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Scale economies in pension fund investments: A dissection of investment costs across asset classes ☆

Dirk W.G.A. Broeders [a,b,*], Arco van Oord [a], David R. Rijsbergen [a]

[a] De Nederlandsche Bank, P.O. Box 98, 1000 AB Amsterdam, The Netherlands
[b] Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands

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ABSTRACT

Using a unique dataset of 225 Dutch occupational pension funds with a total of 928 billion euro of assets under management, we provide a comprehensive cross-sectional analysis of the relation between investment costs and pension fund size. Our dataset is free from self-reporting biases and decomposes investment costs for 6 asset classes in management costs and performance fees. We find that a pension fund that has 10 times more assets under management on average reports 7.67 basis points lower annual investment costs. Economies of scale differ per asset class. We find significant economies of scale in fixed income, equity and commodity portfolios, but not in real estate investments, private equity and hedge funds. We also find that large pension funds pay significantly higher performance fees for equity, private equity and hedge fund investments.

1. Introduction

Investment costs are an important determinant of pension fund performance. High costs and persistent inefficiencies can significantly impact beneficiaries' wealth and consumption, as they reduce

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* Corresponding author. Tel.: +31205245794.
E-mail address: d.w.g.a.broeders@dnb.nl (D.W.G.A. Broeders).

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the net rate of return on investments and subsequently raise the costs of providing pensions (Bikker and De Dreu, 2009).[1] This is even more relevant in recent years, as many pension funds around the world face significant challenges following the financial crisis and the ageing of society. As a result, pension funds are confronted with public and political pressure to operate more efficiently and show greater transparency to beneficiaries and the general public regarding their cost structure (Blake, 2014).

Understanding investment costs is also interesting from a broader financial markets perspective. Investment costs form a key parameter for pension funds when they determine their optimal asset allocation. These decisions can significantly impact market liquidity and asset prices in general, as pension funds are among the largest institutional investors in the world (Allen, 2001). During 2013, for instance, pension fund assets in the seven countries with the largest (occupational) pension fund sectors – the U.S., Japan, the U.K., Australia, Canada, the Netherlands and Switzerland – amounted to $30.5 trillion, representing on average 105.6 percent of their GDP. By comparison, mutual fund assets in these countries aggregated to approximately $20 trillion during 2013.[2]

Despite the importance of investment costs in pension fund performance, little empirical evidence is available on pension funds' cost structures.[3] This can largely be attributed to the absence of sufficiently detailed, unbiased and comparable data on investment costs. Several academic studies investigate pension fund costs and document economies of scale in their cost structures. These papers, however, concentrate on investment costs for U.S. pension funds (e.g., Bauer et al., 2010) and the aggregate investment cost level (e.g., Bikker and De Dreu, 2009). As a result, little is known about investment costs for European pension funds – that typically deviate from their American counterparts in terms of asset allocation – and about the drivers of the observed economies of scale. Are they primarily driven by management costs or performance fees? Do economies of scale differ between asset classes that pension funds invest in? And to what extent are they stable over different pension fund sizes, types, and plans?

This paper aims to fill this gap by providing a detailed analysis of the relation between investment costs and pension fund size. For that, we have a unique and cross-sectional dataset containing information on fund-specific investment costs for 225 Dutch pension funds during the year 2013. The dataset is free from self-reporting biases, and is to our knowledge the first to distinguish between two components of investment costs, namely management costs and performance fees. Furthermore, we have detailed information on the asset allocation of pension funds for six asset classes – namely fixed income, equities, real estate, private equity, hedge funds, and commodities – which we can further decompose into thirteen sub-asset classes and different credit ratings. This allows us to correct the investment cost analysis for differences in asset allocations and other pension fund investments' characteristics.

As a case study, we examine economies of scale regarding pension fund investment costs in the Netherlands. The Dutch occupational pension system provides an interesting case study for several reasons.[4] For one, the Dutch system is well-developed and relatively large in terms of size. This results from an important feature of the Dutch pension system, namely its mandatory nature. Due to this,

[1] Bikker and De Dreu (2009) report that an increase in annual operating costs of 1 percentage point over the entire accrual period results in a reduction of the eventual pension benefits by about 27 percent.

[2] See Global Pension Asset Study 2014 from Towers Watson for pension fund statistics, and http://www.ici.org/research for mutual fund statistics.

[3] We leave the relation between size, investment costs and performance to future research. Pension funds may incur higher investment costs in pursuit of higher returns. Academic evidence on the relation between higher costs and superior performance is mixed. The majority of studies find that pension funds, on average, are unable to outperform external benchmarks (e.g., Lakonishok et al., 1992; Busse et al., 2010; Blake et al., 2013). Some studies, on the other hand, find evidence for outperformance by pension funds, but predominantly in the U.S. context (e.g., Binay, 2005; Bauer et al., 2010; Andonov et al., 2011). Chen et al. (2004) find that larger mutual funds deliver lower performance because of the interaction of liquidity and organizational diseconomies. Berk and Green (2004) show that investment funds with superior past performance attract new capital and invest the inflow in passive strategies and thereby lower overall volatility.

[4] Like many pension systems, the Dutch pension system consists of three pillars, see, e.g., Broeders and Ponds (2012). Public pension schemes form the first pillar which is financed on a pay-as-you-go-basis. The second pillar consists of funded occupational pension plans and is the focus of this study. Finally, the third pillar is made up of private retirement savings accounts, which individuals undertake on their own initiative.