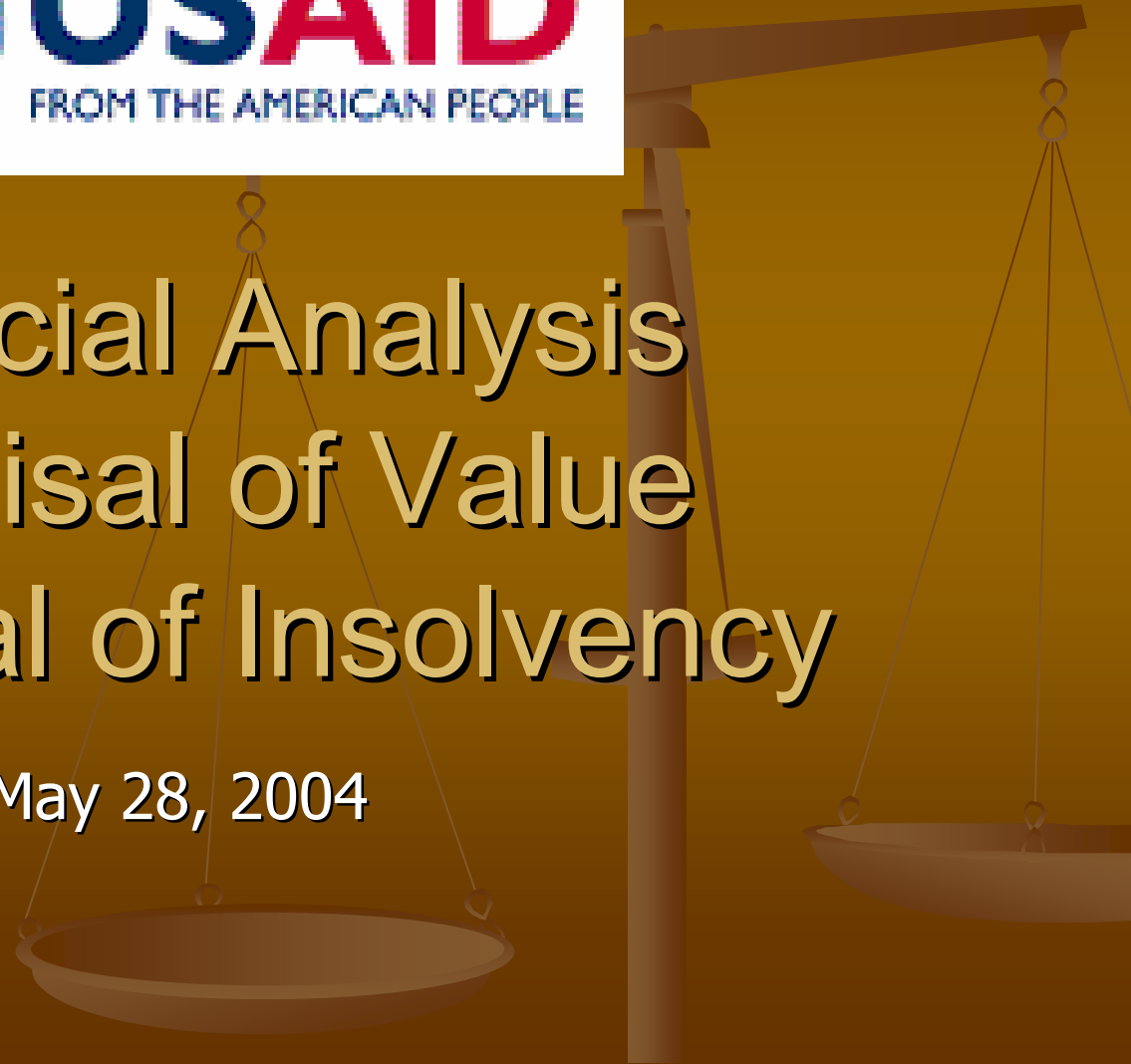




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Financial Analysis Appraisal of Value Appraisal of Insolvency

May 28, 2004



Standards of Value



- *Fair Market Value* – “... the cash or cash equivalent, price at which property would change hands between a willing buyer and a willing seller, both being adequately informed of the relevant facts and neither being compelled to buy or sell...”
- *Fair Value* – “...the same as FMV, but more generic (*disregards premiums and discounts*)...”

Standards of Value



- *Investment Value* – “...while market value could be called – the value of the market place, the Investment Value is the specific value of goods or services to a particular investor (or class of investors) for individual investment reasons. Differs from FMV by:
 - Estimates of future earning power
 - Differences in perception of the degree of risk
 - Difference in tax status
 - Synergies with operations controls or owned, etc....”

Standards of Value

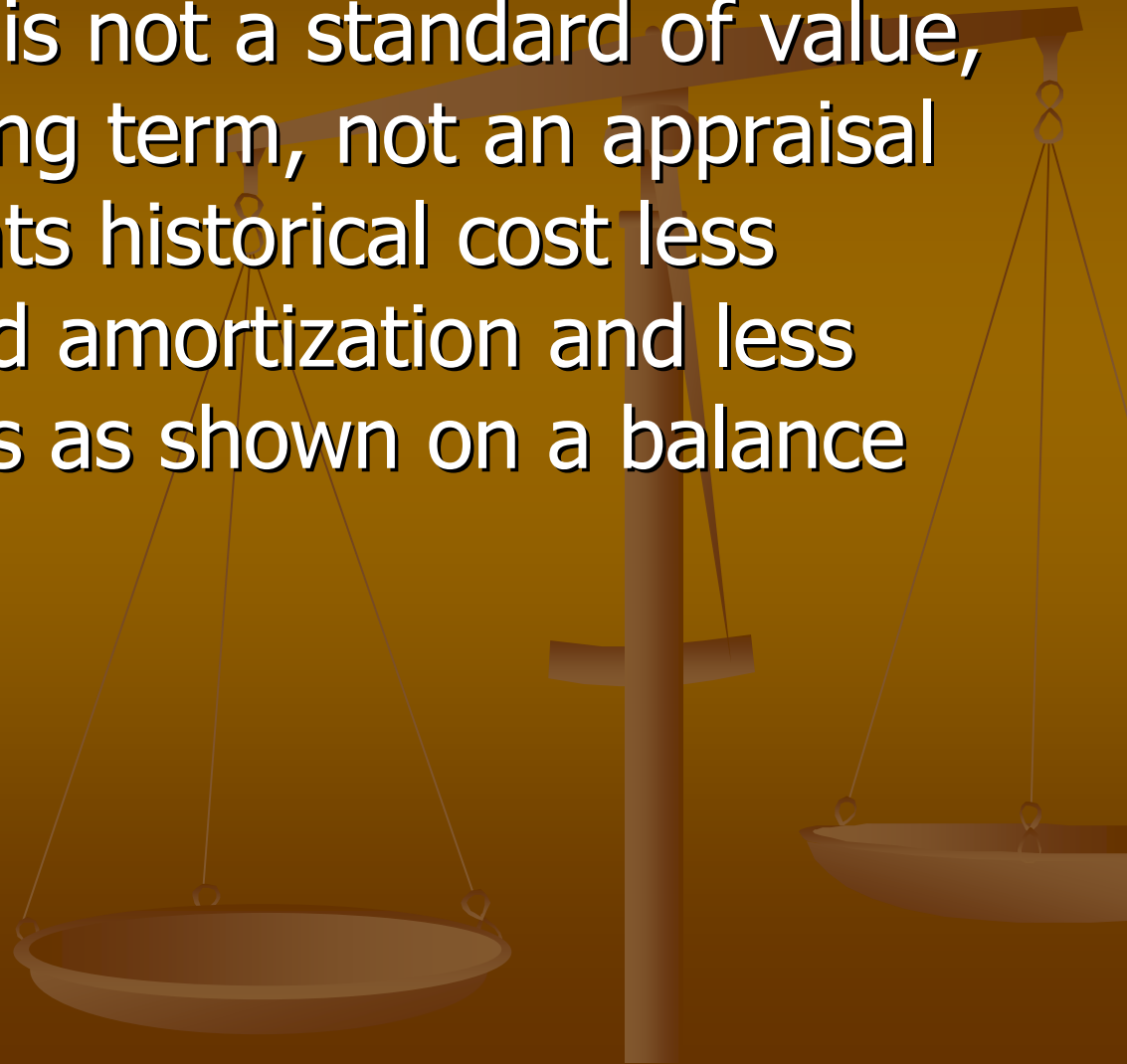
- *Going-Concern Value* – “...is not a value but rather assumption about the business’s status. Could be estimated as *Fair Market Value, Fair Value or Investment Value* on a going-concern basis, i.e., should be understood as the total value of the entity as a going concern.... understood also as excess value of intangible assets (good will)...”

Standards of Value

- *Liquidation Value* – “... the net amount the owner can realize if the business is terminated and the assets are sold off piecemeal... *Orderly liquidation* – the sale of assets over reasonable time period in attempt to get the best available price for each asset... *Forced liquidation* – sale of assets as quickly as possible, frequently all at one time at an auction sale...”

Standards of Value

- *Book Value* – "... is not a standard of value, but an accounting term, not an appraisal term... represents historical cost less depreciation and amortization and less liability accounts as shown on a balance sheet..."



Approaches to Value



- Categorization I:
 - Discounted Income Approach
 - Asset Appraisal Approach
 - Comparative appraisal approach
- Categorization II:
 - Discounted Future Earnings or Cash Flow (DCF)
 - Capitalization of current, normalized, or historical earnings

Approaches to Value



- Capitalization of current, normalized, or historical cash flow
- Capitalization of dividends or dividends capitalization capacity
- Multiple of gross revenue or physical volume
- Excess earnings approach
- Adjusted net asset value
- Ratio of price to book value or adjusted net asset value
- Prior transactions in or offers for the stock adjusted to current conditions

DCF Approach to Value

- *Value of money in time*

Consider deposit of 1,000\$ (PV) and fixed interest rate on bank deposits 10% (i).

*The Value of money deposit at the end of the first year will be equal to 1,000\$ + 1000*10% or 1,100\$ (FV1). For the next year this will equal to 1,100\$ + 1,100*10% or 1,210\$ (FV2)*

The Future Value of the current money could be described as:

$$FV1 = PV + PV * i \text{ or } FV1 = PV * (1 + i)$$

$$FV2 = PV * (1 + i) + PV * (1 + i) * i \text{ or } FV2 = PV * (1 + i) * (1 + i) \text{ or}$$

$$FV2 = PV * (1 + i)^2$$

$$PV = \sum \frac{FV_i}{(1 + i)^j}$$

DCF Approach to Value



- *Net free cash flow*

Net income (after taxes)

+ Noncash charges (amortization/depreciation)

- Capital expenditures (the net changes in fixed and other noncurrent assets*)

- Changes in working capital*

+ Net changes in long term debt*

= *Net Free Cash Flow*

* *Assumes amounts are those necessary to support projected operations*

DCF Approach to Value

■ *Required Rate of Return/Discount rate*

$$PV = \frac{E_0 * (1+g)}{R - g}$$

PV – Present Value

E₀ – Base level of earnings from which the constant level of growth is expected to proceed as of the valuation date

g – Annually compounded rate of growth in earnings

R – Discount Rate (Required rate of total return)

Example:

Company has 1,000,000\$ annual earnings which will constantly grow at 2% annually. The owner is looking for 20% total rate of return from this business. How much is worth today this business? (Answer: 5,666,667\$)

DCF /Capitalization Approach to Value

- *Discount rate*: A rate of return used to convert a series of future income amounts into present value
- *Capitalization rate*: A divisor used to convert a defined income to an indicated value

Example:

If an income stream of 10,000\$ were to be capitalized at 25% equals a capitalized value of 40,000\$. If a business is worth the value of its 4 year income stream of 10,000\$ annually. Then its value would be 40,000\$.

$$P/E \text{ ratio} = \frac{1}{\text{Capitalization rate}} = \frac{1}{0.20} = 5.0$$

Discount Rate = Capitalization Rate and reciprocal to P/E ratio only when no appreciable growth or decline is anticipated from the earnings base being capitalized.

DCF Approach to Value

- PV of Net Cash Flow

$$PV = \sum_{(RV)} \frac{FV_i}{(1+i)^i} + \frac{\text{Residual Value}}{(1+i)^i}$$

$$RV = \frac{\text{Earnings}}{\text{Capitalization Rate}} \quad \text{or} \quad RV = \frac{E_0 * (1+g)}{R - g}$$

DCF Approach to Value

- *Example:* If a company expects to earn 10,000\$ the first year, 11,000\$ the second year, 12,000\$ the third year and 13,500\$ the fourth and all subsequent years, and income stream is to be discounted at a Discount Rate of 30%, how much this company would be worth?

$$PV = \frac{10,000\$}{1+0.3} + \frac{11,000\$}{(1+0.3)^2} + \frac{12,000\$}{(1+0.3)^3} + \frac{13,500\$/0.3}{(1+0.3)^3}$$

$$PV = 40,145\$ \approx 40,000\$$$

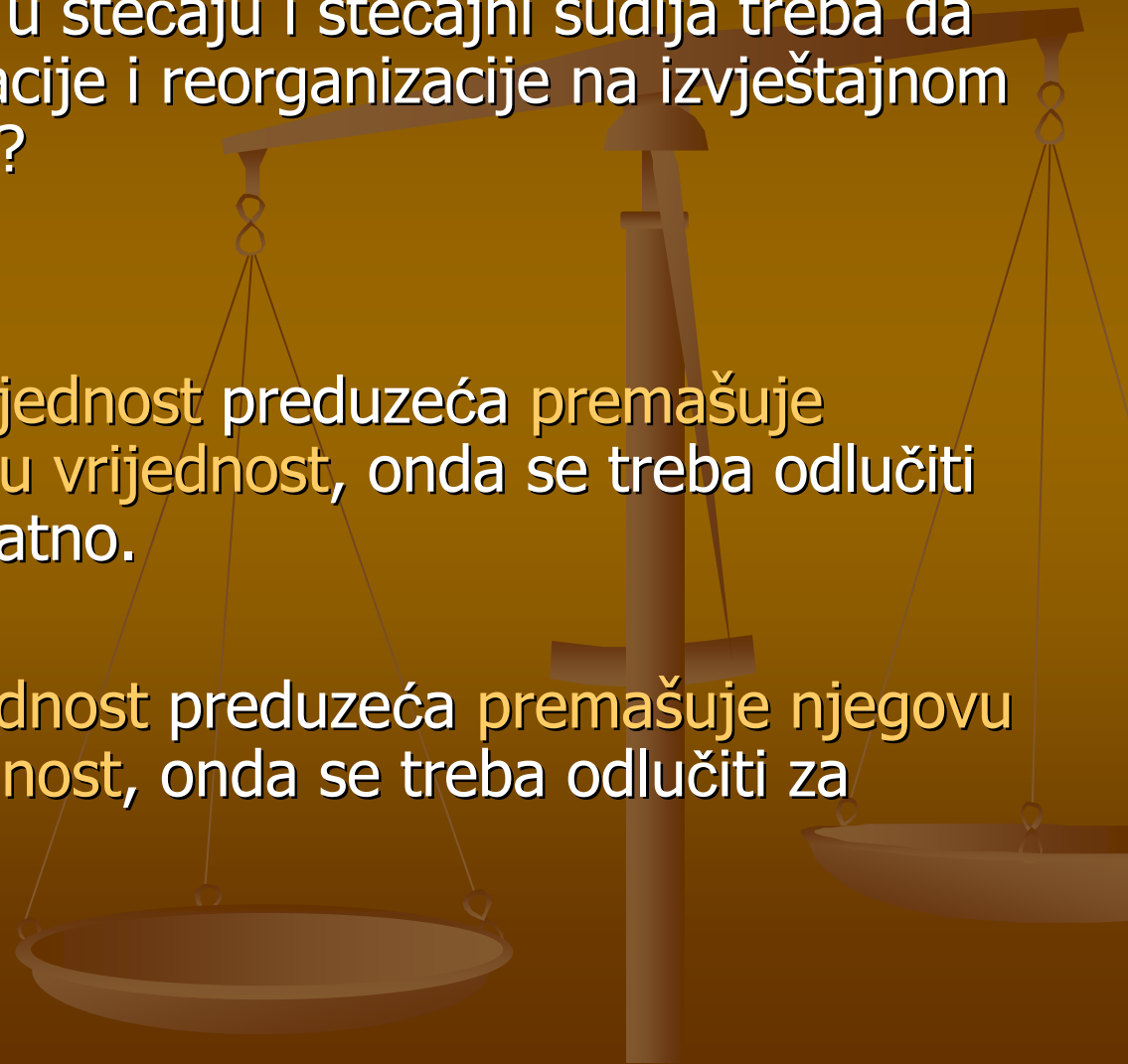
Stečajna likvidacija ili reorganizacija

- Povjerioci preduzeća u stečaju i stečajni sudija treba da odluče između likvidacije i reorganizacije na izvještajnom ročištu. Kako odlučiti?

Osnovno pravilo je:

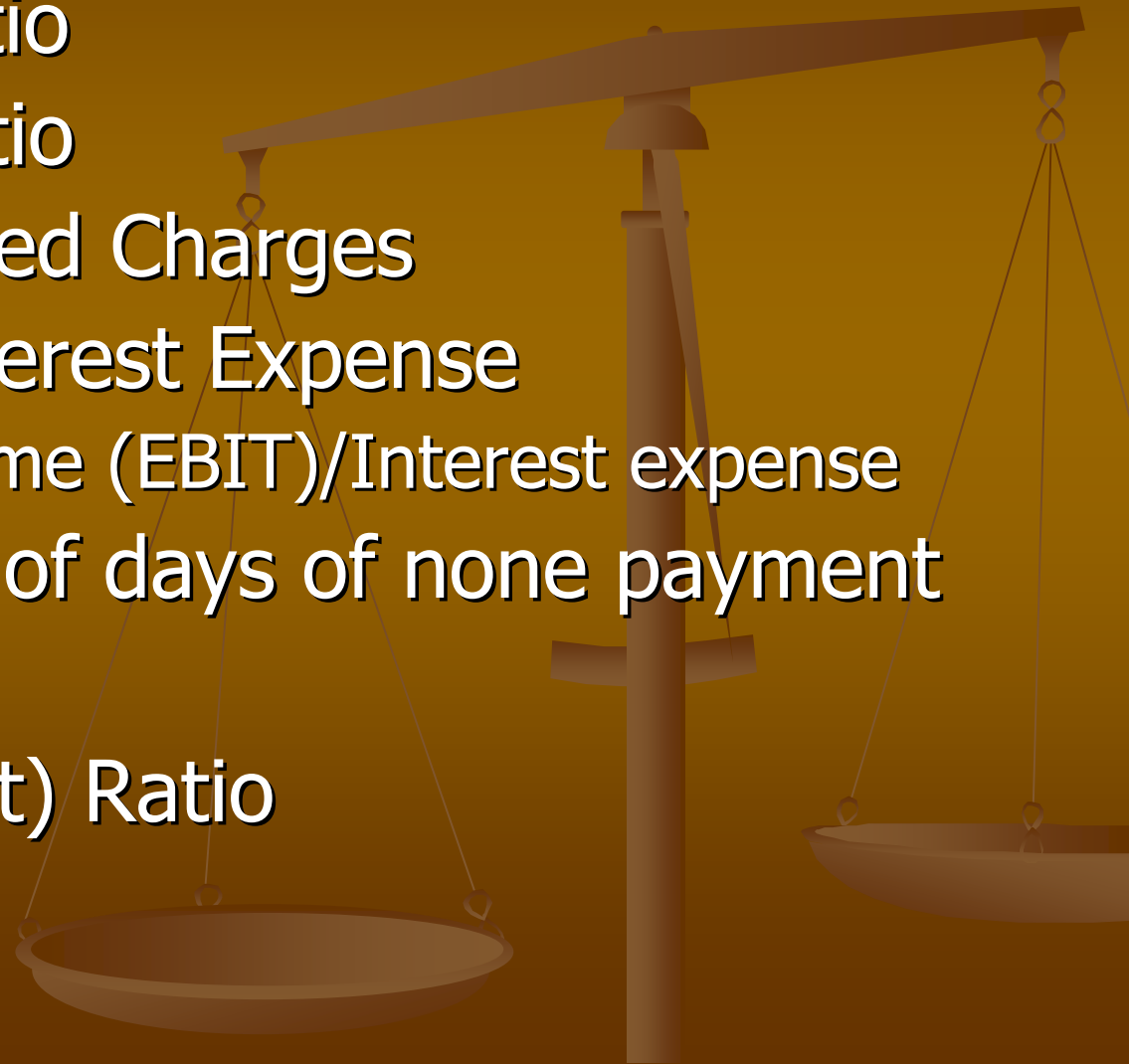
Ako Likvidacijska vrijednost preduzeća premašuje njegovu operativnu vrijednost, onda se treba odlučiti za likvidaciju i obratno.

Ako operativna vrijednost preduzeća premašuje njegovu likvidacijsku vrijednost, onda se treba odlučiti za reorganizaciju.



Measuring the Degree of Insolvency

- Debt/Equity Ratio
- Debt/Assets Ratio
- Coverage of Fixed Charges
- Coverage of Interest Expense
 - Operating Income (EBIT)/Interest expense
- Cut off number of days of none payment
- Current Ratio
- Quick (Acid-Test) Ratio

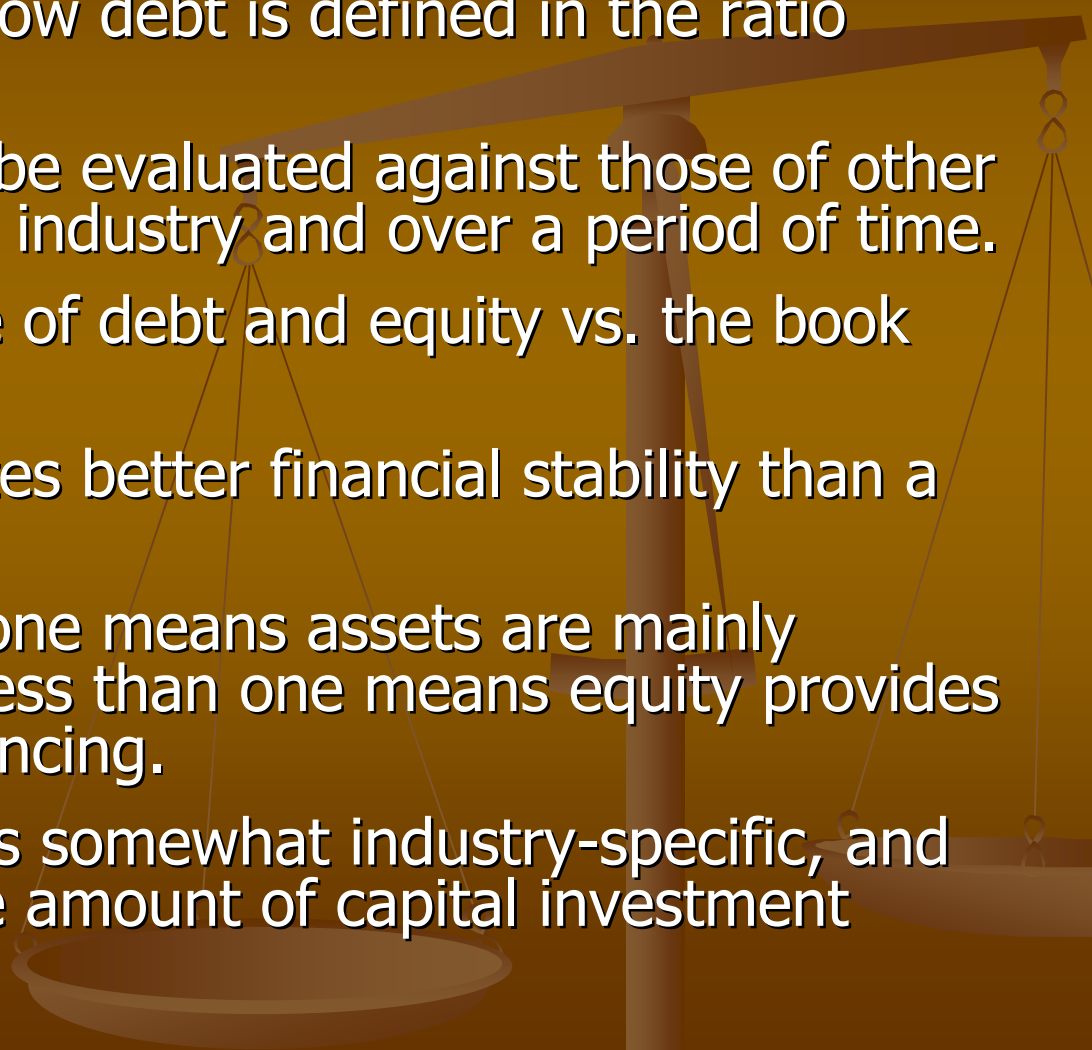


Debt/Equity Ratio

- It measures the proportion of debt and equity a company is using to finance its business
- The most common formula for the ratio is:
Total liabilities / owners' equity = debt-to-equity ratio
- Example, a company's long-term debt is \$8,000,000, its short-term debt is \$4,000,000, and owners' equity totals \$9,000,000. The debt-to-equity ratio would therefore be:
 $(8,000 + 4,000) / 9,000 =$
 $12,000 / 9,000 = 1.33 \text{ debt-to-equity ratio}$
- An alternative debt-to-equity formula considers only long-term liabilities in the equation. Accordingly:
 $(8,000 / 9,000 = 0.889 \text{ debt-to-equity ratio}$

Debt/Equity Ratio

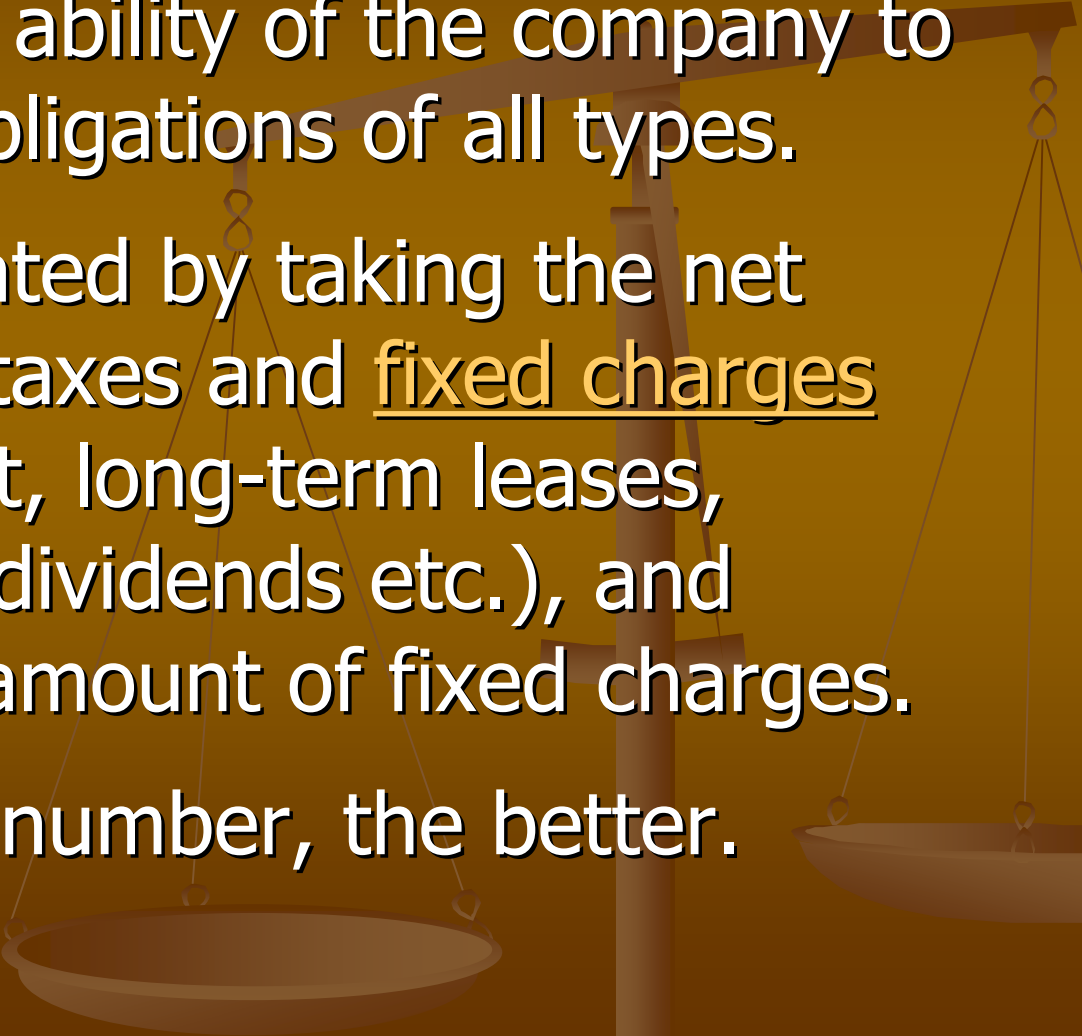
Practical Considerations

- Understand exactly how debt is defined in the ratio presented.
 - Debt-to-Equity must be evaluated against those of other companies in a given industry and over a period of time.
 - Use the market value of debt and equity vs. the book value.
 - A low number indicates better financial stability than a high one.
 - A ratio greater than one means assets are mainly financed with debt; less than one means equity provides a majority of the financing.
 - Debt-to-equity ratio is somewhat industry-specific, and often depends on the amount of capital investment required.
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Debt/Assets Ratio

- It measures the percentage of assets financed by creditors, compared to the percentage that have been financed by the business owners. Historically, a debt-to-asset ratio of no more than 50 percent has been considered prudent. The common formula:
Total Liabilities/Total Assets
- A low debt ratio is safer than a high debt ratio. This is because a company with a small amount of liabilities has low required payments and such a company is unlikely to get into financial difficulties.
- A company with high debt ratio may have trouble paying its liabilities, especially when sales are low and cash is scarce. When a company fails to pay its debts on a timely basis, the creditors may take action that is detrimental to the continued operation of the business.
- Improving this ratio means taking steps to either increase the value of your assets, or to pay off debt.

Coverage of Fixed Charges

- It measures the ability of the company to meet its fixed obligations of all types.
 - It can be calculated by taking the net income, *before* taxes and fixed charges (debt repayment, long-term leases, preferred stock dividends etc.), and dividing by the amount of fixed charges.
 - The higher the number, the better.
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Coverage of Interest Expense

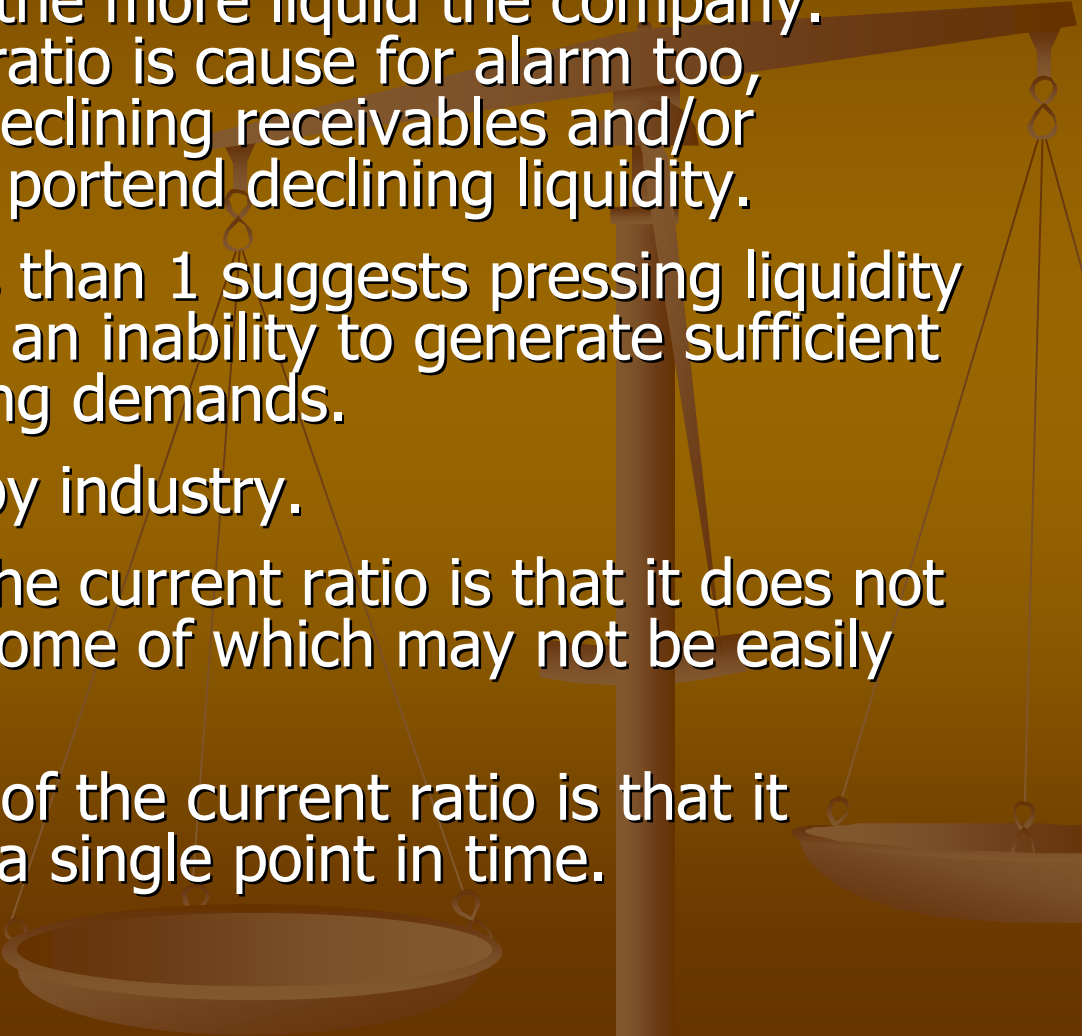
- Interest coverage is known also as the "times interest earned ratio." It is very similar to the "times fixed charges earned" ratio but focuses more narrowly on the interest portion of company debt payments.
- It can be calculated using the following formula:
Operating Income / Interest expense
- The higher the number, the better

Current Ratio

- It measures company's liquidity and its ability to meet its short-term debt obligations.
- Can be calculated by the formula:
Current assets / Current liabilities = Current ratio
- Example, if a company's current assets are \$300,000 and its current liabilities are \$200,000, its current ratio would be:
300,000 / 200,000 = 1.5
- As a rule of thumb, the 1.5 figure means that a company should be able to get hold of \$1.50 for every \$1.00 it owes.

Current Ratio

Practical Considerations

- The higher the ratio, the more liquid the company. However, too high a ratio is cause for alarm too, because it indicates declining receivables and/or inventory—signs that portend declining liquidity.
 - A current ratio of less than 1 suggests pressing liquidity problems, specifically an inability to generate sufficient cash to meet upcoming demands.
 - Current Ratio varies by industry.
 - One shortcoming of the current ratio is that it does not differentiate assets, some of which may not be easily converted to cash.
 - Another shortcoming of the current ratio is that it reflects conditions at a single point in time.
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Quick (Acid-Test) Ratio

- It measures How quickly a company's assets can be turned into cash.
- The most common formulas used:
 - *$(\text{Current assets} - \text{Inventory}) / \text{Current liabilities} = \text{Acid-test ratio}$*
 - *$\text{Cash} + \text{Accounts receivable} + \text{Short-term investments} / \text{Current liabilities} = \text{Acid-test ratio}$*

Quick (Acid-Test) Ratio

Practical Considerations

- In general, the quick ratio should be 1:1 or better. It means a company has a unit's worth of easily convertible assets for each unit of its current liabilities.
 - While a ratio of 1:1 is generally acceptable to most creditors, acceptable quick ratios vary by industry.
 - Comparing quick ratios over an extended period of time can signal developing trends in a company.
 - Like the current ratio, the quick ratio is a snapshot, and a company can manipulate its figures to make it look robust at a given point in time.
 - A constant current ratio and falling quick ratio signal trouble ahead, because this suggests that a company is amassing assets at the expense of receivables and cash.
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