FRS

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FUTURE PROOFING YOUR ORGANISATION'S INVESTMENT ADMIN DEPARTMENT

The fundamental steps to ensure that your firm can overcome technology, regulatory and industry changes.

This research is particularly relevant for risk, investment, finance and technology people.

This paper is adapted from a presentation delivered by Cian O'Driscoll, Australia Country Manager at Financial Risk Solutions (FRS), for the IBR Conference's annual Unit Pricing Forum, in October 2022 in Sydney.

Financial Services Industry Challenges for Investment Administration

Over the past decade, the concepts of treating customers fairly and acting in customers' best interests have become key principles in regulating customer protection in the financial services industry globally. Unit pricing has come under the microscope in our businesses because it is a key mechanism of customer protection to ensure customers are treated fairly.

Unit pricing is possibly the most significant operational risk for super funds and the managed investments industry. All entities licenced by APRA and ASIC need to identify, monitor and manage the risks inherent in unit pricing. Managing this operational risk will require your systems to include controls, monitoring and reporting so that unit pricing errors are avoided or quickly identified.

There has been considerable media, industry, and regulatory attention on unit pricing errors, both in Australia and overseas. Some of the errors publicly reported have involved significant amounts of money and caused considerable reputational damage.

Documenting policies and procedures promotes efficiency and consistency and assists in managing this risk. Writing your policies and procedures will also help firms demonstrate, internally and to the regulators, that your approach is soundly based, appropriate, and critically maintains equity in unit pricing.

Your policies and procedures must include how to manage in changed circumstances – for example, changes in market conditions, legislation or strategic direction. They also need regular reviews.

Document Policies and Procedures

Promote Efficiency and Consistency

Manage Risk

Is there a disconnect between documented procedures and pratices being implemented?

Mind the Gap - Unit Pricing Challenges

Entities responsible for unit pricing will have risk management policies and varying levels of documented procedures in place for unit pricing. In many cases, though, there is a gap between the documented procedures and the systems trying to affect those documented procedures.

Anybody who has travelled on the underground tubes in London will be familiar with the staff who shout 'Mind the Gap' between the platform and the train as the doors open.

This paper will address how we can 'mind the gap' between an entity's documented unit pricing policies and the entity's unit pricing system implementation of those policies.

We will address the challenges faced by both those who outsource unit pricing and those who run the process in-house. As we all know, where unit pricing functions are outsourced, you remain responsible for the results.

Unit pricing processes need to be equitable as well as efficient, robust and reliable. While the concept of unit pricing may be considered straightforward, the practical management of unit pricing and the resolution of unit pricing errors is not.

Technology allows us to concentrate on prevention rather than cure.

Unit pricing is conceptually straightforward, but in reality, it involves significant operational risks. Short time frames, manual processes, high volumes of data, in some cases inadequate systems and the difficulty of error detection and remediation compound these risks.

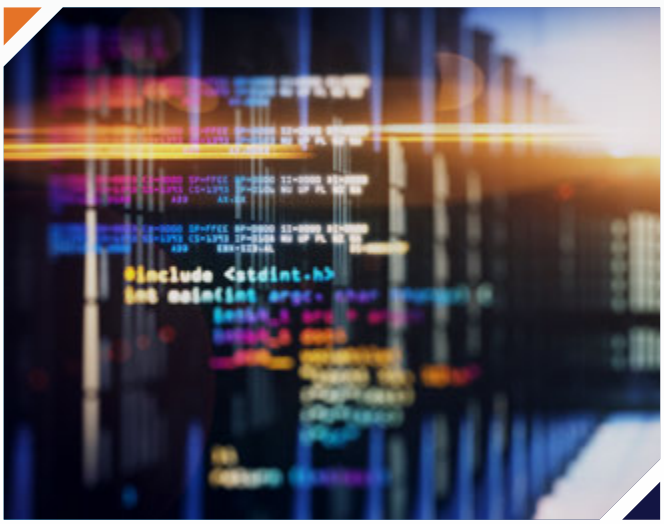
Often unit pricing processes are conducted in a silo and, at times, are not high profile within an organisation. It is not uncommon to find strong dependencies on one or two key people for unit pricing. The silo mentality can also be aggravated by having different steps in the process carried out by various outsourced organisations.

Best Approach

We believe good practices and procedures must be embedded into your unit pricing systems. Automated and exception-based systems ensure that robust checks and balances give effect to the documented policies and procedures and are consistently performed on all your unit prices daily. Too often, we have seen unit pricing errors occur as there has been a disconnect between the paper-based policy and the actual operational processes implemented in practice. We can't rely on good staff to constantly pick up all the potential issues that arise in the daily unit pricing process, particularly in volatile markets and rapidly changing environments. All these types of problems should be covered in both the entity's documented policies and procedures and given effect in the unit pricing system.

How do we embed these policies and procedures in unit pricing systems?

Many policies and procedures are required to maintain equity in unit pricing. The concept of equity in unit pricing is trying to ensure that those unit holders already in the fund are not affected by those unitholders who are entering or exiting the fund. The maintenance of equity in unit pricing is essential in not-for-profit entities, e.g. in a member-run super scheme, if an existing unitholder is paid based on a unit price that is too high, this effectively reduces the benefits for the remaining members as there is no shareholder to make good the error.



1. How procedures and automation reduces operational risk

I will discuss some of these procedures and give examples of how an automated system can embed these procedures in the daily unit pricing process to reduce operational risk.

- **How to determine the pricing basis, e.g. offer, mid or bid? Should we use dual pricing or single pricing? If single pricing, what rules apply to maintain equity?**

- **Is the basis changed depending on forecasted cashflows?**

Let's start by looking at how to manage large transactions in or out of a fund.

Large transactions in and out of a fund may cause the fund manager to buy or sell the fund's underlying investments, thereby attracting trading costs which should be borne by the incoming/exiting investors in that fund. Without appropriate controls, long-term unitholders in a fund could be adversely affected by other investors trading in and out of the fund. This effect is known as dilution.

A swing pricing mechanism can reduce dilution and protect current unit holders. It aims to ensure that investors subscribing to or redeeming from a fund bear the trading costs associated with their transactions, i.e. the underlying spreads and transaction costs.

The fund's policies and procedures will outline how the pricing basis should manage the dilution risk. Still, the unit pricing system will need to be programmed to give effect to these procedures, e.g. the system will alert the user that an inflow/outflow of, say 5% of the fund value is forecast and then alert the user that the unit pricing basis will be automatically switched to avoid this dilution. It should not be up to the end user to identify a large inflow/outflow or to make a decision about the pricing basis based on the size of the inflow/outflow size. The unit pricing system should be configured to recognise such a flow and take whatever action is specified in the process documentation.

2. Best Practice

If the pricing policy states that the unit pricing basis should move to an offer basis if net inflows exceed a pre-determined threshold percentage of the fund's value or a bid basis if net outflows exceed the threshold percentage, then the unit pricing system should be configured to implement this policy automatically.

Suppose net dealing does not exceed the threshold the following day and swing pricing is not activated. In that case, the unit pricing system should automatically revert to the mid-pricing basis (assuming that is the fund's documented policy).

Furthermore, the unit pricing system should record why the pricing basis changed and why it changed back for future audit purposes.

I've only looked at the situation of a large transaction in a single fund. If this large transaction happens in a fund-of-funds structure, which is the case for most super funds, we add another layer of complexity to the unit pricing process. This relates to how to decide the basis for unit pricing at the member option level where there are large inflows/outflows in the funds in which the option fund is invested. Given the added complexity in the Fund of Fund (FoF) structure, it is even more critical that the policies agreed upon by the board are configured in the system, and we are not relying on the users to try to implement these policies manually.

There is a more general point about large transactions relating to fund mergers. If we look at a situation where fund A is being merged with fund B, there are two approaches.

In the first approach, Fund A could transfer its existing asset holdings into fund B, and the fund A unit-holders would then get several units in fund B equal in value to those in Fund A.

In the second approach, the assets of Fund A are sold to realise cash and the cash is invested in fund B. In this approach, assets will be sold at bid prices less transaction costs and repurchased at offer prices plus transaction costs. Hence there is a cost in transferring the assets from fund A to fund B. The question is, who should bear these costs?

In a for-profit fund, these should be borne by the fund promoters as the promoter will benefit from the economy of scale resulting from the merger. In a not-for-profit fund, the costs could be borne by the unit holders of fund A, fund B or some combination of both. There is no easy answer in this case.

Are we always pricing on a forward pricing basis? How are backdated transactions managed, and who bears the cost?

A fundamental requirement to maintain equity in unit pricing is that all transactions with the fund are on a forward pricing basis. If this principle is not followed, incoming and exiting unit holders can select against the continuing unit holders, e.g. if an incoming unit holder sees that the market is rising and they can transact at the last unit price, they are effectively being subsidised by the continuing unit holders who must buy the underlying assets in the market at higher prices.

A basic check which should be performed by the unit pricing system here would be that the number of units created in the fund multiplied by the latest unit price should match the cash flow into the fund. If this is not the case, then the existing unitholders are subsidising (or being subsidised) by the incoming unitholders. The unit pricing system should record these instances so that management, auditors and regulators can review the extent of any cross-subsidies. These cross-subsidies may result from backdated transactions on the member admin systems and could indicate processing difficulties there.

Cross-Subsidies?

We could spend a lot of time discussing the controls that should be configured in a unit pricing system to manage tax issues. One control which has been missed many times in the UK market and has caused significant unit pricing errors is where the fund has large realised and unrealised losses, and it is giving full value for these losses in unit pricing. The fund has a tax asset rather than a tax liability. In some circumstances, the fund will not realise the value of the tax asset.

An essential control here would be to configure the unit pricing system to immediately flag to a user that the tax asset exceeds a set % of the fund NAV. A further control may be to limit the maximum value of the tax asset as a % of the fund NAV. Again we shouldn't be relying on vigilant users to spot these issues, as the value of a tax asset can creep up over time.

Tax Losses?

Another area where strong system controls are required is the Valuation of illiquid assets, e.g. property, and infrastructure, particularly when interest rates are rising globally and asset values have fallen in recent months. What should we do to maintain equity in a fund with a significant holding of illiquid assets when unit holders wish to switch out of the fund to a cash/bond fund? This has been a big problem in the UK in the past few weeks. Pension funds were desperately seeking cash to meet collateral calls on their derivatives due to significant interest rate movements following the finance minister's 'mini budget'.

We could close the whole fund and defer transactions until the market stabilises, or the fund can sell some of the illiquid assets. Alternatively, we could split the fund into two funds, one holding the illiquid assets and one holding the liquid assets and then close the illiquid asset fund. Unitholders would be allowed sell out of the liquid asset fund only. This second solution is essentially what happened in Europe after Russia invaded Ukraine, and it was impossible to value any Russian assets in a fund. The system should flag to a user when a fund holds a specified % of illiquid assets.

The system should flag 'significant' outflows from a fund with a specified % of illiquid holdings so that the user can decide whether it is appropriate to proceed with one of the above approaches. Again we shouldn't expect the user to be able to monitor these issues daily particularly given the time constraints they are working to.

- **Preventing fund gearing due to cash holdings in a fund. Gearing can occur on the fund when too much cash remains uninvested. Where the fund is holding cash, the system should automatically notify you when cash exceeds x% of the fund value.**

Automated Checks and Balances

Managing complex time-dependent processes requires an automated system where the controls to manage equity issues are built into the system. Countless spreadsheets must be created to do these checks manually, and endless hours are spent on daily calculations. Due to the likelihood of human error, this method is time-consuming and potentially leads to inaccurate results.

It is essential to have a framework of easy-to-use rules and validations which allows the unit pricing system to be configured to implement the board's documented policies and procedures. As your requirements change, new products are added, or more complex data validations are required, you can easily add them in line with your policies and procedures.

Some of these controls will only arise infrequently, so it's essential that the system will flag them when they happen, e.g., the value of tax losses exceeds 20% of the fund NAV.

Over time as more validations are added to the system, these 'black swan' events will be easily highlighted with an 'always on and always watching framework'. Without such a framework, unit pricing errors will slip through the cracks.

Always on and always watching framework

Importantly, the control rules and exception data validations should automatically trigger daily across all funds. A simple example of a rule is a check that the change in unit price less the difference in the fund benchmark between today and yesterday does not exceed, say, 10 basis points.

When an exception occurs, in the above example, the difference exceeds ten basis points, an alert is generated on the system. An administrator will be required to investigate and resolve these issues. This exception-based approach allows reviewers to concentrate and focus on potential exceptions and not get side-tracked reviewing 'good' data.

The control rules and exceptions framework offers several advantages over human decision-making and spreadsheets:

- Rules can check large complex datasets across all your funds daily or as required
- Decisions are rendered quickly and consistently through automation
- An electronic audit trail of every alert is generated, who actioned the rule, along with the reasoning and issue resolution
- Rules can be altered through configuration easily; changes are automatically applied across all components using the rule

Operational Alpha and Peer Review

Client Type	Staff Count (FTE)	Multi Asset Funds	Fund of Funds	Mirror Funds	Individual Accounts	Funds per FTE
Pensions Fund Admin	6		6,000	1,000	800	1,300
Third Party Administrator - Life Funds	5		9,000			1,800
Life and Pensions Organization	3	150	2,500			716
Wealth Manager / International Life Co	4		350	150	11,000	2,875

The accepted adage is that people focus on what they measure. This is true for FRS and we regularly measure the volume of funds our clients administer and the number of staff in the fund admin team. A sample of the results of this analysis from a recent user conference is above.

This scorecard not only helps us stay focused on ensuring real-world operational efficiency for our clients, but it also gives us a lens through which to analyse or measure every modification and enhancement to the system.

You are looking at real statistics from key FRS clients using InvestPro. The FTE (full time equivalents) numbers are for the entire operations team, including reconciliation. The last column shows funds valued and priced per FTE. These are the real benefits being experienced by our clients today.

The key reason why an FTE can manage over a thousand funds every day is that the controls to implement unit pricing policies are built into the system. The user is only alerted if one of the controls is breached and otherwise does not need to review the fund output.

In summary, we all need to 'mind the gap' between documented policies and procedures and the actual implementation of those policies and procedures.

Finally, to close that gap you need to have controls built into your unit pricing system that can implement these policies and alert a user if guidelines are breached. The function of the unit pricing team should be to manage the exceptions and alerts identified by the system and not to spend their time looking for exceptions and alerts.

Who we are

FRS is a valued and trusted partner with over 24 years of experience implementing fund administration software. FRS was founded in 1999 by actuaries and IT specialists. We specialise in fund administration and investment accounting, including Unit Pricing software.

How can FRS help?

If you are planning an investment administration project then please reach out to Financial Risk Solutions (FRS).

We are technology partners to life assurance, wealth, and asset management firms worldwide.

Our clients license FRS software to help navigate the ever-changing challenges of growth, regulatory pressures, and competition in the industry. More than 150,000 funds are administered on our software InvestPro, every day.

About Financial Risk Solutions Ltd (FRS)

With over 24 years delivering Investment Administration software, Financial Risk Solutions Ltd (FRS) is a trusted technology partner to life assurance, wealth and asset management firms worldwide. Led by an expert team of actuaries, compliance and IT specialists, clients license FRS software to help navigate the ever-changing challenges of growth, regulatory pressures and competition in the industry.

The award-winning* InvestPro™ platform is relied on by blue-chip financial services and BPO clients to reduce operational costs, increase efficiencies and mitigate risk in the manufacture and management of investment products. More than 150,000 funds are managed on the Invest|Pro™ platform today.

Delivered cloud-hosted or on-premise, Invest|Pro™ securely automates multiple complex fund administration processes including unit-pricing, cash allocation and rebalancing; oversight and validation of operational activity performed by outsourced partners; and in Europe monitoring and reporting for PRIIPs, KID requirements, and Pillar III asset reporting for Solvency II.

FRS is part of the Constellation Software Inc. group and headquartered in Dublin, Ireland, with offices in London, Hong Kong and Sydney.

For more information visit frsltd.com or follow FRS on LinkedIn at www.linkedin.com/company/frs-ltd

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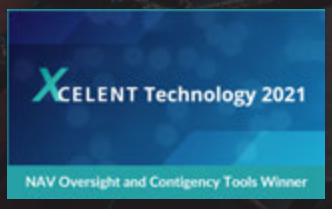
2021 - Xcellent Technology Award 2021 • 2020 - GRC Product of the Year - Asia Risk.Net Awards • 2020 - Pensions Technology Provider of the Year - Irish Pensions Awards • 2020 - Best Back Office Solution - FundTech Awards 2020 • 2019 - Best Solvency II Tech Solution - Insurance Asset Management Awards



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