Equity Investments: Emerging Markets

Real valuation approach: estimating value by discounting real cash flows (adjusted to inflation) with real discount rate (cost of capital).

Nominal valuation approach: value estimation by discounting nominal cash flows with nominal discount rate.

Key point here is, if measured properly with result in to same value.

In emerging markets inflation tends to be high, so it is very important to acknowledge inflation factor thus both cash flows from nominal and real need to be distinguished accordingly.

While evaluating companies in emerging markets future cash flows from accounting data often needs to be adjusted for inflation and also multi-stage free cash models need to be employed.

These are two factors effect financial statements when stated in nominal terms due to inflation:

On balance sheet, plant, property and Equipment (*PPE*) is shown at historical costs may not represent current costs.

On income statement, *depreciation* is based on historical costs may be well below the replacement costs.

High inflation distorts ratios calculated from nominal financial statements:

- Sales growth inflated due to inflation.
- Fixed asset turn over that is sales over fixed assets are exaggerated.
- Operating margins are high as sales numbers high and COGS is low.
- Return on invested capital is high; NOPLAT is high and capital is counted less.
- Solvency ratios like debt over assets are very high as assets shown less.

Evaluation of emerging market companies based on nominal and real cash flows:

Based on real cash flows:
1. Use real weighted average cost of capital (WACC) for free cash flow calculations
2. Estimate future real sales based on real growth rate and real EBITDA as percent of sales.
3. Calculate real fixed capital expenses and real depreciation using PPE/revenue ratios and from depreciating life of the assets.
4. PPE_{Beg} - Depreciation + FXDCAP = PPE_{End} (Real)

5. Free cash flow = NOPLAT + DEP – FXCAP – NWC.
6. NOPLAT is Net operating profit less adjusted taxes (EBIT) – Taxes.
7. Here all components were calculated except real taxes and net working capital; these two components need to be *adjusted from nominal cash flow analysis*.
8. Calculate terminal value using real growth and real WACC.
9. Using discount cash flow method to calculated value at present time.

Based on Nominal cash flows:

1. Calculate Nominal sales by multiplying real sales with annual inflation factors.
2. Estimate EBITDA as percent of nominal sales
3. Calculate **nominal fixed capital** expenditure adjusting real capex from step 4 above, depreciation is simply based on previous year asset value.
4. Calculate Ending PPE; $PPE_{Beg} - DEP_{nom} + FXCAP_{nom} = PPE_{End}$

5. Calculate nominal working capital as percentage of nominal sales.
6. Calculate NWC changes; **Use this NWC to calculate real NWC**.
7. Calculate EBIT and nominal taxes based on tax rate for each year. Calculate **real taxes** from this step.
8. Free cash flow = NOPLAT + DEP – FXCAP – NWC.
9. Estimate nominal free cash flow for each year and calculate terminal value using terminal WACC.
10. WACC here different for every year:
11. (1 + WACC nominal) = (1 + WACC real) * (1 + Inflation).
12. The value calculated using nominal cash flows and nominal WACC must be equal to the value calculated with real cash flow and real WACC.

Adjusting cash flows than discount rate:

1. Country risks are diversifiable: country risks better adjusted with cash flow adjustments than discount rates.
2. Companies respond differently to country risks: One discount can not be applied to all companies.
3. Country risk is asymmetrical and one sided: Emerging markets exhibit downside risk, adjusting cash flows best address this risk.
4. Adjusting cash flows aid risk management.

Cost of equity = Risk free rate + beta * market risk premium.

Risk free rate for emerging markets =
            10-year US GOVT bond + (Local Inflation – US inflation)

Beta = Use global equity index Beta not company specific beta.
Market Risk premium = Global market premium but not from country equity index.
Pre cost of debt = local risk free rate + US credit spread on comparable debt.