Ranfurly Superannuation Scheme
Hedging Process
June 2017

Ranfurly Strategic Limited (**Ranfurly**)as manager of the Ranfurly Superannuation Scheme (**the Scheme**) has added two new funds to the Scheme offering – New Zealand Dollar Balanced Fund and the Australian Dollar Balanced Fund, that invest into underlying assets that are denominated in Sterling, which is not the currency of the two new funds. To avoid investor's having an unwanted currency exposure the underlying Sterling denominated assets of each fund will be hedged from Sterling into the currency of the fund e.g. NZD or AUD.

This paper sets out the hedging approach and process operated by Ranfurly to hedge the fund's currency exposure.

Hedging Approach

Consistent with Ranfurly's approach to investment management, we have engaged a third party specialist, Penrich Capital UK Limited (**Penrich**), to manage the hedging programme for the NZD and AUD funds. Penrich have extensive experience in running currency hedges and the company is authorised and regulated by the FCA in the UK.

Ranfurly considers that the appointment of Penrich has a number of benefits for the Scheme and Members.

1. Ranfurly's approach of engaging skilled institutions to undertake the investment activity, is maintained by the appointment of a third party to manage the fund's hedges.
2. Penrich has extensive experience in currency hedging.
3. Penrich has an existing relationship with Ranfurly's FX broker, OMF Financial Limited, and is able to secure favourable margin rates for the Scheme of 3%. This is very favourable when compared to 5% or 10% margins charged by some brokers and makes hedging very cost effective for the fund and investors.
4. Penrich offers a cost effective monthly rate to monitor the hedge positions that will, like other Scheme costs, be paid by the manager from the 1% management fee. This cost does not impact the investors.
5. Penrich has the systems and processes to monitor the hedge positions of the Scheme funds on a day to day basis and to report to Ranfurly any requirement to alter the hedge positions.

The hedging programme operated by Penrich includes daily monitoring, reporting and recommendations to the Manager where Penrich deem a buy/sell/rollover favourable to maintain a pre-agreed target range for hedging a fund's currency exposure.

The hedging is done by way of Forward Currency Contracts purchased through OMF Financial Limited (**OMF**), as broker. OMF are a New Zealand domiciled registered and FMA regulated brokerage company. It is not proposed that Currency Futures or Currency Options are used to hedge the funds.

The margin call requirement of holding a position with OMF is 3% of the value of the position at any one time, plus losses on open contracts, with such value being dependent on the size and movement of the hedged currency. Penrich have contractually agreed to advance the margin call required by OMF on a daily basis, if required. The cost to the fund is the current NZ Official Cash Rate (**OCR**), currently 1.75%, on any advanced margin, calculated daily, and paid monthly

by the respective fund. Where the margin advanced exceeds the pre-agreed $ amount or %, the respective fund will deposit sufficient cash to meet some or all of the margin requirement. The Manager has agreed with the Supervisor a maximum borrowing % of 20% of the fund's net asset value, however, we have also agreed if the borrowing exceeds 10% of the fund's net asset value we will begin to reduce the borrowing exposure.

The advantage of this approach, for the fund, is it avoids the need for it to retain significant cash reserves to meet margin calls resulting from currency volatility. The potential cost of any advanced margin will be less than the performance cost to the fund caused by any cash drag of money held to meet actual or potential margin calls. Being a weekly unitising fund means inflow will occur weekly. Redemptions of underlying assets can be made at any time however it will be a 3- 5 day lag to receive redemption proceeds. The use or margin liquidity therefore also resolves any margin timing issues.

Ranfurly have set the hedging policy for each fund to target being fully hedged from GBP to the currency of the fund. This seeks, in so far as it is possible, to remove currency risk for the investors rather than taking any speculative currency positions.

As perfect hedging is not possible to achieve, because fund values and currency hedges move on an hourly basis, a target range of 90% - 110% hedged has been set within which Penrich are to maintain hedging. The range has been proposed after considering the likelihood of a currency movement greater than 10%, by reviewing historical currency data. Hedges are amended as frequently as required to maintain the hedge ratio as near to fully hedged within the range allowed. Hedge positions are monitored daily.

Responsibility to enter into trades for all hedging transactions is with Penrich, to be executed via signed dealing tickets. Ranfurly monitor the hedging dealing and hedging positions using a proprietary model.

As there is an interest rate differential between GBP and NZD or AUD the forward currency contracts generate positive carry. Historically this has been in the range of 1.5% - 3%. The positive carry compares favourably with the cost of margin liquidity and the impact of any imperfect hedging, and it is expected that the NZD and AUD funds will perform in a very similar way to the GBP Balanced Fund and possibly better.

Hedging Process

The hedging process in itself is relatively simple as the New Zealand Dollar Balanced Fund (**NZD Fund**) and Australian Dollar Balanced Fund (**AUD Fund**) invest into assets that are denominated in GBP. They do not invest in any other currency. It does, however, require the coordination of Ranfurly, the Schemes custodian and the hedging manager to time transactions. A hedge of GBP to NZD is required to remove currency risk, which is done through the purchase of a Forward Currency Contract.

Steps for Hedging

Following member unitisation the Scheme funds receive GBP from the applications account. This creates a currency risk for the NZD Fund and AUD Fund which needs to be hedged.

Prior to unitisation, Penrich and Ranfurly liaise to determine the hedge that needs to be put in place for each fund (if any) and what funds should be placed with OMF as margin to reduce

Penrich margin liquidity. Borrowing levels are also assessed and funds are liquidated to reduce the Penrich margin facility if it is approaching its limits.

At the same time as instructing the weekly unitisation, Ranfurly instruct Penrich to enter into forward currency contracts for the NZD Fund and AUD Fund to hedge out the currency risk. Penrich recommend a duration for the hedges based on their expectation of future interest rates. The hedge is placed to coincide with the weekly unitisation.

Once the hedges are in place Penrich monitor the currency and unit price movements and subsequent margin requirements using a proprietary model. Where the fund is other than 100% hedged, Penrich assess whether an increase or decrease to the hedge positions are required. As noted above, Penrich have discretion within a range around being fully hedged. If the hedge exceeds the range then Penrich are required to increase or reduce the hedge position as appropriate. It is worth noting that exceeding the hedge position does not represent a breach but rather a mandatory trigger requiring the hedges to be altered.

OMF make daily margin calls depending on the day's currency movements. Ranfurly have arranged for Penrich to provide liquidity for the margin calls and they will fund the requirement the next business day.

Prior to instructing the Scheme's custodian and administrator of any fund's currency movements Ranfurly advise Penrich who assess the impact on the hedge positions. If necessary the hedge position is increased or decreased by instructing a forward currency contract trade with OMF.

Penrich notify the Scheme custodian, administrator and Ranfurly of all transactions.

Worked Example

At the start of the NZD Fund's life, it receives GBP 1m from the application account to invest. Simultaneously, Penrich enter into a forward transaction selling GBP to buy $1m NZD so that there is no net GBP exposure. As far as the broker, OMF, is concerned, there is now an open position of $1m NZD so there would be a margin requirement of $30,000, 3% of the open position. The way that most banks/brokers work is that they require a fixed % of the face value of the hedging transactions as the margin requirement. This is often around 3%-5% so, for each $1m hedged back into NZD, the margin requirement would be $30,000-$50,000. The balance of the account (cash balance +/- unrealised fx gains and losses) is then required to be above the margin requirements at all times. If the fund hasn't put any money into the OMF account Penrich would cover this amount and the fund would be advanced $30,000. Penrich would charge interest on the $30,000 to the fund at OCR, currently 1.75%.

Over the first week of the NZD fund's existence, if that the NZD appreciates substantially against the GBP with an gain of 10%. The amount invested in the underlying funds is now only worth approximately $900k NZD but there is an offsetting unrealised profit (of about $100k) in the fx transaction account. This means that the balance of the account is now $30k (which was advanced by Penrich) plus $100k = $130k. The margin requirement is still $30k so there is a surplus balance. Ranfurly decides that it wants to remain fully invested so it uses the $100k to invest in the underlying fund. In this case, Penrich will keep funding $30k to cover the margin requirement. Alternatively, Ranfurly decides to only invest a portion of the $100k (or even none of it). In that case, the transaction account doesn't need Penrich's money and the funding could be paid back. If we say that Ranfurly decides to remain fully invested (i.e. where it was at the start of the week) then Penrich's funding of $30,000 would stay in place and interest would be charged on that balance.

Finally, if the NZD drops back down against the GBP, back to where it started. Ranfurly is still fully invested (i.e. they invested the $100k fx profit of the first week) so the amount invested in the underlying funds has now increased to $1.1m NZD but there is an offsetting unrealised loss (of about $100k) in the fx transaction account. This means that the balance of the fx account would be $30k-$100k = -$70k. The bank/broker would not allow this because the balance is below the margin requirement of $30k so Ranfurly would be issued margin calls during the week. These margin calls can be covered by Ranfurly from money held in the NZD Fund or by redeeming units each day to meet the requirement. A far less time-intensive process is for Penrich to simply advance another $100k to the NZD Fund. So, at the end of the week, Ranfurly has assets of $1.1m in the underlying funds plus a balance of $30,000 in the transaction account less a liability to Penrich of $130k – this is a total of $1m. Penrich would be charging interest on the funding balance of $130k. Ranfurly may decide to liquidate some of its underlying investment to realise the fx gain and pay-off the unrealised fx loss in the transaction account or use some of the next weeks unitisation funds and pay-off the unrealised fx loss. This money would boost the transaction account balance above the margin requirement so the advance from Penrich could be partially paid off.

No interest is being charged on the amount of the hedges. It is purely on the funding that Penrich has had to deposit in the hedging account to keep the balance above the minimum requirement of the bank/broker.

Interest is calculated on the balance that Penrich has had to deposit into the transaction account to ensure that the account has a positive balance in excess of the margin requirement.