# FIN401 ADVANCED FINANCIAL MANAGEMENT
# NOTE: CAPITAL EFFICIENCY METRICS

**Introduction**
***Capital Efficiency Metrics*** are used to measure how efficiently a business is using its capital. The more efficiently a business can utilize its capital, the lower the required EBIT to satisfy its creditors and shareholders.

Although there are various ways to define capital and measures of capital efficiency, we will discuss the following Capital Efficiency Metrics and definitions:

- NOPAT (Net Operating Profit After Taxes)
- Cost of Capital
- EVA (Economic Value Added)
- ROIC (Return on Invested Capital)

***NOPAT (Net Operating Profit After Taxes)***
***NOPAT*** measures how much profit a business generates from the operations of the business. It does not include the interest expense. ***It is calculated by multiplying EBIT x (1 – Tax Rate).*** This calculation is used to present the amount of profit a business makes after paying taxes on its operations but before taking into account its cost of capital. Based on this calculation, we can see how much profit a business' operations generates without taking into account how the capital for the business is funded.

***Cost of Capital***
***Cost of Capital*** is the cost of money used to fund a business. Businesses are funded with debt and equity, and the cost of capital measures the annual cost of that money**.** ***The cost of capital is calculated by multiplying the Invested Capital x the WACC.*** Invested Capital is the amount of interest-bearing debt plus equity a company uses to fund its business.

***EVA (Economic Value Added)***
***EVA*** is simply ***NOPAT minus Cost of Capital.*** If EVA is positive, the cost of capital is less than NOPAT. If EVA is negative, the cost of capital is greater than NOPAT. Positive EVA means that a business has increased its value; on the contrary, negative EVA means that a company has decreased its value.

***ROIC (Return on Invested Capital)***
***ROIC*** is measured as a percentage of NOPAT divided by Invested Capital. ***Invested Capital is defined as Debt plus Equity.*** Debt includes only the interest-bearing debt of the business (generally long-term debt). Equity includes the Stock and Retained Earnings of a business. Retained Earnings are included as they represent the earnings of the business that are reinvested in the business.

An income statement measures the Net Income of a business for a period of time. While it includes the interest expense portion of its cost of capital, it does not include the cost of equity, which is measured on the Balance Sheet. Therefore, EVA is used to better understand the performance of a business given all of its costs of capital from both the income statement and balance sheet.