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Approximating the Money-Weighted Rate of Return

We develop a closed-form approximation to the so-called money-weighted rate of return (MWRR). The approximation is general in the sense that (i) it allows for contributions of varying sizes made at irregularly-spaced times (including both discrete and continuous contributions), (ii) it allows the composition of the underlying portfolio (as manifested through the mean and standard deviation of its instantaneous return) to vary through time and (iii) it does not make any specific assumptions on the stochastic dynamics of the underlying portfolio return. The approximation facilitates insights into a complicated object, which in turn allows us to explain and/or resolve findings elsewhere in the literature.

This is joint work with A. Metzler, M. Lau and D. Polegato.