

Construction of Withdrawal Tables

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As we all actuaries know, the projected cost of a DB pension plan depends basically on the assumption made for interest rates, salary increases, mortality, invalidity and withdrawal rates.

Depending on the group's demography, benefits and vesting conditions, withdrawal rates may be the most important factor into consideration.

In the case of DC plans where sponsor's contributions are not immediately vested, withdrawal rates could be the sole factor affecting the plan's cost.

In general, the issue is dealt with using conservative assumptions concerning withdrawal rates (i.e. assuming low withdrawal rates). However, this may come under conflict with other benefits where low withdrawal rates produce higher costs.

For example: accounting principles in Mexico changed recently and the cost of severance payments and other termination benefits have to be accounted for with a methodology similar for accounting for pension benefits (whereas prior to these changes severance payments were accounted for on a Pay-as-you-go basis). Using "conservative" assumptions for withdrawal rates produce contrary results (i.e. lower costs) for these benefits.

Hence, the need to produce better withdrawal tables.

However, little emphasis is given throughout actuarial education and research to the construction of withdrawal tables.

Furthermore, withdrawal is a more varying phenomena from group to group than say mortality and invalidity, so the group's experience has to be carefully taken into account.

In the paper we produce a standard Withdrawal Table from experience of a large group of companies during the past 10 years; we produce select and ultimate rates based upon age and seniority; and we expose a methodology for incorporating recent experience from a specific group into the tables. We explore Bayesian methods both for the construction of the standard tables and for experience incorporation.

Keywords: Withdrawal tables, Pension Plans, Severance Payments, termination benefits, selected tables, Bayesian methods, accounting principles.