

The Ambachtsheer Letter

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PENSIONS AS EMBEDDED OPTIONS:

A CASE OF CURIOUS CONTRACTS

“...DB pensions, which emerged in a different era, are not fair risk-sharing systems...favoring some groups in wealth or risk terms, while disadvantaging others...”

from “Curious Contracts”
a book by Theo Kocken
based on his PhD thesis

A Curious Mission

We returned home just before Christmas from a curious mission. It was to fly to Amsterdam and participate in a PhD thesis defense as a member of a panel of expert inquisitors. Both the PhD candidate and his thesis title were a bit curious too. Theo Kocken parachuted into the pensions world in 2000 after a successful investment banking career by founding Cardano Risk Management, which advises insurance companies and pension funds on the use of derivatives in their strategic risk management activities. His thesis title “Curious Contracts” stems from his observation that DB pension plans are complex contracts with embedded options between a web of participants, ranging from current pensioners, people with deferred pensions, active workers, employers, to their yet unborn future counterparts.

If you feel a bit uneasy with the description of DB pension plans as ‘complex contracts with embedded options’, you are in good company. This author too is from the pre-Black-Scholes generation. Yet, the ‘complex contract’ reality cannot be ignored. Indeed, the ignorance of this reality has been a primary contributor to the financial mess many DB plans find themselves in today. So if you would really like to under-

stand the complexity of DB pension arrangements, join us on a journey into ‘complex contracts with embedded options’ land. We promise a safe journey that will leave the reader, if none the wiser, then surely better informed about the curious contracts that are DB pension plans. This better understanding cannot help but lead to better decision-making about DB plan risk and investment policies, going forward from here.

Table 3 Estimated Option Values (*) for Different Initial Funded Ratios

Initial Funded Ratio	70%	100%	130%
Default Option Value	3%	3%	2%
Employer Guarantee Value	44%	18%	6%
Conditional Indexation Value	13%	11%	5%
Employer Share of Plan Equity	72%	55%	47%
Participant Share of Plan Equity	26%	45%	53%

(*) Percentages of initial liability value

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416.925.7525 www.kpa-advisory.com