The Three Cash Flow Valuation Methods

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- While we frequently discuss Discounted Cash Flow valuations, there are actually three variants which you need to understand
  - Capital Cash Flow
  - Equity Cash Flow
  - Free Cash Flow
- As these can be quite confusing I have prepared this summary of the three methods

The Three Cash Flow Valuation Methods

- Capital Cash Flow represents cash flow available to both equity and debt holders
- It includes the benefits of tax deductible interest payments
- The Discount Rate is therefore a pre-tax rate which corresponds to the whole risk of the firm

Capital
Cash
Flow

Discount
Rate
Pre Tax

The Three Cash Flow Valuation Methods

- Equity Cash Flow measures all cash flow available to shareholders after payments to debt holders are deducted from operating cash flow
- Capital Cash Flow minus Debt Cash Flow
- Higher risk means that the discount rate is higher

Capital Cash Flow	Equity Cash Flow
Discount Rate Pre Tax	Higher Discount Rate - Post Debt

The Three Cash Flow Valuation Methods

- Free Cash Flows measures value of the whole firm but do not include the benefits of tax deductible interest
- After tax discount rate is appropriate

Capital Cash Flow	Equity Cash Flow	Free Cash Flow
Discount Rate Pre Tax	Higher Discount Rate - Post Debt	After Tax Discount Rate

The Three Cash Flow Valuation Methods

- The starting point is Earnings before Interest and Tax = EBIT
- The objective is to convert the accounting measure of EBIT into cash flows
- Adjustments include:
  - Subtracting capital expenditures
  - Adding back depreciation
  - Subtracting changes in working capital

EBIT

Less Capital Expenditure

Plus Depreciation

Less Changes in Working Cap.

Operating Cash Flow

The Three Cash Flow Valuation Methods

- The Discount Rates are derived from the Capital Asset Pricing Model - CAPM
- These are subtly different for each measure of Cash Flow

The Three Cash Flow Valuation Methods

- Capital Cash Flow
- This measure uses the Asset Beta since Capital Cash Flows values the whole firm

- Expected Return = Risk Free Rate / (Asset beta x Risk Premium)

The Three Cash Flow Valuation Methods

- Equity Cash Flows
- Uses the Equity Beta since this is only measuring the cash flows to equity
- This beta should be unlevered

- Expected Return = Risk Free Rate /[(Equity beta x (Risk Premium)]
- Unlevered Equity Beta = Levered Equity Beta/(1+D/E Ratio)

The Three Cash Flow Valuation Methods

- Free Cash Flows
- The appropriate discount rate is the WACC - Weighted Average Cost of Capital
- Values the whole firm

- WACC = (Debt/Value)(1-Tax Rate)x kd + (Equity/Value)x ke

The Three Cash Flow Valuation Methods

- We can summarise the calculation of Capital Cash Flow
- Operating Cash Flow, less Actual Taxes
- Discounted at the Expected Asset Return

Capital Cash Flow

Operating Cash Flow

Less actual taxes (Tax Rate * (EBIT-Interest)

Equals Capital CashFlow

Discount at Expected Asset Return (Before Tax)

The Three Cash Flow Valuation Methods

- Equity Cash flows can be summarised…
- Operating Cash Flow less actual taxes
- Less Interest and Debt Payments
- Plus Debt Issues
- Discounted at Expected Equity Return

Equity Cash Flow

Operating Cash Flow

Less actual taxes (Tax Rate * (EBIT-Interest)

Less Interest, Debt Payments
Plus Debt Issues

Equals
Equity Cash Flow

Discount at Expected Equity Return

The Three Cash Flow Valuation Methods

- Operating Cash flows can be summarised…
- Operating Cash Flow less actual taxes
- Less Interest and Debt Payments
- Plus Debt Issues
- Discounted at Expected Equity Return

Free Cash Flow

Operating Cash Flow

Less hypothetical taxes
(Tax Rate x EBIT)

Equals
Free Cash Flow

Discount at Weighted Average Cost of Capital (After Tax Rates)

The Three Cash Flow Valuation Methods

- Note that the tricky issue here is to understand whether your discount rate is before or after tax and whether it is levered or unlevered.
- This is one of the primary reasons for setting out this lecture the way I have

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