

*Commentary***Brief note on financial modelling and accounting**

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Received: 17-May-2022, Manuscript No. IJBEF -22-64978; Editor assigned: 20-May-2022, PreQC IJBEF -22-64978 (PQ); Reviewed: 03-Jun-2022, QC No. IJBEF -22-64978; Revised: 17-Jun-2022, Manuscript No IJBEF -22-64978 (R); Published: 24-Jun-2022.

DESCRIPTION

Financial modelling is the challenge of creating an abstract representation (a model) of a real-world financial situation. Typically, financial modelling is regarded to be a quantitative exercise in either asset pricing or corporate finance. It entails converting a set of hypotheses about the behaviour of markets or agents into numerical predictions. At the same time, “financial modelling” is a broad term that can mean different things to different people; it usually refers to accounting and corporate finance applications or quantitative finance applications.

Accounting

Financial modelling in corporate finance and the accounting profession often comprises financial statement projection; typically, the construction of comprehensive company-specific models used for decision making and financial analysis.

Among the applications are:

- Business valuation and stock valuation - mostly through discounted cash flow, but also through alternative valuation methods
- Planning scenarios and making management decisions (“what is”; “what if”; “what has to be done”)
- Capital budgeting includes calculating the cost of capital (i.e. WACC).
- Analysis of financial statements or ratio analysis (including of operating- and finance leases, and R&D)

To summarise the nature of these models: First, because they are based on financial statements, the calculations and outputs are monthly, quarterly, or annual; second, the inputs are in the form of “assumptions,” in which the analyst specifies the values that will apply in each period for external, global variables and for internal, company specific variables (wages, unit costs, etc....). Both features are represented in the mathematical structure of these models: First, they are discrete time models, second, they

are deterministic models. Modelers are frequently referred to as “financial analysts” (and are sometimes commonly referred to as “number crunchers”). The modeller will often have an MBA or MSF with (optional) training in “financial modelling.” Accounting and financial certifications such as the CIIA and CFA do not often give direct or explicit modelling instruction. Simultaneously, several commercial training courses are available, both via institutions and privately. See outline of finance for the components and phases of business modelling. Financial modelling; additionally see discounted cash flow valuation, determine the cash flow for each projected period for further study and discussion. Despite the fact that purpose-built business software exists (see also Fundamental Analysis Software), the great majority of the market is spreadsheet-based, owing to the fact that the models are nearly usually company-specific. In addition, each analyst will have their own set of financial modelling criteria and procedures. Microsoft Excel presently holds a commanding lead, having surpassed Lotus 1-2-3 in the 1990s. Spreadsheet-based modelling has its own set of challenges and numerous standardizations and “best practises” have been suggested. “Spreadsheet risk” is becoming more researched and managed, see model audit.

One criticism is that model outputs, such as line items, may contain “unrealistic implicit assumptions” and “internal contradictions.” (For example, a revenue projection that does not include equivalent increases in working capital, fixed assets, and related financing may include inaccurate assumptions regarding asset turnover, leverage, and/or equity financing. From a financial standpoint, see sustainable growth rate.) All critical factors must be openly and consistently projected, which is often absent. In addition, modellers frequently “forget to establish critical assumptions” pertaining to inputs, “and to examine what may go wrong.” In general, modellers “employ point values and straightforward arithmetic rather than probability distributions and statistical measurements” in this context.

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