



**SINGAPORE ACTUARIAL
CONFERENCE 2023**

The View from the Other Side: Actuary - CFO

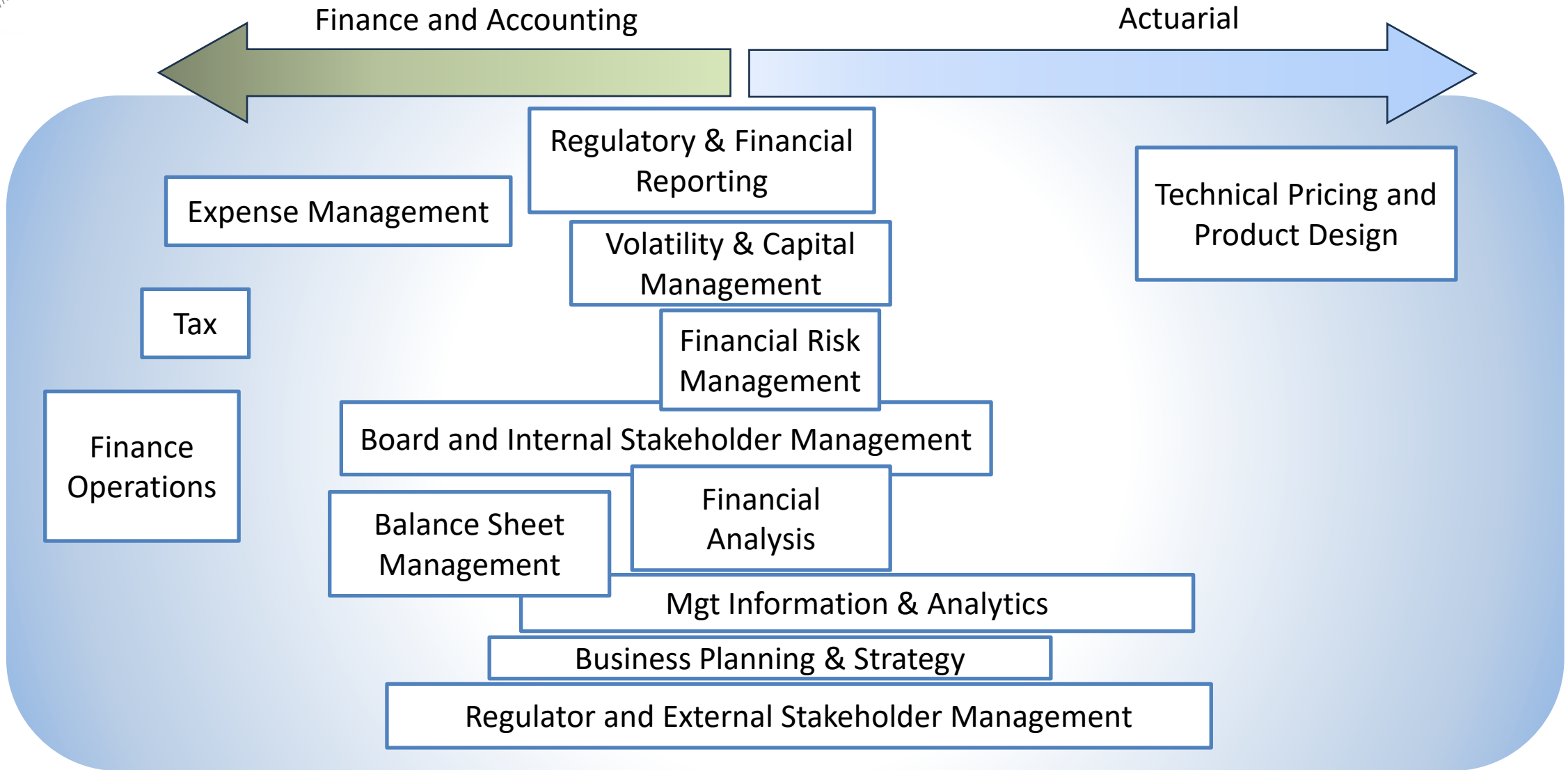
Sands Expo and Convention Centre

26 September 2023

A Brief Chronology

Year	
2006 – 2011	Commenced actuarial study. 5yrs GI consulting in Australia with Finity Consulting.
2011 – 2014	Regional reserving with AXA Asia
2014 – 2019	Double-hat: Actuary and CFO for AXA Corporate Solutions, Singapore Branch.
2019 – Present	CFO with QBE Singapore

Substantial intersection of roles & responsibilities



However perspectives are different in meaningful ways

1. UNCERTAINTY

Actuary	Accountant
<p>Comfortable with variability and aware that the best number is almost never the true number.</p> <p>Most insurance metrics understood as random variables, not as 'facts'.</p> <p>** Sometimes we can get a little too comfortable if we are regularly using poor quality data: <i>"..it's the best we've got, therefore it's good enough..."</i></p>	<p>Accounting rules do not incorporate concepts of variability.</p> <p>An accounting number is deemed to be either correct or incorrect. Even complex values such as risk adjustments / margins.</p> <p>A reconciliation error of \$1 is a problem, even if the value has a plausible range of \pm \$10m.</p>

However perspectives are different in meaningful ways

2. ATTRIBUTION OF EVENTS TO TIME PERIODS

Actuary	Accountant
Updated routinely and may not settle on the 'true' result until long after the end of the period.	Once an accounting period is closed it is considered 'actual' and does not change.

Example: Attribution of Activity to Accounting Periods

GWP: notionally the simplest concept in General Insurance!

1. Pseudo-rigorous formulation of accounting GWP for month m

$$GWP_{[m|a]} = GWP_{[m]} + \Delta GWP_{[m|uc]} + \sum_{i=1}^t a_i GWP_{[m-i]} + \sum_{j=1}^s b_j GWP_{[m+j]}$$

m : reference month / period

a : denotes accounting view

uc : unclosed business

a_i & b_j : coefficients (usually < 1)

t : number of time units of m since first policy inception

s : number of time units of m until human apocalypse

2. Lagrangian formulation of the standard model of particle physics (so far not incorporating gravity)

$$\begin{aligned} \mathcal{L} = & -\frac{1}{4} F_{\mu\nu} F^{\mu\nu} \\ & + i\bar{\Psi} \not{D}\psi \\ & + D_{\mu}\Phi^{\dagger} D^{\mu}\Phi - V(\Phi) \\ & + \bar{\Psi}_L \hat{Y} \Phi \Psi_R + h.c. \end{aligned}$$

Easy!

However perspectives are different in meaningful ways

3. USE OF FINANCIAL CONCEPTS

Actuary	Accountant
Uses economic “meaning” to work with financial concepts. Will adapt analysis depending on its purpose.	Reliant on correct application of a well-defined process to implement financial concepts.

Example: Use of Financial Concepts

Bonds Classified as Buy-to-Hold (not Available-for-Sale)

Coupon Bond
Equation of Value:

$$PV = \left[\sum_{t=1}^n c(1+i)^{-t} \right] + FV(1+i)^{-n}$$

Term	Financial Interpretation	Accounting Interpretation
n	Number of coupons to maturity.	Number of “interest payments” on the bond.
c	Coupon value: represents cashflow per period.	“Interest” payments on the bond.
i	Interest Rate: The yield at which cashflows are discounted.	Not explicitly part of the accounting – implicit only in the purchase price of the bond.
FV	Face Value: Part of the final cashflow at maturity.	Often referred to as the “value” of the bond.
PV	Present Value of cashflows: the market value of the bond. Changes in yield during the life of the bond affect net income.	Not Defined: changes in yield during the life of the bond do not affect net income.
Book Value	Not Defined.	FV + amortised Discount / Premium (= Δ FV & Purchase Price).

Some Consequences:

Bonds contribute realised capital gains and losses to investment income even when held to maturity.

Bond accounting induces an ALM mismatch on FRS balance sheets. *(I’m afraid all that work on illiquidity premia may be a little academic.)*

“Some people understand Finance, and some people understand Financial Accounting. Few understand both.”

P.Martelly

What has the experience taught me?

1. Importance of understanding other professional perspectives, and how they evolved
 - Different purposes – different approaches: its not about right and wrong
2. Healthy scepticism about the use of financial metrics
 - And loss ratio valuation methods
3. Central importance of Actuarial understanding / analysis to good governance
 - Judgement required about when to assert the importance of a technical / actuarial view

An ordinary CFO manages the accounts; a good CFO drives the business.



Thank You

Email: andrew.mcgrath@qbe.com

