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Bond duration: a pedagogic illustration.

Spreadsheets Educ. 5, No. 3, 34 p., electronic only (2012).

Summary: In view of the importance of reliable duration measures for bond immunization strategies, this paper considers, from a pedagogic perspective, the duration concept. Both a basic bond model and a more realistic bond model, which accounts for the accrued interest, are considered. The use of graphical features and scrollbars in Microsoft Excel allows the duration concept to be delivered via an interactive approach. This paper also addresses an unresolved issue on bond duration. Specifically, it explains why a saw-toothed time pattern of traditionally-defined duration exists and provides a corrective measure, which is easy to implement on Excel. Analytical materials pertaining to bond duration, as well as illustrative examples based on actual bond quotation data, are provided.

Classification: M35 U75

Keywords: university teaching; financial mathematics; economics; bond duration; spreadsheets; accrued interest; duration measures; basic bond model; parameters in bond valuation; coupon; yield; maturity; duration measures; saw-toothed time pattern; duration functions; Macaulay's duration; modified duration; weighted average of arrival times of cash flows from a bond investment

<http://epublications.bond.edu.au/ejsie/vol5/iss3/1/>