. As pension plans could potentially impact both balance sheet and income statement, it is essential that companies evaluate the pros and cons of different types of pension plan to choose a plan that best fits with their financial status and background.

Last but not least, my thesis could enable employees to gain great insights into impact of pension policies on their career and the amount of benefits they could receive. Employees who like to switch jobs could consider choosing companies that provide defined contribution plans as it does not impact the benefits they have already accrued when they change to a new company. However, those who prefer low amount of risk and do not want to carry investment risk could look for companies with defined benefit plans. In other words, my thesis could help employees choose companies with pension policies that suit their career goals.

CONCLUSION

My thesis looks into two main research questions: What are the potential impacts of pension freeze and what factors could account for those impacts? After conducting data analysis of 7 companies in the sample, I find that pension freeze does not help companies decrease their pension liabilities and pension expense five years after the freeze. 6 out of 7 companies in my sample have stable pension liabilities and expense after they decided to freeze defined benefit plans and switch to defined contribution plans. Boeing is the only company to experience a sharp increase in both pension expense and liabilities after the freeze. The case of Boeing illustrates the impact of unionization on pension and shows that unionization still has great power in pension policies of companies.

Although pension expense and liabilities do not significantly decrease after pension freeze, they remain stable over the next 5 years, which may help companies focus their resources on restructuring their business without the financial burden of pension cost. Also, as mentioned above in Phan & Hedge (2013), there is an increase in stock price immediately after the announcement of pension freeze. Therefore, pension freeze helps companies stabilize their pension expense and liabilities and enhance investors' perception of the companies in the short run.

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