

INFORMATION NOTE 003 - ACTUARIAL SYSTEMS REQUIREMENTS IN REVIEWING PENSIONS ADMINISTRATION MIGRATIONS

Classification

This document is classified as an Information Note.

Abstract

This information note outlines data requirements in the review of data migrations between pension administration systems. This is relevant for actuaries overseeing migrations or when rebuilds are required.

Purpose

This information note provides an overview of expected data fields and the inclusion of historical data in the migration dataset and hence the current administration system with the aim of reducing the frequency of rebuilds due to lack of data or gaps in data quality. It is not intended to prescribe requirements or provide formal actuarial guidance.

Legislation or Authority

Actuarial Society of South Africa Systems and Technology Committee.

Application

This information note is aimed at:

- Actuaries or actuarial students working in a retirement administration environment (including systems development);
- Actuarial staff involved in system migrations or system rebuilds;
- Actuaries or actuarial students working in the retirement or long-term reward (e.g. post-retirement medical subsidies) industries;¹ and
- Actuaries involved in employee benefits projects concerning large data transfers.

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Status

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¹ Post-retirement medical aid (PRMA) valuations are similar to retirement funds in that they are both long-term benefit entitlements. Typically, PRMA benefit plans are not administered on formal administration systems. However, with changes in valuers - or in some cases, the outsourcing of administration - similar issues can occur as for retirement funds in respect of historical data.

1 Introduction

Data migration describes the process of moving policy data from one administration platform to another. In order to satisfy data requirements for actuarial valuations and general administration, the migration of data needs to cater for historical movements relating to both current and past members, dating back to a specific point in the past.

Pension administration system migrations are infrequent events but can involve significant financial and operational risks. In South Africa, a significant amount of time and money is spent every year on rebuilding member values or in extreme cases, even entire fund memberships. The risk of professional indemnity claims due to data errors or incompatibility between systems increases with greater dependency on systems and should be addressed.

This information note considers the transfer of data fields in the event of a pension administration migration and the importance of also migrating historic data. Although the data would be controlled by a Pension Fund Administrator, it is our view that actuaries employed by an administrator, or who are involved in fund valuations following a migration, should be involved in the migration process to ensure its success.

Current practice in the case of Defined Contribution Fund migrations is to only transfer basic member information and the current fund value to the new system. Technology developments and increased regulatory and risk practices support and make possible more detailed data migrations, especially when it comes to historical data.

This information note does not cover Section 14 transfers or individual member transfers, where liabilities are transferred between separate funds.

2 Pension Administration Migrations

Migration of administration systems would occur in the event of:

- A retirement fund changing administrators;
- An administrator changing administration systems;
- An administrator merging with another company resulting in integrated systems; or
- When funds administrated by different parties consolidate.

3 Motivation for Conducting Migration Testing

Actuaries are frequently faced with incomplete datasets when requested to rebuild member records or when performing checks on member build-ups. Often, the full set of historical data is lacking, with data fields being incomplete, corrupted or otherwise unavailable.

In South Africa, there are currently no regulatory requirements in terms of testing around migrations and very little in the way of established standard practice in this regard, as is the custom in other actuarial fields. Globally, there is a movement towards better risk management and governance in tandem with technological improvements, which makes for better data capturing, reviewing and storage.

An important question to ask is: who owns the fund data which is required to re-build a member's fund value? Ultimately the data is owned by the fund, but since administration is generally outsourced, custodianship is passed on to the administrator who will only record data during the period for which they are appointed. From a valuation point of view, actuaries will generally comment on data quality but are not responsible to ensure the quality of the data.

Data rebuilds or working on multiple data sets – for example when performing a valuation in a period which spans multiple administrators – can be costly and time consuming. Aside from reputational risk, this adds to the negative sentiment from consumers around slow response times, high costs and the inability to access real-time data on member balances.

When we consider examples from the life insurance industry, we find that there is much more emphasis on the transfer of historical policy data in the event of business portfolio transfers or sales. Historical data is not only required for calculating individual policyholder values, but also for assumption setting, monitoring trends and managing risk.

Taking a longer-term view – with the looming prospect of compulsory preservation of retirement savings we anticipate that there will be a greater need for full historical data to be retained in respect of individual member records. A member may query benefit values and without complete and accurate data, it will be difficult for incumbent administrators to adequately address such queries.

We can expect an increased need for the capturing and retention of historical data in the retirement industry, and especially in the case of data migrations.

4 Application of the Data

In order to rebuild members' values, fund and transactional data from the date that the member(s) joined the fund will be required. The data listed in the Appendix is typically used in such instances.

A challenge can arise when some of the required information is not available on the system, or where data gaps are encountered. For example, the data shows that a member currently falls under Category B, but provides no further information going back in time. The person doing the rebuild then needs to make certain assumptions in order to rebuild the member's value.

For example, typical information gaps may be:

- Historical member categories;
- Historical risk rates;
- Historical administration fees, consulting fees or other charges;
- Member investment choices – the system transactional data is usually assumed to be correct;
- Portfolio switches – again, the system transactional data is usually assumed to be correct; and/or
- Historical Late Payment Interest (LPI) policies.

Such information gaps differ depending on the administration platform used. This is because there is currently little actual agreement as to what a system should or should not record. An internally developed administration system will therefore not always record the same information, at the same level of detail, as an off-the-shelf system.

These differences could lead to complications in mapping the various data fields when migrating data from one system to another. Examples of differences to watch out for include:

- Transaction effective dates on the current system are as the first day of the month, whereas they are recorded as the last day of the month on the new system;
- Unit prices are captured daily on the current system, but monthly on the new system;
- The term 'transaction date' on the current system refers to the transaction effective date, whereas on the new system it refers to the recording/capturing date;

- Certain information, e.g. member category, is configured at a fund level on the current system, but needs to be captured at a member level on the new system;
- Expense transactions on the current system, e.g. administration fees, are recorded against member transactions (members' values are increased with contributions towards administration fees and decreased with administration fee deductions), whilst on the new system they are recorded against a 'reserve' member; and/or
- Following a claim but prior to recording the payment transactions, funds on the current system are notionally switched to a 'cash' account following disinvestment, whereas no such disinvestment transaction occurs on the current system.

Data issues that arise may be due to the administration process rather than to system gaps. Typical issues are:

- Surname changes resulting in duplicate member records;
- Default dates of birth and/or missing ID numbers, making it extremely difficult, if not impossible, to identify duplicate records; and
- Corrective transactions, where the data shows corrections to member values without any detail regarding the reasons behind them. Such corrections may generate a lot of 'noise' in the data.

These issues could be minimised if the administration system could aid in making the administration process simpler. This could be achieved for example by incorporating data validations on systems and requiring specific fields to be populated.

5 Testing

It is vital that data is checked both before and after performing a migration.

Looking at systems testing in other insurance industries, the following aspects could be considered:

- Detailed specification of data requirements in the new system. Refer to the Appendix for proposed data fields;
- Mapping of current system data fields to the new system;
- Identification of data gaps (i.e. where specific data fields are only available or required in either the current or new system);
- Identification of data formats. If there are differences between systems, agreement is needed on how this should be addressed post-migration;
- Decide on a number of individual test cases to be tested on both the new and current systems;
- Run the full membership, using the available history, through the new administration system and compare the results with pre-migration values; and
- Repeat the test cases after a period following the post-migration valuation, e.g. at 3 months and 12 months post-migration, to ensure that the new system continues to perform as expected.

6 Common Issues with Administration Systems

The views provided in this information note may require adjustment if they are to be made applicable to current pension administration systems, which are often plagued by:

- Limited validations;
- Limited audit trails;
- Limited or incomplete historical data;
- Lack of data fields which are seemingly unimportant, but which are ultimately needed to determine exact benefit values or eligibility;

- Lack of full payroll system integration; and
- Errors in system functionality as a result of limited testing.

7 Conclusion

Pension valuers or actuarial students required to conduct member value rebuilds are often faced with significant data gaps due to the failure to include historical data in system migrations. This information note provides guidance on the expected data fields and the inclusion of historical data in the migration dataset and hence the current administration system with the aim of reducing the frequency of rebuilds due to lack of data or gaps in data quality.

Further details on specific data requirements in the migration of data between pension administration systems are provided in the Appendix.

APPENDIX:

DATA FIELDS TO INCLUDE IN A MIGRATION WHERE HISTORICAL DATA IS ALSO MIGRATED

Note that references in this Appendix to units/unit prices only apply to unitised retirement funds, whereas references to interest rates and bonuses apply only to bonus-rated retirement funds.

Data should be captured separately per plan and per employer (in the case of multi-employer funds).

A. Fund level Service Level Agreement (SLA) Extract

This is in effect a summary of the fund rules, together with other fund-level information. It is important to record all fields at every date of change of any of the fields.

Data field	Level of detail
Member category descriptions	Eligibility requirements Current and historical categories, with effective dates
NRA (Normal Retirement Age) • Per category • Measured at which date?	Age EoM, BoM, EoY, actual date of birth, etc.
Pensionable salary components: • Salary • Bonus • Other	Identify which components are included
Risk benefits/risk rates	Current and historical, with effective dates
Expenses • Type • Rate • Er/EE	Deducted from employer contribution Deducted from employee contribution Paid through additional contributions from employer Current and historical, with effective dates
Unit prices per portfolio	With effective dates
Interim Bonus Rates	With effective dates
Final Bonus Rates	With effective dates
Late Payment Interest (LPI) Policies	With effective dates
Date changed to DC	If applicable. Conversion from DB structure
Date changed to unitisation	If applicable. Conversion from bonus-rated structure

B. Member Level Details

For every member in the fund, the following information fields should be recorded (per month where indicated). Considering a full group of members, you would in effect be looking at a multi-dimensional data table.

Data fields	Recording Frequency – over full membership	Level of detail
Name, Surname	Fixed	Note any change to surname
Status	Per month	✓ Active ✓ Paid-up ✓ Deferred
ID/Passport number	Fixed	Record for identification purposes. Keep secure
Date of Birth	Fixed	dd/mm/yyyy
Gender	Fixed	Note any change
Employee number	Fixed	Check for duplicate records if member exited and then rejoined the employer – such records could be consolidated depending on whether previous exit payment was done or not.
Participating employer	Fixed	As and when. Include history.
System or member number	Fixed	Check for duplicate records if member exited and then rejoined the fund – such records should be consolidated
Income tax number	Fixed	-
Date Joined Company	Fixed	dd/mm/yyyy
Date Joined Fund	Fixed	dd/mm/yyyy
Pensionable Service Date	Fixed	As and when. Include historical adjustments, e.g. on divorce
Date of Exit	Fixed	dd/mm/yyyy
Date of exit payment	Fixed	dd/mm/yyyy
Confirmation if exit payment was full or partial benefit payment	As and when	Details of exit payment amount ideal.
Investment portfolio / investment choice / life stage category	Per month	Should an individual have split investments, record the data fields separately for each portfolio
Member category	As and when	✓ Category identifier - Record historical changes in categories
Member category effective date	As and when	dd/mm/yyyy
Employer contribution – gross value	Per month	✓ Rand amount ✓ % of pensionable salary
Employee contribution – gross value	Per month	✓ Rand amount ✓ % of pensionable salary
AVCs	Per month	✓ Rand amount
Net contribution	Per month	✓ Rand amount ✓ Units ✓ Unit Price ✓ Effective date
Pensionable salary	Per month	✓ Rand amount
Switches	As and when	✓ Rand amount ✓ Proportion or units

Data fields	Recording Frequency – over full membership	Level of detail
		✓ Applicable unit price ✓ Effective date
Transfer in values	As and when	✓ Rand amount ✓ Units ✓ Unit Price ✓ Effective date
Benefit payment amount	As and when	Any amount paid out to member. ✓ Rand amount ✓ Effective date ✓ Agree on standard identification fields, e.g. Retirement, Withdrawal, Death, Divorce Order, etc.
Tax paid	As and when	✓ Rand amount ✓ Type of tax (also include old GN35 payments) ✓ Date paid to SARS
Payment of approved risk benefits	As and when	✓ Rand amount ✓ Date paid ✓ Product type
Payment of unapproved risk benefits	As and when	✓ Rand amount ✓ Date paid ✓ Product type Only record if payment is made through the fund bank account
Reinsurance recovery of approved risk benefits	As and when	✓ Rand amount ✓ Date paid ✓ Product type
Reinsurance recovery of unapproved risk benefits	As and when	✓ Rand amount ✓ Date paid ✓ Product type Only record if payment is done through Fund bank account
Home loans	As and when	✓ Date ✓ Amount ✓ Indicator: loan or guarantee
Home loan repayments	Per month	✓ Date ✓ Amount
Backdated adjustments / corrections	As and when	✓ Rand amount ✓ Date ✓ Reason ✓ Affected members

C. Pensioner Notional Account Detail

If the fund also has pensioners, i.e. payment of active pensioner benefits, the following historical data would be relevant (in addition to any active membership data for the member):

Data fields	Level of detail
Monetary/Unit balance per investment portfolio	Rand Amount/Number of units
Unit prices per portfolio	Indicate if price is expressed as a Rand amount or in cents
Reserve accounts	Value of account, reason/use
Opening balances	Values reported
Closing balances	Values reported
Pensions paid	Values reported
Past reserve allocations	Total allocation
Past pensioner increases	Rate applied
Backdated pensioner increases/catch-up increases	In the event of target increases not granted in prior years

D. Pensioner Member Details

Data fields	Recording Frequency – Over Full Membership	Level of detail
Name, Surname	Fixed	
ID/Passport	Fixed	Record for identification purposes. Keep secure
Date of Birth	Fixed	dd/mm/yyyy
System number	Fixed	
Pensioner Type		Principal, spouse, child, disability etc.
Spouse's Reversion level	Fixed	Usually at scheme level, but can differ between members
Spouse's reversion pre/post commutation	Fixed	Detail on whether done pre/post commutation
Date of retirement	Fixed	
Pensioner balance (living annuities)	Per month	✓ Rand amount ✓ Number of units (If applicable)
Annuity type	Fixed	Living / Conventional annuity
Investment portfolio/investment choice	Per month	Should an individual have split investments, record the data fields separately for each portfolio
Pension increase date and rate, change in drawdown rate	Per month	When relevant
Pension drawdown amounts	Per month	✓ Rand amount ✓ Number of units (If applicable) ✓ Percentage
Reserve allocations	Per month	✓ Rand amount ✓ Number of units (if applicable)