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DC pension participants' investment returns are cause for concern

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We estimated DC pension plans' overall expected rate of return and, corroborating widespread concerns, found that roughly half of DC plan participants are virtually assured of underperforming the average assumed rate of return. We advocate in-depth analysis of participants' behavior for the sake of DC pension plans' future development.

As of end-March 2008, Japan's defined-contribution (DC) pension plans had 2.77mn participants (per Ministry of Health, Labor and Welfare) and assets of ¥3.8trn (NRI estimate, book-value basis), up some 30% from a year earlier. With DC plans steadily growing in prevalence, interested observers are becoming highly concerned that many participants are not investing their assets in a manner that offers sufficient prospect of achieving their plan's assumed rate of return.

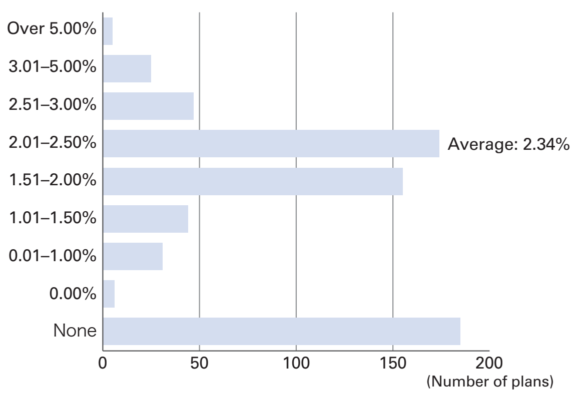
Corporate DC pension plans' average assumed rate of return is 2.34%

Upon adopting a DC pension plan, companies typically set an "assumed rate of return," which is the minimum rate of return that must be earned on contributions to the newly adopted DC plan to provide the same level of benefits as its predecessor pension plan.

Although the assumed rate of return is inversely related to the employer's DC plan contributions (i.e., the higher the former, the lower the latter), many companies with DC plans have reportedly set their assumed rate of return relatively low at the expense of bearing a heavier contribution burden themselves, out of consideration for employees' lack of investment experience. Most companies with DC pension plans have set their assumed rate of return in the 2.0-2.5% range. For all Japanese DC plans in aggregate, the average is a modest 2.34%[1)] (Exhibit 1). The corresponding averages for Employees' Pension Funds and Defined-Benefit Corporate Pension plans, by contrast, are reportedly around 5% and 3.5%[2)], respectively.

If DC plan participants' actual investment returns exceed their plan's assumed rate of return, they could receive more benefits than they would have from their DC plan's predecessor. Conversely, if their investment returns fall short of the assumed rate of return, their future pension benefits would be commensurately lower than what the predecessor plan would have provided. If many DC plan participants invest too conservatively to have any chance of achieving the assumed rate of return, this would be a major problem.

Exhibit 1. Distribution of assumed rates of return



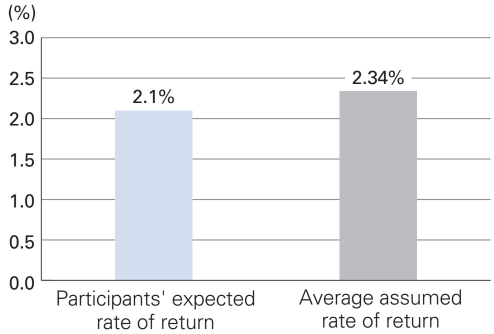
Source: (2nd) DC Pension Plan Survey Report (PFA)

Expected returns are below assumed rate of return for half of DC participants

As shown in Exhibit 2, DC pension plan assets are about 60% invested in principal-guaranteed products (savings and insurance products) and 40% invested in investment trusts (as of end-March 2008). Given such an asset allocation, DC pension plan participants in general are said to be highly conservative in investing their pension assets. To gauge the future investment returns attainable from this putatively conservative investment style, we estimated the expected rate of return on DC pension plan participants' current aggregate asset allocation.

Exhibit 2. Corporate DC pension plans' aggregate asset allocation and expected rate of return

	Asset allocation	Expected rate of return	Management fees
Savings deposits	42.1%	0.82%	–
Insurance	19.4%	0.82%	–
Investment trusts, etc.	38.5%		
Domestic equities	17.0%	6.0%	0.71%
Foreign equities	7.1%	7.0%	0.68%
Domestic bonds	8.4%	1.5%	0.38%
Foreign bonds	5.9%	2.5%	0.54%
Domestic REITs	0.2%	3.8%	0.76%



Note: Asset allocation and management fee data are NRI estimates (as of end-March 2008, book-value basis). For domestic and foreign equities and domestic and foreign bonds, we used the same expected rates of return used by the PFA to calculate data underlying model-portfolio forecasts. For domestic REITs' expected rate of return, we averaged domestic equities and foreign bonds' expected rates of return. We calculated savings deposits and insurance products' expected rates of return as domestic bonds' expected rate of return minus the average spread between 5-year and 10-year JGB par-yields from March 1998 through March 2008 (we assumed a 5-year term for time deposits and GICs).

To do so, we first had to estimate rates of return by investment product. Among available products, investment trusts encompass a variety of asset classes (e.g., equities, bonds), each with a different expected rate of return. To determine DC plans' asset allocation by asset class, we analyzed the asset allocation of investment trusts marketed exclusively to DC plan participants. We found that domestic equities account for 17.0% of total DC pension assets, foreign equities for 7.1%, domestic bonds for 8.4%, foreign bonds for 5.9%, and domestic REITs for 0.2% (as of end-March 2008). For expected rates of return, we used the assumed rates of return that the Pension Fund Association (PFA), a leading Japanese institutional investor, uses to construct model portfolios. Factoring in average management costs for each asset class, we arrived at an expected rate of return on aggregate DC pension plan assets of 2.1%, modestly below DC pension plans' average assumed rate of return.

Needless to add, asset allocations presumably vary widely among individual participants. Assuming that this variation is normally distributed, we can conclude that roughly half of participants have invested their assets in a manner virtually certain to underperform their plan's assumed rate of return. If not rectified, DC plans' current asset allocation places many participants at risk of ultimately receiving pension benefits below the level implied by their plan's assumed rate of return.

One factor behind DC plans' current asset allocation is that many participants are unaware of their plan's assumed rate of return. A survey by the NPO 401k Educational Society[3] found that only one-quarter of respondents "exactly know" or "roughly know or can surmise" their DC plan's assumed rate of return. Among respondents with a majority of their assets invested in investment trusts, the corresponding percentage was 35% versus only 20% for respondents predominantly invested in principal-guaranteed (i.e., savings and insurance) products. The survey results suggest that many participants invest predominantly in principal-guaranteed products in ignorance of their plan's assumed rate of return and other details, including contribution assumptions.

In-depth analysis of participants' behavior is needed

We estimated the average expected rate of return for DC pension plan participants in aggregate to shed light on the average participant's behavior, but it is more important to analyze participants' behavior in more detail to ascertain the degree of variation in expected rates of return and identify potentially problematic behaviors. DC plans have been in existence in Japan for six and a half years, with total enrollment now approaching three million participants. Voluminous data have been amassed about participants' product selections and inquiries to plan administrators. Such data should be thoroughly analyzed to elucidate participants' behavior in the aim of identifying problems and/or formulating policy recommendations. We would expect such efforts to contribute to the sound development of DC pension plans.

Note

1) Source: (2nd) DC Pension Plan Survey Report (PFA, published 20 December 2007)

2) According to a PFA survey, Employees' Pension Funds' average projected rates of return are 5.34% for the basic component and 4.77% for the supplemental component. Defined-Benefit Corporate Pension plans' average projected rate of return is 3.30% (Kigyo Nenkin, November 2007).

3) Report on Survey of DC Pension Plan Participants' Investment Status (March 2007)

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