

Time Value of Risk: Value Treatment of Negative Risky Cash Flows

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How do negative cash flows get treated in daily practice of capital budgeting and business valuation? Run-off-the-mill approach takes both positive and negative cash flows and treats them equally, with a uniform discount rate. However, is this correct and do we really want to reduce the present value of risky future commitments, possibly all the way down to zero, the way we generally discount-penalise risky future benefits?

For over 50 years, once ignited academic discussion still carries on, despite the seemingly trivial roots of the issue. The presented paper tasks to provide a systematic, page-referenced review of some of the key papers within this discussion and to put the issue into broader context of the finance theory.

Within the practice of capital budgeting and corporate finance, value treatment of risky cash expenditures is generally covered under the umbrella of a composite valuation of summary (actual or expected, in their sum positive or negative) cash flows. Over the lifespan of a typical company, these composite cash flows are positive. The paper aims to point at potential pitfalls when considering separate valuation of the negative component of overall cash flows. This split between the positive and negative part may be either outright necessary (e.g. to value future liabilities resulting from the disposal of an investment treated under IFRS / US GAAP) or desirable (e.g. when deciding between projects with common revenues and distinct future costs, assessing incremental negative cash flows derived from the difference of two alternative revenues, etc.).

Although one may intuitively feel that a conservative, risk-oriented value approach to uncertain expenditures should lean towards a higher level of these costs (i.e. higher negative figures) relative to the magnitude of their riskiness (i.e. analogy to the conservative – lower positive figures – valuation of uncertain future cash inflows), there has been both intense and highly interesting discussion on this topic that spans well over half century.

The contribution points at the broader context of valuation using the methods of risk-adjusted discount rates (RADR) and certainty equivalents (CE) when dealing with negative risky cash flows. Successively discussed are the main concepts of risk and uncertainty, presented is an overview of the research on risk adjustment and discounting methods applicable to expected future (uncertain) cash flows (including the summary table of key authorial conclusions) and addressed is also the interlink between the RADR and CE methods. The paper concludes with a call for caution and thoughtful consideration when adopting the widespread RADR method for routine corporate finance tasks that involve valuing negative risky cash flows (expenditures).

Keywords: RADR, certainty equivalent method, CAPM, beta coefficient, utility function, risk, risky, risk-free discount rate, corporate finance.

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