



Universidad del Desarrollo
Universidad de Excelencia

Finance I

Fall 2012

Session 18:

Content Review



▶ **Just 4 chapters: 10, 18, 29 and 30!!!**

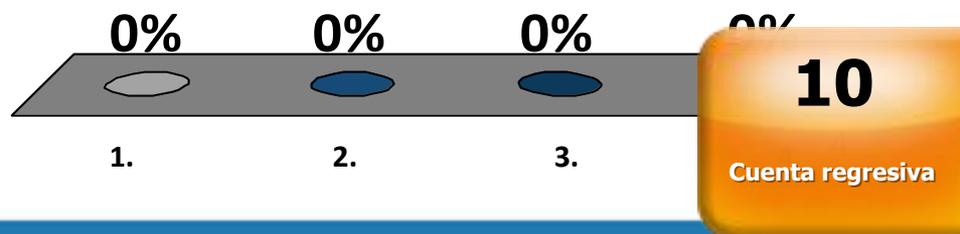
- 10: Cost of capital
- 18: Effects of Debt on Value and Risk
- 29: Financial Statements and Ratios
- 30: Working Capital Management

▶ **The expected return on a portfolio of all the company's existing securities**

- Assuming the company is rational, the expected return should be equal (or higher) than the required return given the risk of its securities
- If a new project has the same level of risk as the company, the required return should be the same

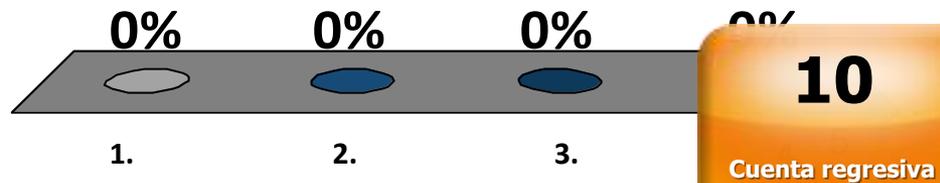
1. How do we calculate the expected return of a portfolio?

1. $x_1^2\sigma_1^2 + x_2^2\sigma_2^2 + 2x_1x_2\sigma_1\sigma_2\rho$
2. It depends on the risk profile of the assets within the portfolio
3. It's the weighted average expected return of its assets
4. It depends on the maturity of the returns



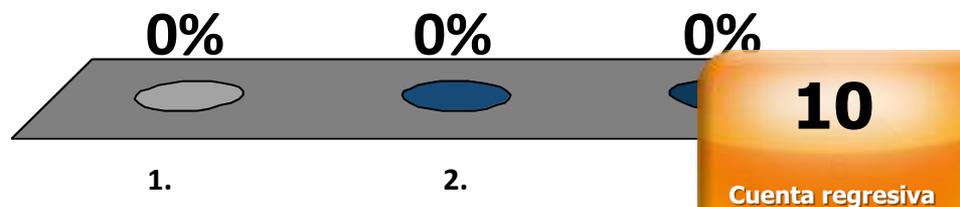
2. What would be the required expected return of a new project (C), that has the same risk of a portfolio with 2 projects, (60% weight, $E(r_1) = 10\%$ and 40% weight, $E(r_2) = 25\%$)?

- 1. 17.5%
- 2. 20%
- ✓ 3. 16%
- 4. 100%



3. Assume that project C has the same risk as the company, and it offers an expected return of 15%. Should you perform the project?

- ✓ 1. No
- 2. Yes
- 3. Depends



2. Effects of Debt on Risk and Value (WACC)

- ▶ **Other way to think about cost of capital:**

- ▶ **Different sources of funds imply different levels of risk**
 - Equity (shareholders)
 - Debt (Lenders and banks)
 - As mentioned, given the limited liability and the residual claim (owners get paid after debt is paid) shareholders hold higher risk than lenders

- ▶ **The asset's income is NOT affected by the source of funds**
- ▶ **The asset's revenue is GENERALLY affected by the source of funds (interest, corporate governance, tax)**

- ▶ **Lets start with the simplest case. Assume the revenue is NOT impacted by the sources of funds.**

- ▶ **If the project has an expected return of 16%, and the sources of funds are 50% bank debt and 50% shareholders.**

- ▶ **What should be the required return of banks and shareholders?**

- ▶ **Do we KNOW how much the bank expects to receive from the company?**
 - YES, it's the interest rate (at the most)!!!

- ▶ **Do we know how much the shareholders expect to receive?**
 - YES, the expect to receive whatever is left after the bank gets paid!!!

- ▶ So... if the project has an expected return of 16% and the banks (that hold 50% of the company) require 12% interest rate, what would be the expected return of shareholders?
- ▶ First, lets determine what equation we should solve:

$$R_a = R_d \frac{D}{V} + R_e \frac{E}{V}$$
$$R_e = R_a + (R_a - R_d) \frac{D}{E}$$

- ▶ Now, lets solve the equation

- ▶ **As you can see from the previous equation, the cost of capital of a company is the Weighted Average of the Cost of Capital... cleverly called WACC**

- ▶ **The correct way to determine the cost of capital is to start from the company cost of capital AND THEN decompose it as a WACC.**

- ▶ **This is because:**
 - the return of the project is NOT affected (our assumption) by the sources of funds
 - the risk of the owners depend on the level of debt and interest charged.

- ▶ **Some students and professionals get confused by the name WACC and assume it's a bottom up average (from the required return of each component, you get the required return of the asset)**
 - THIS IS WRONG!!!!
 - The return for the shareholder is ALWAYS the result of decomposing the asset's return on each source of funds

► **A more complicated case => The source of funds DOES impact revenue.**

- Tax effects of debt. The interest paid to banks is considered an expense, therefore are deducted from the company's revenue.
- Dividends are not considered an expense

$$WACC = R_d(1 - T_c) * \frac{D}{V} + R_e \frac{E}{V}$$

► Example:

- Project 1 has a perpetual profit of \$200 before tax. Tax rate is 25% = \$150 perpetual net profit
- The required investment is \$1000. => return of 15% perpetual
- If the company is owned by shareholders only, their return is $\$150/\$1000 \Rightarrow 15\%$ return

► If the company is financed 50% bank debt (\$500) at 10% and 50% shareholder (\$500)

- Project has to pay interest of \$50 each year, so the profit before tax is \$150, and the net profit is \$112.5
- The return for the bank is $\$50/\$500 = 10\%$,
- The return for the shareholders is $\$112.5/\$500 = 22.5\%!!!!$
- Is this magic????
- Is this real???
- Is this consistent with financial theory???

3. Financial Statements and Ratios

- ▶ **What are the most commonly used financial statements?**

- ▶ **Ratios can be constructed to analyze de financial and operational information of a company, typically in 4 main areas:**
 - Financial condition (Debt)
 - Liquidity
 - Efficiency
 - Profitability
 - Book mentions a fifth, regarding Market value (only for traded companies)

- ▶ **Is it meaningful to calculate a ratio with no point of comparison?**

3. Applied Examples

- ▶ **“Meaningful” ratios vary from industry to industry, company to company, business areas, etc.**

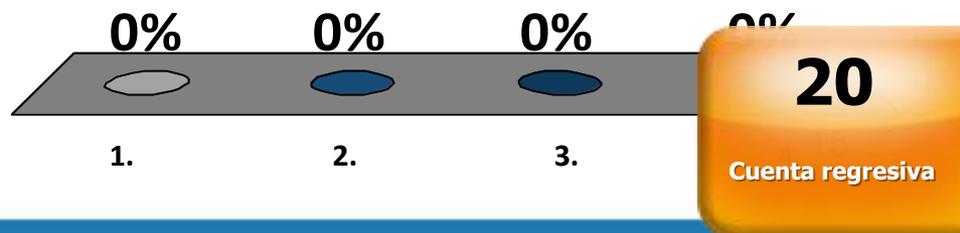
- ▶ **There is no “one size fits all” ratio**

- ▶ **The analyst’s point of view and experience should help determine the best ratio on each case**

- ▶ **When comparing ratios, you should be certain that the companies you are comparable in all relevant terms**
 - Business or business model
 - Organizational
 - Operational
 - Market

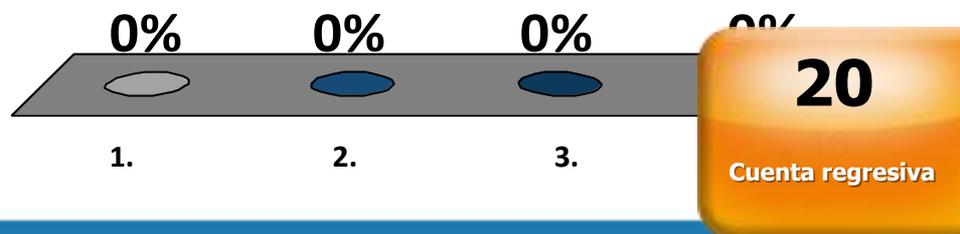
4. Which financial statement should you analyze to understand the asset position of the company?

- ✓ 1. Statement of Financial Position/
Balance Sheet
- 2. Statement of Comprehensive
Income / Income Statement
- 3. Statement of Changes in Equity
- 4. Statement of Cash Flows



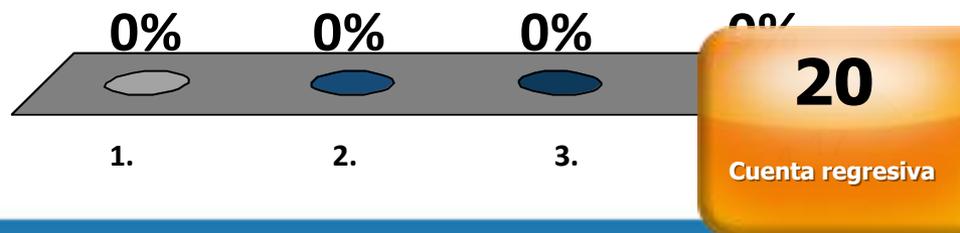
5. Which financial statement should you analyze to understand the operational result of a company?

1. Statement of Financial Position/
Balance Sheet
- ✓ 2. Statement of Comprehensive
Income / Income Statement
3. Statement of Changes in Equity
4. Statement of Cash Flows



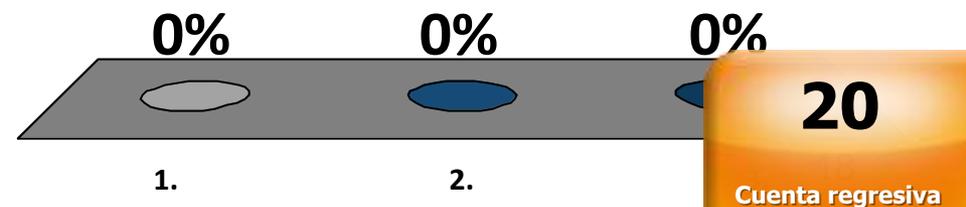
6. Which financial statement should you analyze to understand sources of cash of the company?

1. Statement of Financial Position/
Balance Sheet
2. Statement of Comprehensive
Income / Income Statement
3. Statement of Changes in Equity
- ✓ 4. Statement of Cash Flows



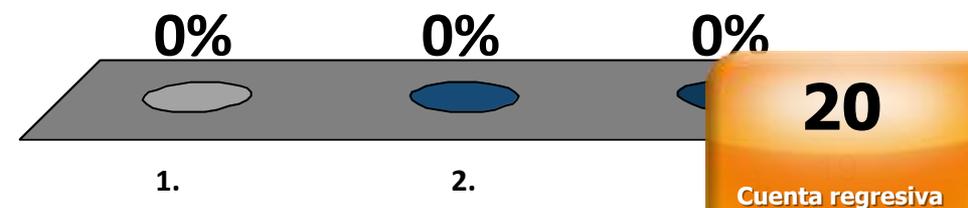
7. Should you use the same ratio for a car company and a coffee company?

1. Yes
2. No
- ✓ 3. Depends



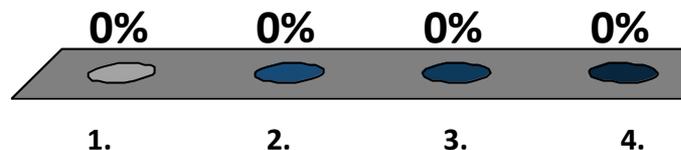
7. Should you use the same liquidity ratio to compare two companies from the same industry?

1. Yes
2. No
- ✓ 3. Depends



8. If you want to analyze the level of financial debt of a company, which ratio would be more appropriate?

1. Sales to Assets
2. Net Profit Margin
3. Debt to Equity
4. Debt ratio
- ✓ 5. Depends

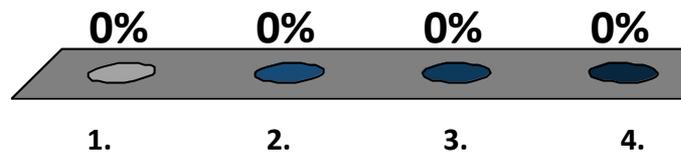


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Cuenta regresiva

9. If you want to analyze the liquidity of a company, which ratio would be more appropriate?

1. Sales to Assets
- ✓ 2. Current ratio
3. Debt to Equity
4. Debt ratio
5. Depends

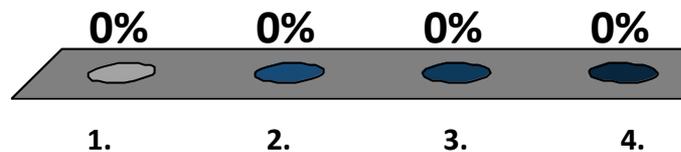


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Cuenta regresiva

10. If you want to analyze the efficiency of a company, which ratio would be more appropriate?

- ✓ 1. Sales to Assets
- 2. Current ratio
- 3. Debt to Equity
- 4. Market to Book
- 5. Depends



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Cuenta regresiva

4. Working Capital

- ▶ **Remember that assets are what the company owns. The company paid for them.**
- ▶ **The liabilities are what the company owes. The company received money and owes it.**
- ▶ **Then, if the current liabilities are larger than the current assets, it means that on a day to day basis, the company receives more money than it uses in the short term**
- ▶ **In general, a company wants to have little amounts of current assets and larger amounts of current liabilities**

4. Working Capital Current Assets' Management

- ▶ **General rule: as little as required**

- ▶ **Cash: depending of immediate short term payments**

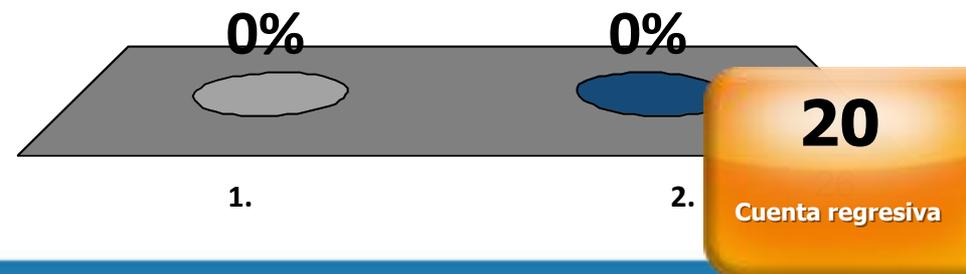
- ▶ **Inventories: depending on economic order quantity (EOQ)**
 - Larger the order, cheaper the unit cost (discounts, transport, handling, etc.)
 - Larger the order, higher the carrying cost (storage, insurance, theft, cost of capital)
 - There is a minimum total cost => EOQ

► Account Receivables:

- Depends on credit policy. No credit => No account receivables
- Credit policy is not only a financial decision. Includes a business plan approach.
- The book simplifies the approach using a discounted cash flow on the probabilities of payment
 - Probability of payment and probability of default
 - Earnings of payment and losses of default

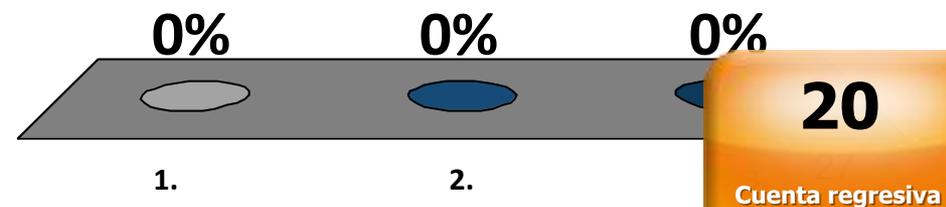
11. If current liabilities are larger than current assets, the company:

- ✓ 1. Generates funds?
- 2. Requires additional funds?



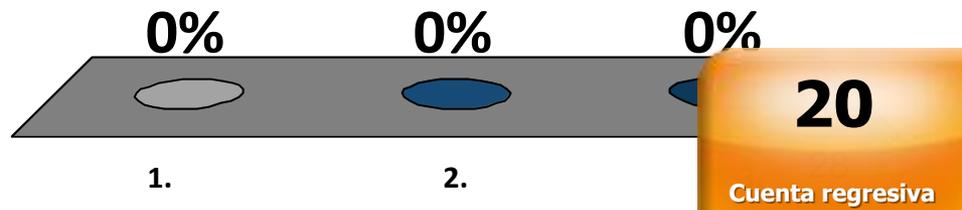
12. If you are the owner of a company, would you rather have

1. Positive working capital
(assets > liabilities)
2. Negative working capital
(liabilities > assets)
- ✓ 3. Depends



13. If a company is growing, would you rather have

1. Positive working capital
(assets > liabilities)
- ✓ 2. Negative working capital
(liabilities > assets)
3. Depends



Puntuaciones de participantes

32	Participante 58CA59		