WORKSHEETS

A Corporate Pension Finance Handbook

A practical overview for Treasurers, CFOs and CIOs

Worksheets from the Fourth edition

Pension plans and the corporations that sponsor them have faced significant headwinds over the last decade. With the Global Financial Crisis and subsequent decline in discount rates, funded status has dipped and stagnated.

While the challenge is great, practical solutions do exist. That’s why we are pleased to continue this booklet designed and maintained by pension investment actuaries that understand these challenges. We have set out to show plan sponsors how to:

- navigate pension liabilities in the face of Pension Protection Act (PPA) requirements and ongoing funding relief,
- understand the impact of defined benefit (DB) plan closure or freezing,
- see how interest rate volatility impacts the plan, and
- determine the effectiveness of various strategies.

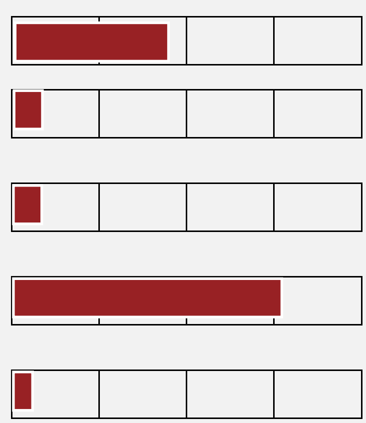
We can’t make the markets less volatile, regulations fewer, or interest rates friendlier. But we have distilled the issues to a series of clear trade-offs and some key principles to bear in mind as you manage your company’s pension.

A comparison of key corporate pension statistics

Put the pension plan…		
Your corporation's pension liability	(a)	________
Shortfall of assets below liabilities	(b)	________
Pension expense	(c)	________
Service cost	(d)	________

...alongside the corporation		
Your corporation's market capitalization	(v)	________
Cash flow from operations	(w)	________
Net income	(x)	________
Revenue	(y)	________
Shareholders' equity	(z)	________

Some key ratios			**Median values***
Pension liability to market capitalization	(a) / (v)	___________	9.3%
Pension shortfall to market capitalization	(b) / (v)	___________	1.4%
Pension expense to net income	(c) / (x)	___________	1.4%
Pension shortfall to cash flow from operations	(b) / (w)	___________	15.2%
Service cost to pension liability	(d) / (a)	___________	1.1%



* For Russell 3000® Index corporations, based on 2018 10-K filings, worldwide pension assets and liabilities.

This comparison is even more useful when it is made to other companies in the same industry rather than to the whole of the Russell 3000® Index.

From "Section 1 – The pension plan and the corporation", pages 4-5

Volatility of corporate cash contributions

Year	The $20 bn club made combined total contributions of	Your corporation's Cash contributions
2007	$13.2 bn	________________
2008	$11.8 bn	________________
2009	$26.1 bn	________________
2010	$26.6 bn	________________
2011	$25.4 bn	________________
2012	$30.7 bn	________________
2013	$27.7 bn	________________
2014	$17.7 bn	________________
2015	$13.0 bn	________________
2016	$18.6 bn	________________
2017	$37.5 bn	________________
2018	$28.1 bn	________________
2019	$11.9 bn	________________
2020*	$13.9 bn	________________

The $20 Billion Club is the 20 U.S.-listed corporations with the largest worldwide pension liabilities. They represent about 40% of the total pension assets and liabilities on all U.S. corporate balance sheets, so are a useful indicator of what is happening across all DB plans.

* Expected contribution in 2020. This expectation was, in some cases, expressed as a minimum so the actual total may well be higher.

Source for all figures on this page, corporate 10-K filings and Russell Investments.

From “Section 1 – The pension plan and the corporation”, page 15

Adjusting pension expense

Example			Your corporation

Unadjusted net periodic benefit cost calculation

Service cost	25	(a)	________________
Interest cost	65	(b)	________________
Expected return on assets	(80)	(c)	________________
Amortizations	15	(d)	________________
Other	0	(e)	________________
Total (a) + (b) + (c) + (d) + (e)	25	(f)	________________

Adjusted net periodic benefit cost calculation

Projected Benefit Obligation (PBO) at start of year	1000	(g)	________________
PBO at end of year	1090	(h)	________________
Assets at start of year	850	(i)	________________
Assets at end of year	800	(j)	________________
Employer contributions	50	(k)	________________
Total (h) - (g) + (i) - (j) + (k)	190	(l)	________________

Effect on earnings

Reported net income	750	(m)	________________
Adjusted expense	190	(n)	________________
Reported expense	25	(o)	________________
Increase (after tax at 21%)	130	(p)	________________
Adjusted net income (m) - (p)	620	(q)	________________

From “Section 1 – The pension plan and the corporation”, page 25

The Pension Benefit Guaranty Corporation—a safety net(?)

The PBGC takes over the assets and liabilities of plans whose sponsoring companies fail.

It is funded by premiums paid by private corporations with DB plans.

The single employer plan premium payable in 2020 is the sum of:

- A per-participant premium of $83
- A variable rate premium of $45 per $1,000 of plan shortfall (i.e., unfunded vested benefits)
  The variable rate premium is capped at $561 per participant.

Number of participants	______________	x $83 =	______________
Unfunded vested benefits	______________	x $45 / 1,000 =	______________
		TOTAL 2020 Premium	______________

Example:

A plan with 2,000 members and a $10 million funding shortfall would pay $616,000 in 2020.

Note that funding relief has not affected the calculation of unfunded vested benefits for the purposes of PBGC premium calculations.

From "Section 1 – The pension plan and the corporation", pages 28-33

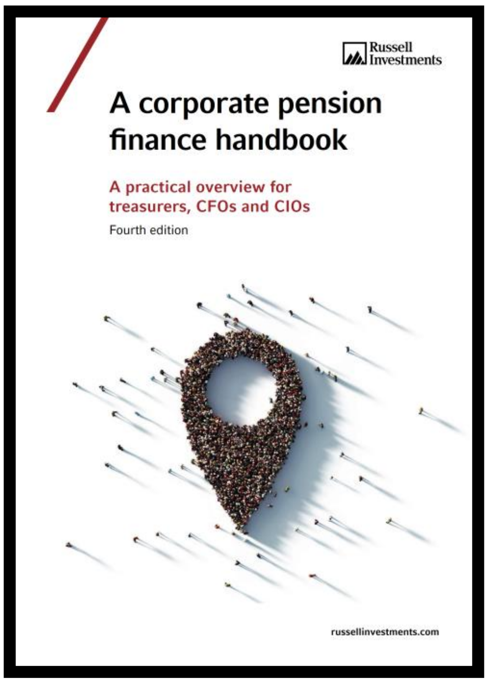
Asset allocation policy

	Your policy	Average allocation (The $20 billion club)	Range of allocation (The $20 billion club)
Equity	____________	30%	6 – 63%
Fixed income	____________	49%	29 – 84%
Other	____________	18%	0 – 33%
Cash	____________	3%	0 – 10%

Field (2019) "$20 billion club loads up on fixed income as DB funded status improves"

From "Section 2 – Pension plan basics", page 44

If you do not have “A Corporate Pension Finance Handbook,” please request a complimentary copy.



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