

行政院國家科學委員會補助專題研究計畫成果報告

企業退休金計劃之動態選擇

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中文摘要

企業退休金計畫依給付方式的不同，可分為確定給付制與確定提撥制，以上兩種退休金計畫在承擔退休所得的風險上各有優劣不同。過去的二十年中，許多研究發現美國有越來越多的公司採用確定提撥制的退休金制度。雖然，絕大多數的研究同意這樣的趨勢，但是對於這個趨勢的成因卻始終沒有定論。有些研究主張這個趨勢的成因是因為確定提撥制取代了原有的固定給付制；另一些研究卻主張這個趨勢的成因是因為許多公司在主要的確定給付制之外，另外提供員工補助性的確定提撥制。這些過去的研究之所以得到不同的結果，其主要有兩個原因：一是他們在研究時往往忽略退休金制度是可以多重組合的；二是他們的研究資料多只是兩年之間橫斷面資料作比較。為了克服這些過去文獻的缺點，本研究蒐集從 1985 到 1996 年美國國稅局 Form 5500 的資料建構一組 panel data，追蹤每一年間公司對退休金計畫選擇的變化，並且利用 Multinomial Logistic 回歸模型分析公司在退休金計畫動態選擇的改變與退休金計畫彼此間的互補與替代關係。本研究結果發現，在主要的退休金計畫階層(primary plan level)，由於成本考量因素，製造業的公司較可能從傳統的確定給付制轉換成確定提撥制；而大公司以及有工會的公司則較不會由確定給付制轉換成確定提撥制。另外，在次要的退休金計畫階層(supplementary secondary plan)，服務業的公司較可能在確定給付制之外成立補助性的確定提撥制；而有工會的公司則較可能在確定給付制之外成立補助性的 401(k)制。

關鍵詞：退休金計畫、固定給付制、固定提撥制、動態模型、互補與替代關係

I. Abstract

This paper examines the decision changes of employers' pension plan choices during the trend from defined benefit (DB) to defined contribution (DC) plans. Multinomial logistic regression models were adopted to analyze the substitution and supplementary effects in both primary and secondary plan levels among existing 401(k), DB, and other DC plans. By using a completed 12-year panel data and controlling the drop-out and add-in firms, we provide new evidence of the dynamic changes for employer's pension plan choices for survival firms. The empirical results shows that, compared to firms in other industries, firms in manufacturing industry are more inclined to change their primary plans from the DB to the DC plan; whereas bigger firms and unionized firms are more reluctant to do so. For the substitution and supplemental effects in the secondary plans, we find service related industries are more likely to supplement their primary DB plans with the DC plans, while are less inclined to supplement them with the 401(k) plans than the manufacturing industry. To the contrary, unionized firms are less likely to supplement their primary DB plans with the DC plans, but are more likely to have the 401(k) plans or both the DC and 401(k) plans.

Keyword: Pension; defined benefit plans; defined contribution plan; panel data; primary plan; secondary plan; substitution effect; supplement effect.

II. Introduction and Research Purpose

In the past two decades, the private pension system in United States has been challenged by changes in the nature of the business environment and the labor market. The great decline in large manufacturing firms, the significant increase in small firms in the service industry, frequent corporate downsizing and restructuring, and changes in tax policies and regulations have altered both employers' and employees' preferences for pension plans. Over the past twenty years the trend in private employer pension system has been moving away from traditional defined benefit (DB) plans and toward defined contribution (DC) plans. In particular, the rapid growth of 401(k) plans is one of the most important reasons for the current trend toward defined contribution plans.

In previous studies, Clark and McDermed (1990 and 1993), Gustman and Steinmeier (1992), Ippolito (1985, 1986, 1993, and 1997), and Kruse (1995) have all attempted to measure the substitution effect between defined benefit and defined contribution plans by analyzing the net change in the number of plans and/or of participants. It has been also argued that the 401(k) plan is a substitute for both DB and other DC plans. Papke (1994, 1996) and Papke, Petersen and Poterba (1996) have examined whether sponsors of traditional defined benefit plans are replacing their defined benefit plans with 401(k) plans or other defined contribution plans. Wang and VanDerhei(2000) examine pension trends by the changing shares of primary plans, active participants, and employers' costs across plan types and firm types from 1985 to 1993. Their findings suggested that defined benefit plans has decrease about 20 percents for all three measurements from 1985 to 1993 and that defined contribution plans no longer prevail only as secondary plans.

Unfortunately all of these studies share the following limitations. First, most of studies that have investigated changes in the distributions of pension choices over time have treated the sponsorship of defined benefit, defined contribution, or 401(k) plans as a dichotomous decision. However, employers often offer more than one type of plans—one primary and other supplemental plan/plans. Thus, an employer's pension plan choice actually is not a selection from three types of plans but rather a selection from seven choices¹ of combinations of these three types of plans. Therefore, it is more appropriate to examine changes in the distributions of seven plan choices over time when investigating the issue of pension trends. Second, as suggested by Gustman and Steinmeier (1998), there are important changes in the composition of the pensions in each cross-section year. Therefore, substantial errors will be introduced into retirement study if we only look at the changes of pension choice from cross-sectional data between two specific years. Third, in every year, many old companies drop out from the market while many new companies enter the market. Due to the differences in the labor consideration, cost issue and financial condition, the behavior of employer pension choices among these drop-out, survival and new firms may have significantly different patterns. Without controlling the drop-out and add-in sample, a direct comparison of data between two specific years may mislead the analysis of change in employer's pension choices. Therefore, to provide more precise information about the changes of employer's pension choice; it would be better to analyze the employer pension choice by separating different groups of firms through years.

¹ The employer's pension plan choices are classified into seven categories for each firm. They include (1) defined benefit plan only, (2) defined contribution plan only, (3) 401(k) plan only, (4) defined benefit and defined contribution plans, (5) defined benefit and 401(k) plans, (6) defined contribution and 401(k) plans, (7) defined benefit, defined contribution and 401(k) plans.

This paper intends to overcome the limitation of previous studies and provide new evidence of the dynamic changes for employer's pension choices. We construct a panel data of the survival firms existing from 1985 to 1996 from Form 5500s with Internal Revenue Service. By comparing the change of employer's pension plan choices, we trace how employers changed their pension offering from 1985 to 1996 each year for each individual firm. Furthermore, multinomial logistic regression models were adopted to analyze the substitution and supplementary effects in the changes of employer's pension plans in both primary and secondary plan levels.

III. Empirical Findings and Conclusion

By classifying employer's pension choice into seven categories and constructing a 12-year panel data, this paper provides new evidence of the dynamic changes for employers' pension choices for survival firms. It is worth noting that the estimating the dynamic model is possible only with panel data. The findings of this paper show that industry, firm size and union status are important factors that drive employers to change their pension choices over the trends from defined benefit to defined contribution plans.

For the substitution effect in the primary plans we find, compared to firms in manufacturing industries, the service related industries and the other industries are less inclined to change the primary plan from the DB plan to the DC plan, but more likely to change from the DC plan to the 401(k) plan. This finding together with related data seems to suggest that the mechanism to influence employer's choice on pension plans for survival firms may be the cost issues rather than issues provided by pension labor economics. We also find larger firms are less likely to substitute 401(k) plan for traditional DB plans for their primary plans. For the substitution and supplemental effect in the secondary plans, we find that service related industries are more inclined to supplement the primary DB plan with the DC plan, while are less inclined to supplement the primary DB plan with the 401(k) plan than the manufacturing industry. To the contrary, unionized firms are less likely to supplement the primary DB plan with the DC plan but more likely to have the 401(k) plan or both the DC and the 401(k) plans. In addition, larger firms are more likely to supplement the primary DB plan with as many secondary plans as possible. For the firms with both DB and DC plans in previous year, in general, they are more likely to adopt new 401(k) plans to supplement their existing plans. However we also find that the service related industries, larger firms and unionized firms are more inclined to adopt 401(k) plans to substitute their existing secondary DC plans, compared to their counter parts.

Moreover, we also find that regulation play a minor role for the decision changes of employer's pension plan choices for survival firms. In general, for survival firms, the trends toward defined contribution plans are more significant in the secondary plan level. This implies that previous findings may have overestimated the impacts of the recent pension trend to the retirement income. In addition, judging from the changes of pension plan decision, the employers seem to prefer a hybrid type (DB+DC) of pension choice, which is suggested to have better protection for different kinds of retirement risks (Mitchell and et. al, 1997).

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