

A VALUATION MODEL OF THE SIMULATED FIRM

Fernando Arellano
University of Dallas
farellano@udallas.edu

Carlos Serrano
EGADE Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico
cserrano@itesm.mx

ABSTRACT

Valuing the firm in business simulations is of utmost importance since it is the traditional way in which total or partial student performance is evaluated in most simulations. We propose a valuation model based on the methods used in traditional valuation. The model, which can be embedded in the simulation code, forecasts cash flows based on historical data and performs valuation using the Discounted Cash Flows method (DCF). The terminal value of the firm is estimated using either DCF or EBITDA multiples, depending on the instructor's choice. Short-term sales growth is estimated on historical growth using regression analysis while long-term growth is based on a growth rate decided by the instructor within a certain range. Cash flows are built using four value drivers: sales growth, profit margin, assets requirement, and cost of capital. The former three simplifies the valuation of the firm at the beginning of the simulation when no historical data is available. The cost of capital is arbitrarily selected by the instructor according to guidelines summarizing the most important financial theories regarding this variable.