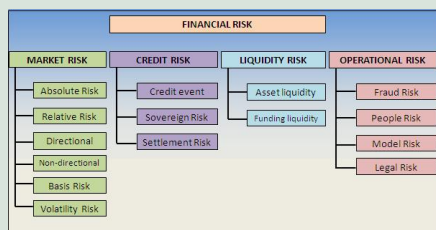


Financial Risk



Risk Management in Finance

Risk Management: The process of identification, analysis, and acceptance or mitigation of uncertainty in investment decisions.

A variety of tactics exist to ascertain risk; one of the most common is standard deviation, a statistical measure of dispersion around a central tendency.

Market risk, is a measure of the volatility, or systematic risk, of an individual stock in comparison to the entire market.

FINANCIAL RISK RATIOS

Net Income = (Total Revenue + Gains) – (Total Expenses + Losses)

Working Capital = Current Assets - Current Liabilities

MARKET VALUE RATIOS

Book Value per Share ratio = (Shareholder's equity – Preferred equity) / Total common shares outstanding
calculates the per-share value of a company based on the equity available to shareholders

Dividend Yield ratio = Dividend per share / Share price
measures the amount of dividends attributed to shareholders relative to the market value per share

Earnings per Share ratio = Net earnings / Total shares outstanding
measures the amount of net income earned for each share outstanding

Price-Earnings ratio = Share price / Earnings per share
compares a company's share price to its earnings per share

Market Value Risks - are used to evaluate the share price of a company's stock.

LIQUIDITY RATIOS

Acid-test ratio = (Current assets – Inventories) / Current liabilities
measures a company's ability to pay off short-term liabilities with quick assets

Current ratio = Current assets / Current liabilities
measures a company's ability to pay off short-term liabilities with current assets

Cash ratio = Cash and Cash equivalents / Current Liabilities
measures a company's ability to pay off short-term liabilities with cash and cash equivalents

Operating cash flow ratio = Operating cash flow / Current liabilities
measure of the # of times a firm can pay off current liabilities w/ the cash generated in a given period

Liquidity Ratios: financial ratios that measure a company's ability to repay both short- & long-term obligations

LEVERAGE RATIOS

Debt Ratio = Total liabilities / Total assets
measures the relative amount of a company's assets that are provided from debt

Debt to Equity ratio = Total liabilities / Shareholder's equity
calculates the weight of total debt and financial liabilities against shareholders' equity

Interest Coverage ratio = Operating income / Interest expenses
shows how easily a company can pay its interest expenses

Debt Service Coverage ratio = Operating income / Total debt service
reveals how easily a company can pay its debt obligations

Leverage Finance Ratios: measure the amt of capital that comes from debt. In other words, leverage financial ratios are used to evaluate a company's debt levels.

PROFITABILITY RATIOS

Gross margin ratio = compares the gross profit to its net sales to show how much profit it makes after paying its cost of goods sold
 $\text{Gross profit} / \text{Net sales}$

Operating margin ratio = compares the operating income of a company to its net sales to determine operating efficiency
 $\text{Operating income} / \text{Net sales}$

Return on assets ratio = measures how efficiently a company is using its assets to generate profit
 $\text{Net income} / \text{Total assets}$

Return on equity ratio = measures how efficiently a company is using its equity to generate profit
 $\text{Net income} / \text{Shareholder's equity}$

Profitability Ratios: measure the ability to generate income relative to revenue, balance sheet assets, operating costs, and equity.

EFFICIENCY RATIOS

Asset Turnover ratio = Net sales / Average total assets
 measures a company's ability to generate sales from assets

Inventory Turnover ratio = measures how many times a company's inventory is sold and replaced over a given period
 $\text{Cost of goods sold} / \text{Average inventory}$

Receivables Turnover ratio = measures how many times a company can turn receivables into cash over a given period
 $\text{Net credit sales} / \text{Average accounts receivable}$

Days Sales in Inventory ratio = measures the average # of days that a company holds on to inventory before selling it to customers
 $365 \text{ days} / \text{Inventory turnover ratio}$

Efficiency Ratios (aka activity financial ratios): are used to measure how well a company is utilizing its assets and resources.

Types of Risks

Financial Risk: Speculative risk associated with the effects of market forces on financial assets &/or liabilities.

Market Risk: Risk of losses in positions arising from movements in market prices.
 (3) types of market risk: Interest rate risk; Exchange Rate risk; and Liquidity risk

Interest Rate Risk: Uncertainty over changes in interest rates and the effect of those changes on a security's future value. *the risk that a security's future value will decline b/c of changes in interest rates.*

Exchange Rate Risk: Risk arises when there is a risk of an unfavorable change in exchange rate btwn the domestic currency & denominated currency. *changes in the exchange rate will affect the value of a firm's assets and liabilities.*

Credit Risk: The risk that customers or other creditors will fail to make promised payments; it can be relevant to any org w/ accounts receivable.

Counterparty Risk: The risk that the other party to an agreement will default. (aka Credit risk)

Price Risk: Uncertainty over the size of cash flows resulting from possible changes in the cost of raw materials & other inputs (such as lumber, gas, electricity), as well as cost-related changes in the market for completed products.

Output Price Risk: The price charged for the firm's products or services.

Input Price Risk: The price of resources used to make the firm's products.

Investment Risks include: Inflation Risk, Maturity Risk, Default Risk, Liquidity Risk

Liquidity Risk: A financial risk that for a certain period of time a given financial asset, security or commodity cannot be traded quickly enough in the market without impacting the market price. *represents uncertainty about the ability to convert an investment to cash quickly w/ little loss of principal (within a short time period and a small price range).*

Inflation Risk: Risk associated w/ the loss of purchasing power b/c of an overall increase in the economy's price level.



Securities & Other Contracts

Securitization: the procedure of pooling various types of contractual debt & selling their related cash flows to a 3rd party investor as securities. *Securitization offers opportunities for investors and frees up capital for originators, both of which promote liquidity in the marketplace.*

Securitization transactions use **Special Purpose Vehicle (SPV)** facilities established to:

1. Buy income producing assets.
2. Use those assets to collateralize securities.
3. Sell securities to investors.

Securities: a tradable financial asset. Refers to any form of financial instrument representing either money or other property, such as stocks/bonds.

1. Debt Securities - ex> banknotes, bonds, debentures.
2. Equity Securities - ex> Common stocks.
3. Derivatives - ex> forwards, futures, options, swaps

Derivative Contracts: Securities with values that depend on values of other assets. *contracts btwn 2 parties that specify conditions under which payment are to be made. / Contract derives its value from the performance of an underlying entity.*

Hedging: Protecting against cost increases with contracts that allow a company to buy supplies in the future at designated prices. *a financial transaction in which (1) asset is help to offset the risk associated with another asset.*

Correlation: in the finance and investment industries, is a statistic that measures the degree to which two securities move in relation to each other. Correlations are used in advanced portfolio management, computed as the correlation coefficient, which has a value that must fall between -1.0 and +1.0.

Financial Statements

Balance Sheet: A balance sheet is a financial statement that reports a company's assets, liabilities and shareholders' equity at a specific point in time, and provides a basis for computing rates of return and evaluating its capital structure. It is a financial statement that provides a snapshot of what a company owns and owes, as well as the amount invested by shareholders.

Financial Statements (cont)

Income Statement: Also known as the profit and loss statement or the statement of revenue and expense, the income statement primarily focuses on the company's revenues and expenses during a particular period.

Financial statements are written records that convey the business activities and the financial performance of a company.

Financial statements include: Balance sheet / Income statement / Cash flow statement.

Assets

Capital: Capital is a term for financial assets, such as funds held in deposit accounts and/or funds obtained from special financing sources. Capital can also be associated with capital assets of a company that requires significant amounts of capital to finance or expand.

Financial Asset: A financial asset is a liquid asset that gets its value from a contractual right or ownership claim. Ex. incl: Cash, stocks, bonds, mutual funds, and bank deposits.

financial assets such as stocks and bonds, which derive their value from contractual claims, are considered tangible assets.

Intangible Asset: an asset that is not physical in nature. Goodwill, brand recognition and intellectual property, such as patents, trademarks, and copyrights, are all intangible assets. Intangible assets exist in opposition to tangible assets, which include land, vehicles, equipment, and inventory.

Intangible assets created by a company do not appear on the balance sheet and have no recorded book value.

Retained Earnings: Net income retained by the firm after payment of the dividends and taxes.

Assets: Current & Non-Current:

Current Assets: cash or assets likely to be converted to cash or consumed within 1 yr.

ex> Cash, Marketable securities, Receivables (accounts & notes), Inventories, Prepaid expenses.

Non-Current Assets: will be used over a period greater than 1 yr. *cannot easily be converted into cash. ex> Tangible - land; buildings, equipment; Intangible - patent; copyright; trademarkl intellectual property.



Liabilities | Debt

Short-Term Debt: aka current liabilities, is a firm's financial obligations that are expected to be paid off within a year. It is listed under the current liabilities portion of the total liabilities section of a company's balance sheet.

Long-Term Debt: debt that matures in more than one year. Long-term debt can be viewed from two perspectives: financial statement reporting by the issuer and financial investing. In financial statement reporting, companies must record long-term debt issuance and all of its associated payment obligations on its financial statements. On the flip side, investing in long-term debt includes putting money into debt investments with maturities of more than one year.

Long-term debt liabilities are a key component of business solvency ratios, which are analyzed by stakeholders and rating agencies when assessing solvency risk.

Debt-To-Equity Ratio – (D/E): is calculated by dividing a company's total liabilities by its shareholder equity. These numbers are available on the balance sheet of a company's financial statements.

The ratio is used to evaluate a company's financial leverage.

Leverage Ratio: Any one of several financial measurements that look at how much capital comes in the form of debt (loans) or assesses the ability of a company to meet its financial obligations. *A leverage ratio may also be used to measure a company's mix of operating expenses to get an idea of how changes in output will affect operating income.*

Depreciation: the allocation of a noncurrent tangible asset value over time. *Expense generated by the uses of the asset.*

Liabilities: Current & Noncurrent:

Current Liabilities: debts to be settled within the fiscal yr (1 yr).
ex> Accounts payable; Short term debt; Accrued expenses such as wages payable, interest payable, and taxes payable.

Noncurrent Liabilities - (long term liabilities) not due and payable within 1 yr, will not be satisfied more than 1 yr after the balance sheet date.

ex> long term notes payable.

Shareholders' Equity (Owners' Equity): Listed on the liabilities side of the balance sheet b/c a firm does not own its net worth, but rather owes it to its owners.

Liabilities | Debt (cont)

Liquidity Risk: A financial risk that for a certain period of time a given financial asset, security or commodity cannot be traded quickly enough in the market without impacting the market price.

Following ratios can be considered to measure the liquidity of a firm: Working Capital; Working Capital Ratio; Current Ratio; Quick Ratio; and Absolute Liquid Ratio.

Current Ratio: A liquidity ratio that measures whether a firm has enough resources to meet its short-term obligations. *high ratio indicates high liquidity and, possibly, an inefficient use of resources.*

Quick Ratio (Acid-Test Ratio): Type of liquidity ratio, which measures the ability of a company to use its near cash or quick assets to extinguish or retire its current liabilities immediately. *A more conservative assessment of the liquidity position than current ratio, as it excludes inventory - low ratio may indicate a too large inventory, which reduces liquidity.*

Debt to Assets Ratio (Debt ratio) A Leverage Ratio that shows the extent to which the firm's assets are financed by debt. *High ratio indicates a company that is highly leveraged (used borrowed money to invest) and may be trouble making its debt payment.*

Collateralize: The act of pledging an asset, like real property, to secure a loan or investment providing recourse in the event of default.

Subprime Borrower: A type of borrower who has low credit rating or a limited credit history.

