Evaluation of Private Pension Funds
With Factor and Cluster Analysis

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ABSTRACT

The private pension system in Turkey was established in October 2003. At the present time, there are 11 companies operating in this field and 103 funds have been issued by them. It was hypothesized that the funds established by different companies were very similar by content and that they differed by name only. Thus, an attempt was made to investigate whether they can be classified under a few groups. For this analysis, the daily price data for the 103 private pension funds were collected for 1245 business days starting from the first transaction date for the fund until October 29, 2008. Factor and cluster analysis techniques were applied to group these funds. The main conclusion of the study was that many of these funds were very similar and duplicated each other and hence it was unnecessary to introduce additional funds of the same nature. In addition, trends of these funds were examined and it was determined that funds having the same trends were grouped with same factors.

INTRODUCTION

People are generally concerned about their financial security, especially after retirement. For this purpose, different investment tools, such as buying rental property, saying in bank accounts, making investments in the stock market, and starting a private pension account are used. Creating pension funds and making monthly payments after retirement were traditionally handled by the government in a lot of countries. However, given the changes in demographics, it would be difficult to say that publicly-managed social security systems are going to be sufficient for retirement in the future. Therefore, people need alternatives for their retirement, and that is where private pension plans come into the picture.

Many countries offer state-sponsored retirement benefits that are funded by payroll or other taxes. In the United States, Social Security system deducts a certain percentage of an individual's earnings from every paycheck and makes payments after retirement based on total contributions during the working life. Individuals' workings in the UK are subject to a certain level of national insurance deductions and can expect an income from the state pension scheme after their normal retirement. Among other countries, the system in Chile (Soro, 2005 and Buchholz at al., 2008), Mexico, Uruguay, Peru, and Argentina have their problems as well as advantages (Mitchell, 1999). The much older US system which remains pay-as-you-go (PAYG) has expenses 50 percent les than any other country mentined bove (Diamond, 1993 and Buchholz et al., 2008). The valuation of a pension fund is often related to the performance rather than to the risk level of asset portfolio (Otranto and Tudda, 2008). The type and characteristics of pension and private pension systems show a great deal of variation from country to country. In some OECD countries, such as Austria, Czech Repuplic Denmark, Germany, Greece, Spain, Turkey, UK, and US, private pension system is voluntary.However, in some such as France, it is mandatory. In Australia and Italy, it is voluntary for employees and mandatory for employers. In terms of type, in Australia, Chile, Czech Republic, Denmark, Hungary, Italy and Turkey, it is defined by contribution. In n Finland, France, Germany, Greece, Netherlands and Switzerland, it is defined by benefits. In Austria, Spain, UK and US, it is both defined benefit and defined contribution (OECD, book 2 and Pricewaterhouse Coopers). The Turkish private pension system, established in 2003, is a voluntary, defined contribution system intended to be a complementary scheme to the mandatory social security scheme, which provides retirement earnings to participants on PAYG basis. Under PAYG systems, current retirees are financed through the contributions of the active employees. Under the Turkish private pension system, participation of both employees and employers is voluntary. The contributions will be accumulated and invested in personal retirement accounts and the level of retirement earnings will be dependant on the level of contributions and the return on investments (Pricewaterhouse Coopers). At present, there are eleven pension companies in the system. As a requirement of the law no. 4632, Prime Ministry Undersecretariat of Treasury authorized the 'Pension Monitoring Center' in order to ensure that the Individual Pension System operates in a safe and efficient manner, and protects rights and interests of participants (Pension Monitoring Center; Underscreteriat of Treasury).