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Momentum or contrarian investment strategies: Evidence from Dutch institutional investors

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ABSTRACT

This paper analyses investment strategies of three types of Dutch institutional investors – pension funds, life insurers and non-life insurers – over the period 1999–2005. We use balance sheet and cash flow data, including purchases and sales of equity, fixed income and real estate. We trace asset reallocations back to both active trading and revaluations and link investment decisions to firm-specific characteristics and macroeconomic variables. Overall, our results indicate that all three investor types tend to be contrarian traders, i.e. they buy past losers and sell past winners. Especially pension funds showed this behaviour in the most turbulent part of the sample – the crash of 2002 and early 2003 – implying that these institutions have a stabilising impact on financial markets when this is needed most. Life insurers tend to be contrarian traders when they have a high proportion of unit-linked policies, while non-life insurers are contrarian when they have a more risky business model.

1. Introduction

As institutional investors manage a substantial part of global financial assets, their behaviour is likely to have a significant impact on financial market sentiment. This is particularly relevant in turbulent periods such as the collapse of the dotcom bubble in 2000–2003 and the credit crisis that started in 2007. In such circumstances, institutional investors may pursue contrarian investment strategies (selling past winners and buying past losers), which are likely to dampen excessive price movements. But they may also behave more like momentum traders (selling past losers and buying past winners) and exacerbate fluctuations in asset prices.[1]

Various papers have documented past-return based behaviour of investors. Grinblatt et al. (1995) find that mutual fund managers tend to pursue momentum investment strategies. Badrinath and Wahal (2002) report weaker evidence of this for several types of investment funds. Odean (1998) finds that the investors at a US brokerage house are reluctant to realise losses, and presents evidence that is consistent with contrarian investment strategies. Grinblatt and Keloharju (2000) is one of the few studies that address investment behaviour of many investor categories, including insurance companies. They conclude that foreign investors tend to be momentum investors, while domestic investors tend to be contrarians. Other studies investigate under what circumstances particular investment strategies are successful. For instance, Asem (2009) relates momentum profits to firms' dividend policies, while Lo and MacKinlay (1990) find that contrarian investment behaviour may be explained by cross-correlations between asset classes. Finally, a related strand of literature focuses on market prices rather than investor data, to investigate herding behaviour. For instance, Chiang and Zheng (2010) consider measures of return dispersion and establish herding behaviour in most advanced stock markets.

Most studies analyse firms' investments in individual stocks. We take a broader perspective, by considering past-return trading of the *entire* asset portfolio, i.e. changes in the composition of asset classes such as equity and bonds. Our research question is different from most other studies, namely: how do investors reallocate their portfolio in response to (excess) returns on these investment *categories*? Our data allow us to distinguish between three asset classes: equity, fixed income and real estate investments. The data do not contain information on individual items within these categories.

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[1] Contrarian trading and momentum trading are also known as negative and positive feedback strategies.

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Apart from this new perspective on asset allocation, this paper presents three extensions to the existing empirical literature. First, we analyse investment strategies of *all* types of (Dutch) institutional investors, i.e. pension funds, life insurers and non-life insurers. Earlier asset allocation studies for the Netherlands have focused on pension funds (see e.g. Kakes, 2008; Bikker et al., 2009; Rubbaniy et al., 2010). To our knowledge, there are no similar studies on insurers. This is a serious omission as insurers comprise about one third of total institutional investments in the Netherlands.

Our second contribution is the use of flow data on active trading. Most asset allocation studies are based on balance sheet data, which do not reflect whether changes in the asset mix are driven by active trading or revaluations. We therefore combine balance sheet data with flow statistics which include total sales and purchases for each asset class as well as revaluations, direct investment returns and other cash flows (premiums, payouts). This unique quality of our data enables us to distinguish between active investment policy and financial market conditions.[2]

Finally, we relate investment behaviour to macroeconomic developments and investor characteristics, such as firm size, solvency and profitability. This reveals which investor characteristics are important determinants of the type of investment behaviour pursued.

The three types of institutional investors we consider have common characteristics but also important differences. For instance, life insurers and pension funds have a relatively long investment horizon which makes it easier to absorb short-term fluctuations, while non-life insurers are likely to attach more importance to the liquidity of their assets. Life insurers are different in another respect: a significant part of their assets – almost one third – consists of unit-linked products, for which the investment risk is carried by the policy holders.[3] Non-life insurers and pension funds – which mostly offer defined benefit schemes in the Netherlands – are fully exposed to investment risk, so their behaviour is more likely to be driven by the characteristics of their liabilities.

We find that investors – especially insurers – are more contrarian when selling than buying, which suggests that investors are reluctant to realise losses, in line with evidence by Odean (1998) and Grinblatt and Keloharju (2001). Although all three investor categories tend to follow contrarian strategies, determinants that encourage such behaviour are different. For life insurers, contrarian behaviour is strongest for firms with a high proportion of unit-linked products, while for non-life insurers such behaviour is stimulated by risky business models. Pension funds play a particularly stabilising role when markets are most turbulent.

The remainder of this paper is organised as follows. Section 2 discusses the data and some stylised facts. Section 3 introduces our measure of momentum trading. Section 4 presents regressions that relate investment strategy to firm-specific characteristics and macroeconomic developments. Section 5 presents two robustness checks, while Section 6 concludes.

Table 1
Stylised facts, 1999–2005 (percent of total assets, unless stated otherwise).

Variable	Life		Non-life		Pension funds	
	Mean	Median	Mean	Median	Mean	Median
Total assets (EUR mln)	9097	2482	636	265	4790	643
Asset mix						
Equity	31.9	28.1	21.5	18.5	42.7	42.3
(of which listed)	(31.7)	(26.6)	(17.7)	(13.6)	(40.1)	(40.3)
Fixed-income	65.6	66.6	77.5	80.7	51.7	51.6
(of which bonds)	(37.1)	(33.0)	(49.7)	(52.5)	(42.9)	(44.2)
Real estate	2.4	0.2	1.0	0.0	5.6	1.4
Proportion foreign assets	20.5	19.5	24.2	18.7	52.7	54.8
Liquidity						
Proportion < 1 year maturity	6.4	2.3	16.3	7.8	3.3	2.1
Proportion marketable assets	81.1	81.6	84.6	91.0	86.5	90.8
Unit-linked investments	29.9	22.4	–	–	–	–
Premiums	3.7	2.8	18.7	14.4	1.0	0.7
Payments	2.2	1.8	12.2	8.3	1.0	0.8
Return on assets	0.6	0.7	2.1	2.6	–	–
Solvency ratio[a]	285	246	327	278	130	127
Loss ratio, standard deviation[b]	0.28	0.20	0.11	0.06	–	–
Ratio of loss reserves to incurred losses[c]	17.4	16.0	3.5	2.1	–	–

Averages and medians are calculated over all available observations in the sample. '–' Denotes that data are not available.

[a] Insurers: actual solvency margin over required solvency margin. Pension funds: investments over liabilities (funding ratio).

[b] Standard deviation of the ratio of losses incurred to premiums earned, a proxy for risk.

[c] Proxy for the time lag between policy issuance and the payment of the benefits/claims, with higher ratios indicating longer tailed business.

2. Data and stylised facts

We use data from a quarterly survey (see Appendix A for details). Our dataset includes 37 life insurers, 56 non-life insurers and 83 pension funds, together representing more than 70% of the Dutch sectors' total assets. The data are available over the period 2002–2005, and a subset from 1999 onwards. This is a relatively short sample, but largely covers an interesting episode during which institutional investors had to deal with adverse financial market conditions after the collapse of the dotcom bubble. The Dutch insurance and pension industry is relatively large, especially because participation in a funded pension scheme is compulsory for most Dutch employees. On a global scale, the relative proportion of Dutch investors is of course limited, but insofar as their behaviour is representative for similar institutions worldwide our findings are also relevant for global asset markets.[4]

We carry out an analysis of investment behaviour and relate this to investor characteristics such as size, solvency and profitability. As indicated, the data allow us to distinguish broad asset classes but do not include information on individual investments. We also do not know investors' strategic portfolio weights and investment policies. So, although we cannot track portfolio management at a detailed level, we can observe to what extent investors' overall asset allocation is consistent with contrarian or momentum trading.

Table 1 presents some stylised facts. Obviously, life insurers and pension funds have much larger balance sheets than non-life insur-

[2] Using similar data for pension funds, Kakes (2008) finds that Dutch pension funds tend to buy (sell) equity and bonds when the prices of these assets are declining (rising), which points at contrarian trading. Bikker et al. (2009) find that Dutch pension funds partly rebalance their portfolios but also allow for some free floating. Rubbaniy et al. (2010) analyse monthly data on individual investment items and find both positive and negative feedback behaviour, depending on whether contemporaneous or lagged returns are considered.

[3] Many of these policies are related to mortgage and annuity products. In the Netherlands, households typically accumulate savings to repay their mortgage after 30 years to benefit optimally from tax deductibility of interest payments. In many cases unit-linked products follow a 'naive' strategy by purchasing fixed proportions of asset classes every month.

[4] According to the 2009 *Global Pension Asset Study* by Watson Wyett, Dutch pension funds account for about 4% of pension assets worldwide.