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Book and financial articles author:

- "Company Diagnosis - Performance, Intangible assets & Risk" - Editions Ellipses 2021
- "Defined Benefits Pension Schemes in the UK - Asset & Liability Management" - Oxford University Press 2016

Club Finance HEC Member

FUNDING RATIO OF UK DB SCHEMES CLOSE TO 108 %!

Q/ As a quick reminder, what is a DB scheme?

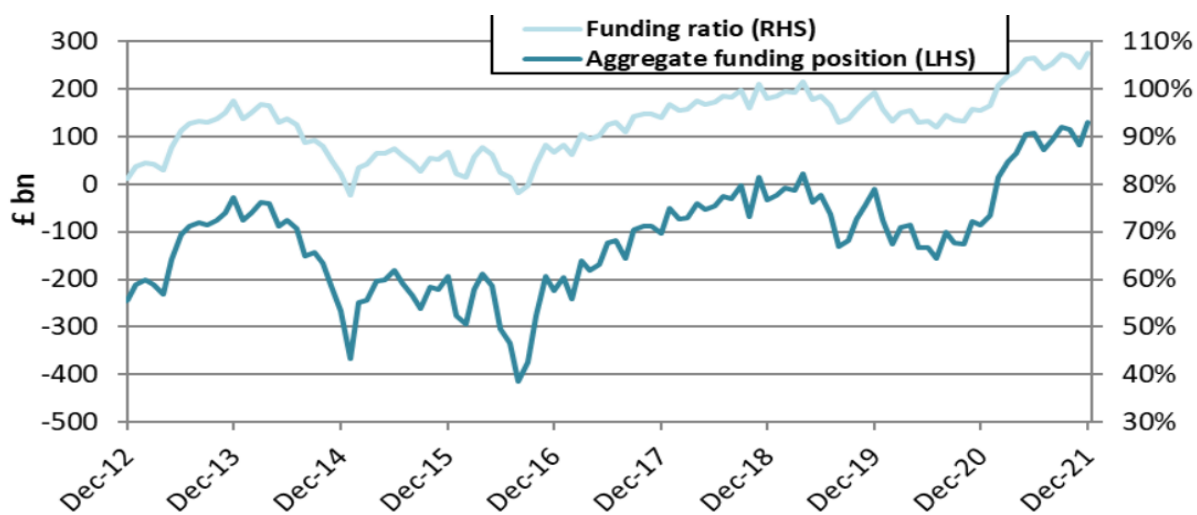
A Defined Benefit pension scheme (DB) is a type of pension plan set up by a sponsor (a corporate or a government) that pays a specified monthly benefit on retirement to employees. The amount is pre-defined by a formula usually based on employees' salary, length of service and age of retirement and paid as long as the employee is alive. Under this agreement, employees get paid a defined amount of pension at retirement. The members are: active, deferred and pensioner members.

Contributions can be made by the employee, the employer, or both. Contributions are invested to generate returns to decrease the cost of the benefits to the company.

The sponsor (employer) bears the investment risk: if there is a funding shortfall, the employer has to dip into the company's earnings to compensate.

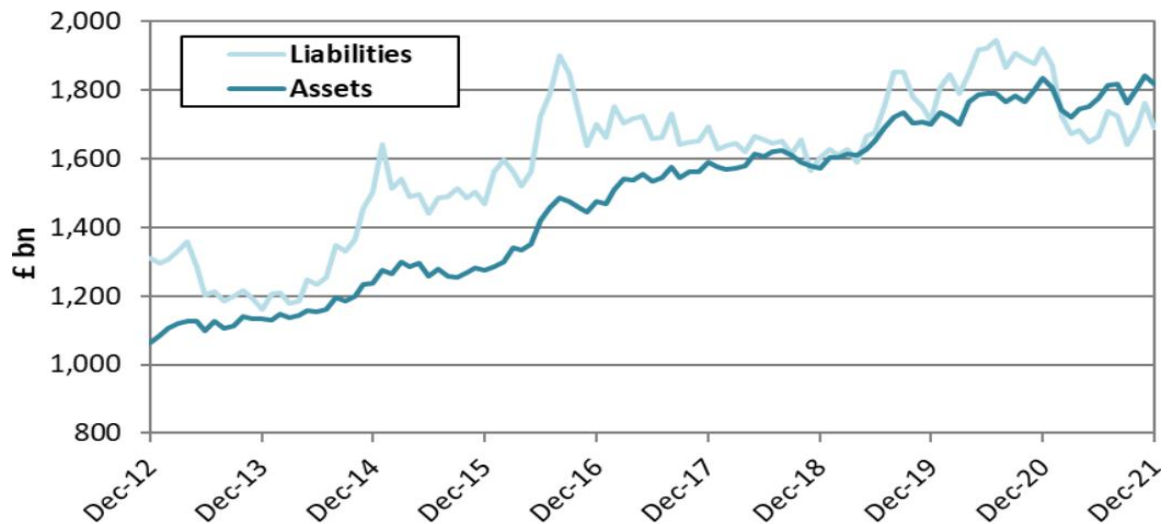
Q/ How did UK DB schemes behave since December 2020?

The funding ratio (Assets / Liabilities) of the 5215 DB schemes in the UK increased from 95.5% in December 2020 to c.108% in December 2021 (s179 basis). The aggregate surplus is estimated to have increased to £129.3 billion at the end of December 2021 from a deficit of c. £86.0 bn at the end of December 2020.



Q/ What is the amount of Assets and Liabilities of the DB scheme universe?

Total assets were £1,818.0 billion and total liabilities were £1,688.7 billion at the end of December 2021. As a quick reminder, the total assets decrease of 0.9 per cent and total scheme liabilities decreased of 12.1 per cent since December 2020.



Q/ What are the funding comparisons?

UK DB Schemes	Dec-20	Dec-21
Number of DB schemes	5318	5215
Aggregate funding position (£bn)	c. -86	c. 129
Funding ratio (%)	95.5	107.7
Aggregate assets (£bn)	1834	1818
Aggregate liabilities (£bn)	c. 1920	1689

Q/ What are the main factors of performance and risk of DB schemes?

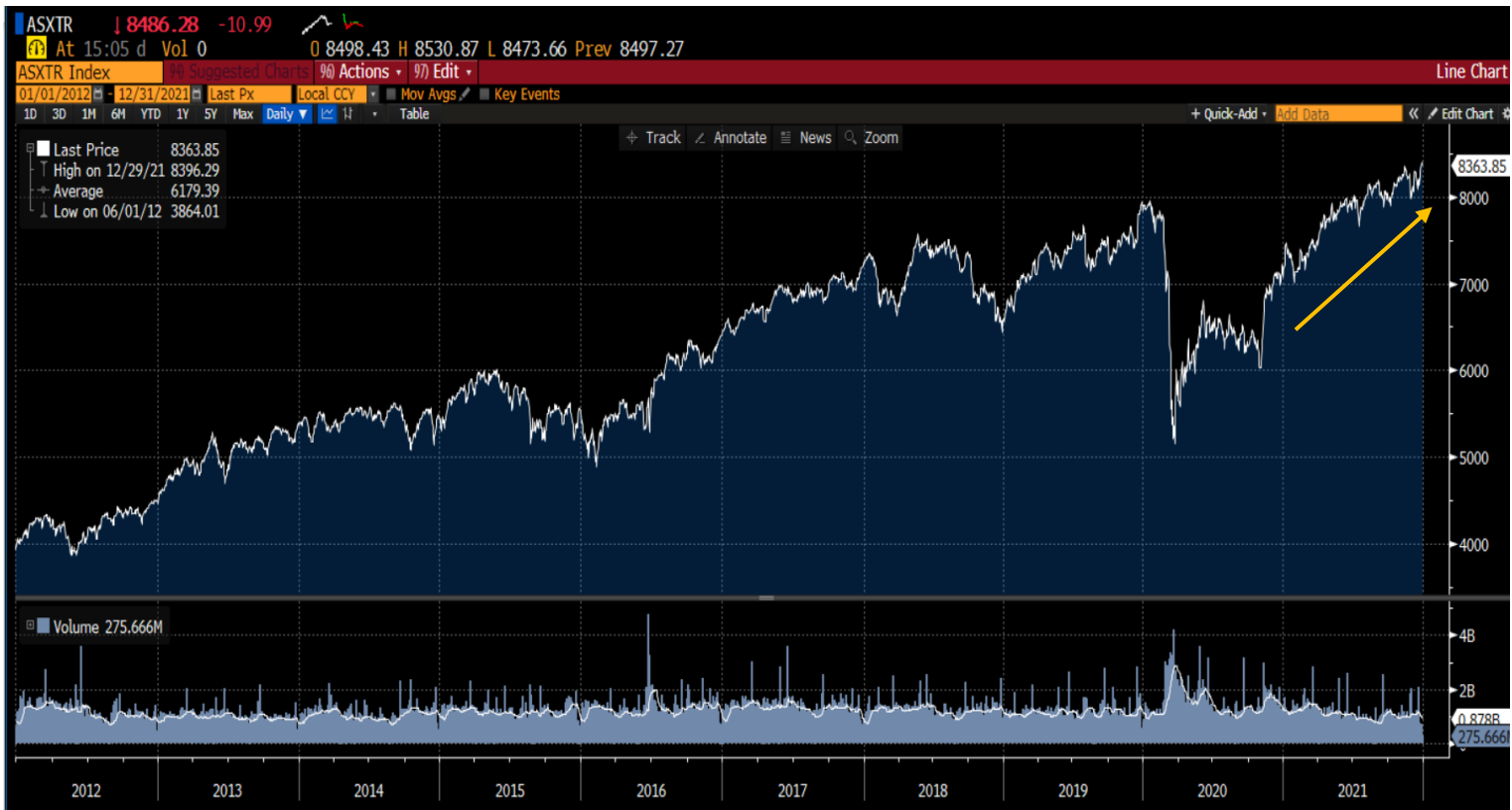
On the asset side, the funding ratio is sensitive to the change in prices of all asset classes and mainly to equity markets, nominal and Index-linked gilts government and credit bonds with 15 to 20 years' maturities. Consequently, the way the risk allocations is build, has a big impact.

The liabilities are the cash paid to pensioners; they can be compared to zero coupon cash flows and in our case, calculated with a discounted 179 Section methodology which is broadly what an insurance would pay to take of Pension Protection Fund levels of compensation. If nominal and real yields decrease, the present value of the cash flows increase. Liabilities are time-sensitive too.

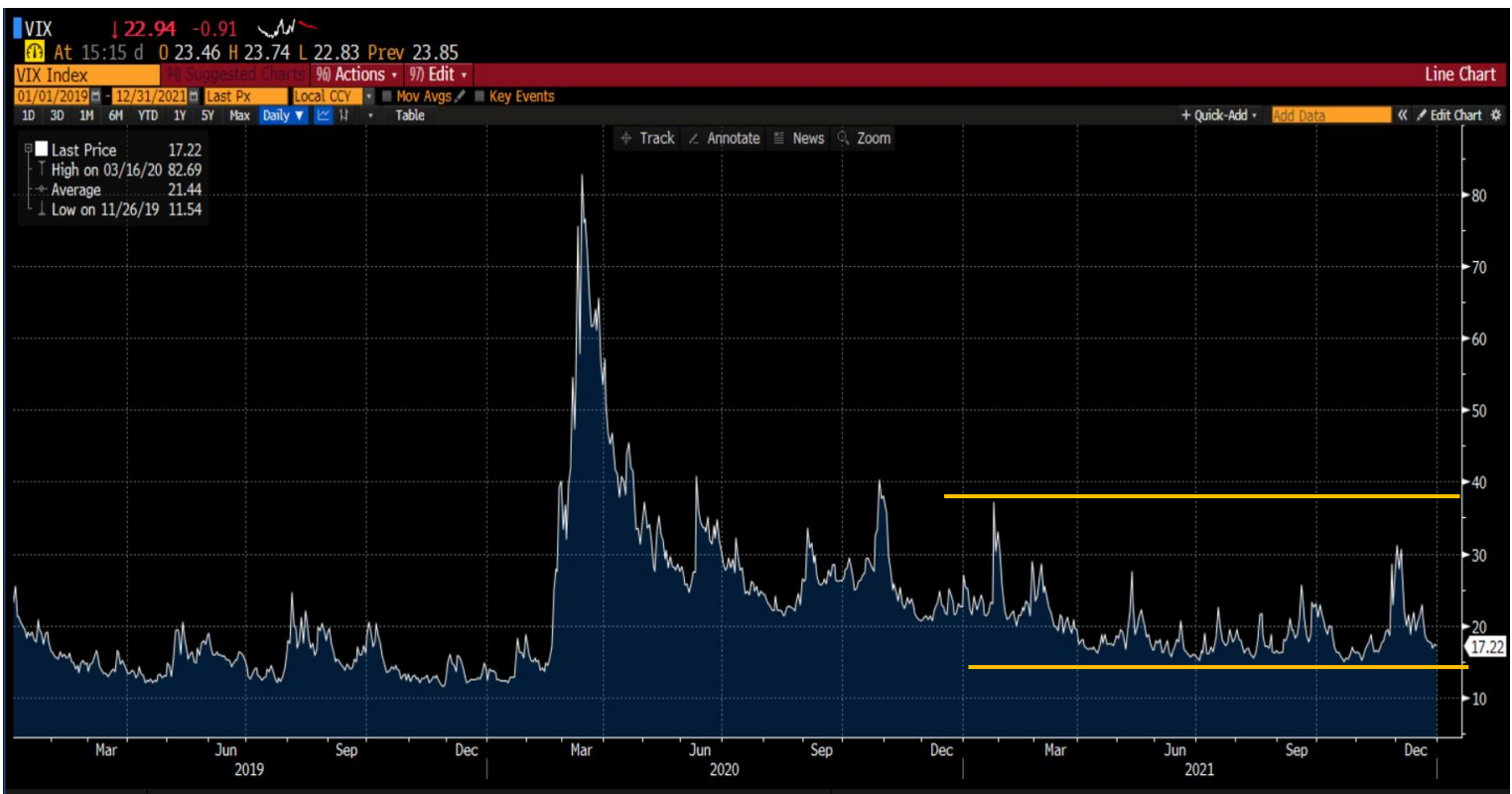
Q/ What were the market movements on equity and bonds in 2021?

Variation over the Year 2021	
s179 Liabilities (%)	-12.1
Assets (%)	-0.9
Factors of Performance and Risk	
Equity (%)	
FT All-Share Total Return Index (%)	18.3
Nominal Bonds : Gilts	
20-year fixed interest Gilt yield (bps)	60
Inflation / Index-Linked Bonds : Gilts	
5-15 year Index-Linked Gilt yield (bps)	7

The funding ratio improved thanks to the performance of the equity markets in 2021 (Cf. FTSE All-Shares Total Return Index graph below: +18%)...



...in a pretty high volatile market (Cf. VIX index (*) graph below Low: 15% / High: 37%)...



...and an **increase of nominal fixed interest rates** (Cf. **20 years Nominal Gilt graph below: + 60bps**) which was much more important than the increase of **breakeven inflation during this 2021 period (+7bps)**.



Conclusion

A funding ratio close to an historical 108% should lead CIOs of the 3063 DB schemes in surplus, LDi managers and other decision makers to reduce their risk tolerance by narrowing the bands of the corridor of variations of the funding ratio (e.g. volatility). In other words, as the funding ratio improves, take less risk!

The current step is to take actions to de risk ALM structures e.g., to decrease duration ALM mismatches and modify risk allocations on the asset side i.e., by selling risky assets and on the liability side, to deleverage hedging investments.

(* **VIX Index**: financial benchmark designed to be an up-to-the minute of the expected volatility of the S&P500 Index and is calculated by using the midpoint of real-time S&P500 option bid/ask quotes.

Biographie

Philippe-Nicolas Marcaillou a une expérience de plus de 25 ans en Finance de marché, d'entreprise, investissement et structuration de dettes, acquise en France, au Royaume-Uni et aux Etats Unis, à des postes de responsabilités en banque d'investissement, fonds de pension et directions financières de groupes industriels du CAC40. Philippe-N. est Managing Director au sein des marchés de capitaux de BRED - Groupe BPCE. Auteur de publications, il a été reconnu pour son livre "Defined Benefit Pension Schemes" (Oxford University Press) et pour son récent ouvrage "Diagnostic d'Entreprise. Performance, Capital immatériel et Risques" (Editions Ellipses). Titulaire d'un Master en Corporate Finance du Conservatoire National des Arts et Métiers (CNAM) et d'un MBA (ESLSCA Business School), il a rédigé une thèse de Doctorat (CNAM) en Finance sur "l'optimisation de l'Actif / Passif de Fonds de Pension". Il est INSEAD Alumnus et membre d'associations et clubs de professionnels en Finance.