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Partial Durations: The Case of Fixed and Floating Rate Bonds

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Floating rate bonds are coupon-paying instruments generally indexed to interest parameters. At the trading date, the payment dates and indexation rules are known, while the value of future coupons is uncertain. In this perspective, floating rate bonds are generally seen as a portfolio of zero coupon bonds. Therefore, at each coupon payment date, the bond should be quoted at face value and its duration should match the maturity of the replicating zero coupon bond. However, the empirical evidence based on historical prices of real floating rate bonds shows that such an instrument is not systematically quoted at parity and its market risk profile could differ from that of the replicating zero coupon bond. The aim of this work is to study the duration of a floating rate bond using a partial modified duration approach after decomposing the floating rate bond into its main building blocks. The final goal is to capture the effective risk factors of these instruments in real financial markets in order to define synthetic risk measures that should be able to reflect the instrument's effective risk profile.

Keywords: Government bonds, fixed rate bond, floating rate bond, indexation, financial contagion, interest rate risk, credit risk, liquidity risk, risk hedging, duration, partial duration, sensitivity, stress analysis.

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