

Issues in Project Valuation: - problems with earnings accretive vs C/F models

Earnings focus – C/F is main focus & determinant of firm value, but reported earnings has significant impact on mgmt. decision making (due to negative market signals)

Projects can be: **dilutive (↓EPS in ST)** or **accretive (↑EPS in ST)** – can be time sensitive

- **Managers:** ST compensation can be linked to operating performance, stock option plans, job security
- **S/H:** operating viability dictates ability to raise financing and grow operations, (+) profitability can improve SP → ↑S/H value, credit rating

Equity Cost Problem: (wrong opportunity cost for investment decisions – meaning accounting earnings will overstate economic earnings)

- ↑ earnings from projects can be at odds with the objective of ↑S/H value
- Debt → larger ↑ in EPS b/c adding to EV
- Cost of new acquisitions need to be taken to account (i.e. pay too much) in order to generate accelerating growth
- **P/L statement** unable to account for true cost of capital, but based on interest income i.e. **incorrect equity charge applied → shows earnings accretion when it did not take place**

$$\begin{aligned} \text{Change in Net Income} &= \left[\underbrace{\left(\frac{\text{Project Operating Income}}{\text{NOPAT}} \right) (1 - \text{Tax Rate})}_{\text{NOPAT}} \right] \\ &- \left[\underbrace{\left(\frac{\text{Interest Expense on New Debt}}{\text{Capital Cost}} \right) (1 - \text{Tax Rate}) + \left(\frac{\text{Lost Interest Income on Cash Used to Fund the Equity}}{\text{Capital Cost}} \right) (1 - \text{Tax Rate})}_{\text{Capital Cost}} \right] \\ &= \text{NOPAT} - \text{Capital Cost} \end{aligned} \quad (9.1b)$$

Back to Value Enhancement:

- **Economic Value Added (EVA)**

$$EVA_t = NOPAT_t - \text{Capital Charge}_t$$

Invested Capital: - derive from balance sheet and make adjustments e.g. not all items represent funding sources – whilst ST debt represents borrowing (part of WC), if focus on acc. payable, these are not funds borrowed by the firm

$$\begin{aligned} \text{where } NOPAT_t &= EBIT_t * (1 - t) \\ \text{and } \text{Capital Charge} &= \text{Invested Capital}_{t-1} * WACC \end{aligned}$$

- Need to subtract any NIBL from total assets
- Other adjustments: capitalising operating expenses, leases, eliminating items that cause BV of capital to fall without impacting capital invested.

ROC i.e. NOPAT

- Need to reverse previous adjustments i.e. if capitalising operating leases (↑IC), need to add back to EBIT – cannot both capitalise and expense e.g. R&D

WACC: - consistency with BV weights for D/E since IC, ROIC are BV – but market weights may still be more appropriate.

PV of all future economic profits = project NPV – h/e, when project earnings are not evenly distributed over the project life - +/- impact on profits doesn't necessarily correspond to +/- NPV

- EVA corrects selection bias when EPS accretion/dilution is a critical decision variable but does not directly address **back-loaded earnings problem** (disproportionate amount of their earnings in the latter half of project life) – capital intensive vs. tech. projects

Horizon Problem: managers pick projects b/c of contribution to earnings/growth over value creation – occurs b/c managerial compensation often based on accounting performance valued by stakeholders.

Solutions: **1) Adjust EVA Calc.** using ‘economic depreciation’ – difficult to correlate economic profit decision with NPV decision, **2) Adjusting managerial compensation** – lengthen investment horizon

- **Bonus bank** – large fraction of bonuses accumulated for future payment in event of success
- **Stock option program**

Strengths – Economic Profit	Weaknesses – Economic Profit
Value driven by what income firm makes in excess of financing costs	Presents NPV differently
Capital charge accounts for key deficiency in EPS	Account distortions – can be manipulated due to ↓ capital invested
Straightforward approach to value than NPV/DCF	Single period metric – limited future performance information

EVA Alternatives:

- **C/F ROI:** - measure E(R) using C/F and considering TVM – same decision rule as IRR
- **Cash Return on Capital Invested (CROCI) = EBITDA / Total Value of equity** – measures cash profits of a company as a proportion of the funding req. to generate them.

Future of Equities Research:

- Valuation issues – if firms exploit info adv, firms w/o leave market → eqm
- HFT typically liquidity providers
- Value priced more accurately than growth

Equities research typically been subsidised by IB fees – but sig. drop in no. of analysts due to:

- Tighter regulations, declining margins, ↑passive investing, analyst records
- Will soon be illegal to pay for research via trading commissions → shrinks market
- Buy side will need to figure out how to pay cost w/o offering execution services
- Research houses will need to reinvent product.

Traders profit from being 1st, having better info, rational, or cheating – changes in market structure (↑tech) → ↑speed → changes valuation through price-discovery and liquidity

Next decade: changing data sources and incentives around info development.