

The risks of crediting rates

There are risks involved in calculating the return rates to be credited to Australia's retirement assets. **CHRISTOPHER ANDREWS** explains the issues to superannuation trustees.

Most superannuation funds in Australia are either accumulation style funds or are defined benefit funds with an accumulation section.

These funds must determine the rate to be credited to the members' accumulation account balances and the members' defined benefit contributions, which are used to calculate the resignation benefit. Most funds use the rate of return that is calculated from the earnings generated by the fund's investments, although some still use "smoothing" formulae.

Where the actual return is used, the rate of return credited to a member needs to be calculated as a money-weighted return that factors in the timing of cash flows so the dollars earned on investments match those credited to the balance. To maintain equity between members it's also necessary to limit the period between rate determinations. Monthly determinations are common where investments aren't unitised.

Interim crediting rates are estimates

A return calculated monthly, however, is only an estimate of the true return for the fund. First, the fund's tax position is only estimated from month-to-month. Until the end-of-year accounts are finalised, the impact of capital gains tax, dividend imputation and other tax effects, administration cost accruals, etc are only estimated within the overall crediting rate calculation.

The accuracy of the fund's estimated monthly returns is reliant on numerous factors. Over the year the crediting rate

may drift away from the true earning rate of the fund and can only be corrected at year end when accounts are finalised.

Sources of estimation error include:

- **Rounding errors:** investment returns are calculated to five decimal places or more; crediting rates are generally declared to one decimal place. Rounding may cause the monthly rate to be slightly higher or lower than the actual rate and this marginal difference may compound over time. In the longer run, "overs and unders" may cancel each other out, but this may not be true over extended periods.
- **Tax rates:** in calculating crediting rates, tax estimates are incorporated into the system – say 10% tax for investment in Australian shares (due to dividend imputation), 15% for fixed income. The actual tax rate may be different depending on the trading activities of the managers and the actual securities owned from time to time.
- **Tax credits:** Occasionally, superannuation funds will have accumulated tax losses that can be carried forwards and credited to member balances if they are available, thereby offsetting tax costs. The "Future Income Tax Benefit" may be carried as a balance sheet asset. These potential benefits to members cannot be included in monthly interim crediting rates, since they can only be utilised once the final accounts have been struck. If the FITB was significant, the interim crediting rates may have systematically underestimated fund results over the year until the June result is adjusted

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- to include these end-of-year factors.
- **Switching between member investment options:** most superannuation funds offer member investment choice but have not segregated the assets for each option. Instead a single pool of assets is managed with the overall asset allocation being the asset allocation for each option, weighted by the proportion of fund assets in each option. Cash flows resulting from switching between the options month-to-month may not be reflected in the underlying assets such that the assumed allocation of assets may not be the exact allocation of assets in the portfolio.
 - **Frequency of calculation:** ideally, crediting rates and earning rates should be calculated daily and reconciled daily. In reality, many superannuation funds do not issue crediting rates more than once per month and often only quarterly. The greater the time between crediting rates, the greater the potential for estimation error.
 - **Administration errors:** there are numerous parties involved in calculation of the crediting rates, each of which can be a source of error. The fund administrator may make a mistake as to the amount and timing of cash flows from contributing members or employers. The fund manager may make a mistake in the calculation of the unit price of a pooled fund. The custodian may make a mistake in the fees deducted for portfolio management. The investment consultant or fund actuary may make a mistake in the calculation. While errors are usually picked up and corrected in the following month, each part of the process requires manual intervention which exposes the crediting rate calculation to some risks.

The process

Once the final accounts have been struck, it's possible to adjust the year end (usually June) monthly rate so the annual credited rate reconciles with the actual earning rate of the fund.

In accumulation funds it is possible to check the members' accumulation

balances against the net assets so that vested benefits are covered before finalising the year end (June) rate. In defined benefit funds with accumulation sections it is generally not possible to separate the accumulation and defined benefit sections.

This means that only the total change in the funding position is known and not the separate components attributable to the accumulation and defined benefit sections separately. It is generally assumed the accumulation section is "in balance" and that the surplus/deficit is attributable to the defined benefits. In other words, any error in the crediting rates will impact the surplus/deficit in the defined benefit section and hence the employer's future costs. In many cases the defined benefit section is declining so that the impact of any errors will increase over time. It may take many years, however, before the source (accumulation section) is obvious.

The year end process is not straightforward and significant delays can be involved before the final accounts are prepared. This may mean the trustees are not prepared to hold off the finalisation of the crediting rates until the accounts are audited. Crediting rates may therefore be based on early draft accounts. Some margin of error needs to be allowed if the risk of over-crediting is to be avoided. In these cases, checking for consistency of results produced by different methods for estimating returns should help to provide some comfort or identify possible discrepancies.

Investors in unit trusts, by contrast, do not have their account balances credited with a rate of return; instead their investment is unitised and returns are expressed in changes in the price of the units and/or the issuance of additional units. The change in unit price from the end of one period to another may be expressed as a percentage return. In the context of a superannuation fund that has not unitised its investments, this is the equivalent of the fund earning rate. The change in unit price will not, however, equate to an investor's return since no account is taken of cash flow

or switches between options. While the unitisation process reduces the chances of a mismatch between the assets and liabilities, there are still a number of issues, eg tax, which are difficult to handle with precision, and approximate methods are common.

The use of interim crediting rates may represent an opportunity for astute investors to "game the system". For example, the monthly interim crediting rate is based on a cash return for the current month until actual market returns are available in the middle of the following month; an investor in a shares-oriented investment option observes a significant market connection and immediately requests a switch to a different investment option, thereby obtaining a cash crediting rate before the true negative market-based crediting rate is applied.

Understand the risks

The addition of voluntary contribution and rollover features into funds has increased the opportunities for members to take advantage of any "mispricing". Member investment choice and the greater portability of superannuation now make this an important risk management issue for funds.

The key principle is that transactions should not be allowed to take place on "stale" crediting rates or unit prices. To achieve this, transactions should take place only after the rate/unit price for a certain period has been determined even if this is on a "soft" basis.

For terminations it is necessary to determine a date at which the assets are placed into cash. From that date the cash rate would apply, and prior to that the crediting rate based on actual market returns would apply.

Ultimately, the industry must move to full, daily unitisation of assets. This will be beyond the scope of some funds, and trustee boards will have to accept that their fund may be sub-scale for a long-term future. Until then, boards should understand what's entailed in striking interim crediting rates and the inherent estimation risks plus ensure there are policies and procedures to prevent any members systematically exploiting any process weaknesses. **J**