Course Overview

■ Focus
  • intro graduate class on financial theory and financial decision-making

■ Effort and grading
  • lots of work
    ▶ 2 exams
    ▶ 7 problem sets and 2 cases
      • worked on in groups of 3 – 5
  • curved grade distribution

■ Materials
  • text, web readings, calculator, on-line website help
  • web page: http://www.sais-jhu.edu/faculty/bodnar
    ▶ material access: username: cf  password: bodnar

■ Dealing with me
  • office hours M 10:30 – 12:00 and Tu 10:45 - 12:15 pm or email
    (Room 704 BOB (1717 Mass))
  • T.A. times and locations to be announced
About Finance

- Finance is a field of economics which studies the optimal allocation of scarce resources
  - differs from other resource allocation decisions in that costs and benefits are
    1. spread out over time
    2. usually not known with certainty
- to make financial decisions agents use the financial system
  - this is a set of markets and institutions used for financial contracting and the exchange of assets and risks
  - markets: stock markets, bond markets, currency markets
  - institutions: banks, insurance companies, advisors, regulators
- lets begin the lecture
  - we will outline the financial system and the basics of financial decision making

Overview of the Financial System

- The financial system consist of markets, intermediaries, regulators, suppliers and users of funds
  - these players facilitate the flow of funds from those with surplus funds to those with deficit funds
  - markets are often located in a particular geographic location
    - NYSE or Shanghai stock exchange
    - some markets are not defined by location just a collection of information from disparate participants
      - these are called over-the-counter markets (i.e., NASDAQ, FX)
  - today’s markets are often global, operating around the world
Financial Market Intermediaries

- **Banks**
  - commercial banks take deposits and make loans
  - investment banks help clients issue securities to raise funds and buy/sell assets and manage investments
    - banks are provide both services are called universal banks

- **Insurance companies**
  - primary function is transferring and bearing risk
    - life, health, property/casualty, worker compensation

- **Pension funds**
  - long term investors who provide participants future income

- **Mutual funds**
  - investment company that create portfolios of stocks and bonds for individuals to purchase shares in
    - hedge funds are limited-member private mutual funds

- **Venture capital / Private equity firms**
  - firms that work with small start-up firms or troubled firms
    - provide cash and links to other outside investors
    - often provide business advice to inexperienced managers

Financial Regulation

- In order to work, the financial system needs some infrastructure and regulation
  - infrastructure consists of
    - accepted legal environment
      - forms of and enforcement of contracts and rules of behavior
        - this is often the most important issue in the financial development
    - trading rules for securities
      - typically designed to try to keep transaction costs low
        - in this area some rules are better than no rules
    - accounting systems
      - for coordination and standardization of financial information
  - regulation not always done by the government
    - often market participants have self-regulatory agencies
      - accounting standards, dealer groups, and exchanges
    - really the government’s most important job is to enforce contracts and protect property rights
Firm’s Financial Decisions

- We will focus mostly on how corporations make financial decisions
  - corporations take financial capital and invest in physical or human capital ...
    - financial capital ~ accumulated savings of others
    - physical capital ~ real assets like buildings, machines, etc.
    - human capital ~ training, ideas, special skills

  .... to create additional wealth

- after firms decide what business to be in, they
  - decide what projects to invest in
    - this is called the capital budgeting process
  - decide how to finance the investment (debt or equity)
    - this is called the capital structure question
  - manage the cash flow of the project
    - working capital management and risk management
  - decide on how to distribute profits
    - payout problem ~ pay dividends or re-invest in other projects

Forms of Business Organization

- There are several forms of business organization
  - sole proprietorship
    - a firm owned and managed by an individual or a family
      - proprietor has unlimited liability for claims on firm
  - partnership
    - a firm with owners where at least one has unlimited liability
      - it’s most common that all partners have unlimited liability
  - limited liability companies
    - a recent form of partnership where everyone has limited liability
      - partners can participate in running the business
  - corporation
    - a firm that is a legal entity distinct from its owners
      - corporations can enter contracts themselves
      - all owners’ liability is limited to investment in the firm
        - personal assets of owners are safe from performance of the firm
        - drawback is taxation at both corporate and personal level
Features of Corporate Form

- Corporations allow the separation of ownership and management
  - this allows
    - hiring of professional managers with superior skill
    - allows pooling of resources by many households to achieve investment on an efficient scale
    - allows owners to diversify their investments thereby reducing the amount of risk they face
    - allows for savings in the costs of information gathering
      » owners need not be knowledgeable in details of technology
    - valuable features of the firm are generally separate from its ownership allowing easy transfer of ownership
  - but these advantages must be offset against the conflicts of interest that arise (principle-agent problem)
    - contracts must be arranged so that managers are working for the interests of owners
      » there also needs to be monitoring of these contracts, which is costly

Goal of Professional Management

- What goal should professional management pursue in a corporation?
  - strive to maximize the market value of the firm
    - this generates the maximum possible benefit for the owners
      - the owners can then use the financial markets to adjust the riskiness of their holdings and timing of consumption
        » they can split their wealth between shares of firms and a safe (guaranteed) investment like government bonds
      - independent of the current/future consumption preferences of the owners, this rule works to make all owners better off than any other rule of operation for management
        - such as maximize current profits or maximize revenues
    - this rule is facilitated by the financial markets
      - to decide what maximizes firm value, managers need only consider the impact of a decision on the firm’s market price
Financial Markets and Information

- In order for market to determine the impact of a decision on firm value they need information
  - the main source of information about firms is their periodic reports and the financial statements within
  - financial statements are an periodic (annual/quarterly) summary of the accountings of all the firm’s activities
    - full reports are prepared annually with the financial data done according to a set of policies commonly referred to as GAAP (Generally Accepted Accounting Principles)
      - in the US these accounting rules are determined by a professional group known as the FASB (Financial Accounting Standards Board)
      - that firms use GAAP is verified by external audits and the rules are enforced by the US Securities and Exchange Commission (SEC)
        » auditing is now subject to regulation through the PCAOB (Public Company Accounting Oversight Board)
    - accounting statements are important for managers to validate that they are acting properly with outside investors’ money

Del Monte Foods Co. Annual Report

- Let’s look at the annual report of Del Monte Foods
  - the annual report (AR) is a document put out by the firm once a year that contains 4 distinct parts
    - corporate highlights and marketing (glossy stuff)
      » often contains lots of glossy pictures descriptions of products or services
    - management discussion and analysis of performance
      » managements explanation of current and past performance
    - the financial statements (the audited accounting numbers)
      » the 4 required financial statements
    - notes to financial statements
      » required details and disclosures of additional info related to statements
  - annual reports can now be obtained directly from off the internet
    - firm web sites: http://investors.delmonte.com
    - the financial part of the annual report (called the 10-K) must be filed with the SEC within 90 days of the end of the firm’s fiscal year
      » the 10K can be obtained from the SEC website http://www.sec.gov
  - let’s look at Del Monte’s (DLM) financial stmts ....
Financial Statements

- AR starts with glossy part that is mostly advertising and management/legal discussion
  - about half way through we find the financial statements
    - Balance Sheet
      - snapshot of assets and sources of funds financing those assets
      - values in accounts at single point in time
        » measure of the stock of assets and financing structure
    - Income Statement
      - flow measure of profits earned by a firm over some time period
        » typically a year, sometimes a quarter or several quarters
      - reports inflows (revenues) and outflows (expenses)
    - Other statements
      - Statement of Cash Flows
        » reports cash inflows and outflows for the period by operations, investing activities and financing activities
      - Statement of Changes in Shareholders’ Equity
        » reports details on sources of changes in owners’ equity

Balance Sheet

- Record of what the firm owns and how they paid for it
- Two sides: A = L + E

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liab+Eq</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>.25</td>
</tr>
<tr>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Current Assets:
- Cash and securities - liquid assets
- Accounts Receivable - money owed for sales not yet collected
- Inventories - raw materials, work in progress, and finished goods
- Other Current Assets – prepaid deferred taxes and expenses

Non Current (or Long Term) Assets
- PPE - plant, property and equipment
  » stated as original (purchase) value and net of accumulated depreciation
- goodwill, intangible assets – payments over book value, brand names
- other LT assets – LT assets not elsewhere classified

Total Assets - current assets plus long term assets
DLM’s Balance Sheet: Assets

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>April 27, 2008</th>
<th>April 28, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>$ 25.7</td>
<td>$ 13.0</td>
</tr>
<tr>
<td>Trade accounts receivable, net of allowance</td>
<td>286.7</td>
<td>261.1</td>
</tr>
<tr>
<td>Inventories</td>
<td>816.7</td>
<td>809.9</td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td>99.0</td>
<td>132.5</td>
</tr>
<tr>
<td>TOTAL CURRENT ASSETS</td>
<td>1,228.1</td>
<td>1,216.5</td>
</tr>
<tr>
<td>Property, plant and equipment, net</td>
<td>712.3</td>
<td>718.6</td>
</tr>
<tr>
<td>Goodwill</td>
<td>1,381.0</td>
<td>1,389.3</td>
</tr>
<tr>
<td>Intangible assets, net</td>
<td>1,191.3</td>
<td>1,198.6</td>
</tr>
<tr>
<td>Other assets, net</td>
<td>33.6</td>
<td>38.5</td>
</tr>
<tr>
<td>TOTAL ASSETS</td>
<td>$4,546.3</td>
<td>$4,561.5</td>
</tr>
</tbody>
</table>

Balance Sheet

- Liabilities and Owners’ Equity
  - accounts in liability section
    - current liabilities - those liabilities to be paid within 1 year
      - accounts payable – bills
      - short term debt and currently payable portion of long term debt
      - other payables (bills and expenses due within 1 year)
    - long term debt
      - borrowings of more than 1 year and capitalized leases
      - other liabilities – in this case future non-pension benefits to retirees
      - deferred income taxes (tax liability due in future)
      - minority interest – shares of operations owned by minority partners
  - accounts in stockholder’s equity section
    - common stock - par value - an artificial value for each share
    - capital surplus - money raised from shares above par value
    - retained earnings - past profits reinvested in firm
    - treasury stock - shares bought back by firm from investors
    - other stockholder equity – pension benefits and XR impacts
Balance Sheet Facts

- Balancing act
  - The balance in balance sheet is that
    \[ \text{Assets} = \text{Liabilities} + \text{Equity} \]
    
    - any change in firm situation must maintain this balance
    
    example: purchase new equipment => fixed assets increase
    
    - purchase must be paid for by one of three ways
      
      - use existing cash so current asset fall and total assets do not change
      
      - use credit / issue debt so liabilities rise (either short or long term)
      
      - issue new equity so owner’s equity increases
    
  
    - many items in balance sheet are book values
      
    - inventories, fixed assets, and shareholder’s equity
      
      - book value is essentially initial acquisition value
      
      - book equity is original capital investment plus retained earnings
        
        - less re-purchased shares (which are recorded at market cost)
      
      - book value of equity is not market value
        
        - market value of equity is current share price times number of shares
      
      - successful firms have market value of equity > book value of equity
        
        - for US firms the MV of equity is usually 2 – 3 times BV of equity

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DLM’s Balance Sheet: L & E

<table>
<thead>
<tr>
<th>LIABILITIES AND STOCKHOLDERS’ EQUITY</th>
<th>April 27, 2008</th>
<th>April 29, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>$ 489.6</td>
<td>$ 508.7</td>
</tr>
<tr>
<td>Short-term borrowings</td>
<td>0.3</td>
<td>21.8</td>
</tr>
<tr>
<td>Current portion of long-term debt</td>
<td>37.2</td>
<td>29.4</td>
</tr>
<tr>
<td><strong>TOTAL CURRENT LIABILITIES</strong></td>
<td>527.1</td>
<td>559.9</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>1,854.8</td>
<td>1,951.9</td>
</tr>
<tr>
<td>Deferred tax liabilities</td>
<td>397.4</td>
<td>368.0</td>
</tr>
<tr>
<td>Other non-current liabilities</td>
<td>266.5</td>
<td>229.5</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>3,045.8</td>
<td>3,109.2</td>
</tr>
</tbody>
</table>

Stockholders’ equity:

- Common stock ($0.01 par value per share, shares authorized:
  
  500,000,000; 214,653,086 issued and 197,285,084 outstanding at
  
  April 27, 2008 and 214,208,733 issued and 202,211,661 outstanding at
  
  April 29, 2007)                                      $ 2.1    $ 2.1

- Additional paid-in capital                   1,034.7  1,021.7

- Treasury stock, at cost                     (183.1)  (133.1)

- Accumulated other comprehensive income      8.2      24.4

- Retained earnings                           638.6    537.1

**TOTAL STOCKHOLDERS’ EQUITY**                  1,500.5  1,452.2

**TOTAL LIABILITIES AND STOCKHOLDERS’ EQUITY**  $4,546.3  $4,561.5

SAIS 380.760 Lecture 1 Slide 17
Income Statement

- Flow performance of firm
- Measure of accounting profitability over time period
  - Income statement items
    - Revenues - receipts from sales of products
    - Cost of Goods Sold (COGS) - cost of producing goods
    - Gross Profit - profit generated from selling product
    - Operating Expenses - indirect costs of producing goods, usually selling and general administrative expenses (SG&A)
    - Operating Income – earnings from operating the firm’s main activity
      - a.k.a. Earnings before Interest and Taxes (EBIT)
    - Interest expense – tax deductible interest paid on debt
    - Other income (expenses) – expenses or income n.i.e.
    - Earnings before income taxes (EBT)
    - Provision for Income taxes – tax allocation, not actual taxes paid
    - Adjustments for special events – discontinued operations
    - Net Income (Earnings) – the bottom line
    - Earnings per share
      - basic – current shares outstanding
      - diluted - all possible shares outstanding after converting options/convertible bonds

DLM’s Income Statement

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>$3,736.8</td>
<td>$3,414.9</td>
<td>$2,998.6</td>
</tr>
<tr>
<td>Cost of products sold</td>
<td>2,812.5</td>
<td>2,515.7</td>
<td>2,215.9</td>
</tr>
<tr>
<td>Gross profit</td>
<td>924.3</td>
<td>899.2</td>
<td>784.7</td>
</tr>
<tr>
<td>Selling, general and administrative expense</td>
<td>573.2</td>
<td>577.6</td>
<td>479.9</td>
</tr>
<tr>
<td>Operating income</td>
<td>549.1</td>
<td>521.0</td>
<td>364.8</td>
</tr>
<tr>
<td>Interest expense</td>
<td>150.3</td>
<td>154.6</td>
<td>84.2</td>
</tr>
<tr>
<td>Other income/expense</td>
<td>(2.5)</td>
<td>0.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Income from continuing operations before income taxes</td>
<td>201.3</td>
<td>166.6</td>
<td>215.5</td>
</tr>
<tr>
<td>Provision for income taxes</td>
<td>68.0</td>
<td>53.6</td>
<td>78.5</td>
</tr>
<tr>
<td>Income from continuing operations</td>
<td>133.3</td>
<td>113.0</td>
<td>137.0</td>
</tr>
<tr>
<td>Income (loss) from discontinued operations before income taxes</td>
<td>(0.3)</td>
<td>(0.8)</td>
<td>51.0</td>
</tr>
<tr>
<td>Provision (benefit) for income taxes</td>
<td>(0.1)</td>
<td>(0.4)</td>
<td>18.1</td>
</tr>
<tr>
<td>Income (loss) from discontinued operations</td>
<td>(0.2)</td>
<td>(0.4)</td>
<td>32.9</td>
</tr>
<tr>
<td>Net income</td>
<td>$ 133.1</td>
<td>$ 112.6</td>
<td>$ 169.9</td>
</tr>
</tbody>
</table>

Earnings per common share

Basic:

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuing Operations</td>
<td>$ 0.66</td>
<td>$ 0.56</td>
<td>$ 0.68</td>
</tr>
<tr>
<td>Discontinued Operations</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>$ 0.66</td>
<td>$ 0.56</td>
<td>$ 0.68</td>
</tr>
</tbody>
</table>

Diluted:

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuing Operations</td>
<td>$ 0.66</td>
<td>$ 0.55</td>
<td>$ 0.67</td>
</tr>
<tr>
<td>Discontinued Operations</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>$ 0.66</td>
<td>$ 0.55</td>
<td>$ 0.83</td>
</tr>
</tbody>
</table>
Income Statement Terms

- Commonly used income measures (bottom up)
  - NI - Net Income (or earnings)
    - baseline earnings of firm after all expenses and taxes
  - EBT - earnings before taxes
    - $ NI + Income taxes + adjustment for discontinued operations
  - EBIT - earnings before interest expense and taxes
    - $ NI + Income taxes + net interest expense
    - also known as Operating Income (excluding other income/expenses)
  - EBITDA - earnings before interest, taxes and depreciation and amortization
    - $ EBIT + depreciation + amortization
    - depreciation is allowance for wearing out of fixed capital and amortization is the allowance for reduction in intangible assets
    - by adding depreciation and amortization to EBIT, EBITDA is the broadest measure of cash generated by operations

Statement of Cash Flows

- Describes sources and uses of cash by the firm
  - reports where firm generated and spent its cash
  - 3 sections
    - cash provided by operating activities
      - this is net income plus adjustments for non cash items
        - this is where annual depreciation charge can be found
        - subtract increases in cur liabs and add increases in cur assets
    - cash used in investing activities
      - this details firm’s use of cash for investments
        - both purchases and sales
    - cash from financing activities
      - this details the creation and use of cash from issuing or buying back securities or paying dividends
  - in FYR2008 DLM generated $286.9M and used $79.7M and $194.5M, so their cash position increased by $12.7M
    - they generated less cash than they used and increased their cash balances by $12.7M from $13.0M to $25.7M
DLM’s Statement of Cash Flows

<table>
<thead>
<tr>
<th>PERIOD ENDING</th>
<th>27-Apr-08</th>
<th>29-Apr-07</th>
<th>30-Apr-06</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Activities, Cash Flows Provided By (+) or Used In (-)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Income</td>
<td>133,100</td>
<td>112,600</td>
<td>169,900</td>
</tr>
<tr>
<td>Depreciation</td>
<td>106,200</td>
<td>100,600</td>
<td>92,000</td>
</tr>
<tr>
<td>Adjustments To Net Income (deferred tax, stock comp)</td>
<td>39,200</td>
<td>72,200</td>
<td>-14,600</td>
</tr>
<tr>
<td>Changes In Accounts Receivables</td>
<td>-26,700</td>
<td>-4,000</td>
<td>-25,000</td>
</tr>
<tr>
<td>Changes In Liabilities</td>
<td>14,100</td>
<td>-33,400</td>
<td>6,400</td>
</tr>
<tr>
<td>Changes In Inventories</td>
<td>-6,200</td>
<td>-2,800</td>
<td>-14,300</td>
</tr>
<tr>
<td>Changes In Other Operating Activities</td>
<td>25,200</td>
<td>-15,100</td>
<td>-11,700</td>
</tr>
<tr>
<td><strong>Cash Flow From Operating Activities</strong></td>
<td>286,900</td>
<td>230,100</td>
<td>261,200</td>
</tr>
<tr>
<td><strong>Investing Activities, Cash Flows Provided By (+) or Used In (-)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>-96,700</td>
<td>-95,000</td>
<td>-69,100</td>
</tr>
<tr>
<td><strong>Total Cash Flows From Investing Activities</strong></td>
<td>-79,700</td>
<td>-1,344,800</td>
<td>182,400</td>
</tr>
<tr>
<td><strong>Financing Activities, Cash Flows Provided By (+) or Used In (-)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividends Paid</td>
<td>-32,200</td>
<td>-32,100</td>
<td>-8,000</td>
</tr>
<tr>
<td>Sale/Purchase of Stock</td>
<td>-46,200</td>
<td>8,700</td>
<td>-120,200</td>
</tr>
<tr>
<td>Net Borrowings</td>
<td>-116,200</td>
<td>690,300</td>
<td>-800</td>
</tr>
<tr>
<td>Other Cash Flows from Financing Activities</td>
<td>100</td>
<td>800</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Cash Flows From Financing Activities</strong></td>
<td>-194,500</td>
<td>667,700</td>
<td>-123,000</td>
</tr>
<tr>
<td><strong>Cash balance at beginning of year</strong></td>
<td>13,000</td>
<td>459,900</td>
<td>145,900</td>
</tr>
<tr>
<td><strong>Effect Of Exchange Rate Changes</strong></td>
<td>0</td>
<td>100</td>
<td>-600</td>
</tr>
<tr>
<td><strong>Change In Cash and Cash Equivalents</strong></td>
<td>12,700</td>
<td>-447,000</td>
<td>314,600</td>
</tr>
<tr>
<td><strong>Cash balance at end of year</strong></td>
<td>25,700</td>
<td>13,000</td>
<td>459,900</td>
</tr>
</tbody>
</table>

Statement of Shareholders’ Equity

- This statement details the changes in shareholders’ equity part of balance sheet
  - structured with same entries as Shareholder’s Equity section of balance sheet
    - shows items in changes form (year-to-year)
    - allows outsider to see how and why book value of equity changes
    - includes items such as
      - retained earnings
      - dividends
      - new share issuance or repurchase
      - exercise of stock options
    - also reports Comprehensive Income
      - combination of net income plus unrealized XR gains and losses and changes in value of certain hedging instruments
    - can see net impact of share repurchase and sales each year
DLM’s Statement of SH Equity

- This statement breaks down the changes in the SH’s equity section of the B/S across years
- reports changes for all items for last three years
- below is DLM’s changes in SH equity for 2007 to 2008

<table>
<thead>
<tr>
<th>Common Stock</th>
<th>Treasury Stock</th>
<th>Additional Paid-In Capital</th>
<th>Accumulated Other Comprehensive Income (Loss)</th>
<th>Retained Earnings</th>
<th>Total Stockholders' Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares</td>
<td>Amount</td>
<td>Shares</td>
<td>Amount</td>
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</tr>
<tr>
<td>Balance at April 29, 2007</td>
<td>202,211,961</td>
<td>$2.1</td>
<td>11,097,972</td>
<td>$133.1</td>
<td>$1,021.7</td>
</tr>
<tr>
<td>Net Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other comprehensive income (loss):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss on cash/fx hedging instrument (net of tax benefit of $0.5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currency translation adjustment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pension liability adjustment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(net of tax of $0.1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuance of shares</td>
<td>444,383</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repurchase of shares</td>
<td>(5,376,030)</td>
<td></td>
<td>(5,376,030)</td>
<td></td>
<td>(50.0)</td>
</tr>
<tr>
<td>Dividends declared ($0.34 per share)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax benefit from stock options exercised</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjustment to initially apply FIN 48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock option expense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted stock units and amortization of unearned compensation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance at April 27, 2008</td>
<td>197,285,086</td>
<td>$2.1</td>
<td>17,268,082</td>
<td>$133.1</td>
<td>$1,094.7</td>
</tr>
</tbody>
</table>

Interrelation of Financial Statements
Del Monte Foods Co.

Statement of Cash Flows
- Beginning Cash ($000) $13.0
- Net Increase in Cash $12.7
- Ending Cash Balance $25.7

Income Statement
- Net income ($000) $133.1

Balance Sheet
- ASSETS:
  - Cash ($000) $26.7
  - All other assets $4,520.6
  - Total Assets $4,546.3
- LIABILITIES $3,045.8
- STOCKHOLDER EQUITY
  - Common Stock $1,036.8
  - Retained Earnings $638.6
  - Other Equity $174.9
- TOTAL LIAB AND SH EQ $4,546.3

Statement of Shareholders’ Equity
- Retained Earnings at the beginning of the year ($000) $537.1
- Net Income $133.1
- Less Dividends $31.6
- Retained Earnings at the end of the year $638.6
Financial Ratios

- Ratios are designed to meet information needs of investors and creditors
  - ratios are way to use financial information in order to make comparisons of risk and return across firms
    - careful analysis of ratios can provide insight into a firm’s economic characteristics and competitive advantages
      - the ratios in and of themselves are somewhat meaningless, their real role is to indicate where an analyst needs to do more analysis or ask more questions about the firm
  - 5 basic categories of ratios
    - leverage or solvency ratios - show proportion of fixed claims (debt) used to finance the firm (default risk)
    - liquidity ratios - measure of cash availability within the firm
    - efficiency or activity ratios - indicate how productively the firm uses its assets
    - profitability ratios - indicate rate of (accounting) return earned on investments
    - market value ratios - indicate how highly firm is valued by investors

A Few Words About Ratios

- Reasons to be somewhat leery of ratios
  - ratios are typically calculated using book values rather than market values
    - in truth we should want to use market values as these are more realistic
      - often more difficult to obtain
    - example: market value of equity includes value of intangible assets
      - R&D, name recognition, accumulated human capital, future investment opportunities
      - however, these assets are not readily saleable and may disappear if firm experiences trouble; thus, book value of assets may be more appropriate
  - other potential problems abound with ratios
    - benchmarks, timing and window dressing, negative numbers, and differences in accounting methods
## Ratio Examples

### Consider F/S of Executive Paper Co.

#### Executive Paper Balance Sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>Dec 2005</th>
<th>Dec 2006</th>
<th>diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash &amp; Securities</td>
<td>75.0</td>
<td>110.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Receivables</td>
<td>433.1</td>
<td>440.0</td>
<td>6.9</td>
</tr>
<tr>
<td>Inventory</td>
<td>339.9</td>
<td>350.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Total Current Assets</td>
<td>848.0</td>
<td>900.0</td>
<td>52.0</td>
</tr>
<tr>
<td>Fixed Assets:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P, P &amp; E</td>
<td>929.5</td>
<td>1000.0</td>
<td>70.5</td>
</tr>
<tr>
<td>Accum Deprec</td>
<td>396.7</td>
<td>450.0</td>
<td>53.3</td>
</tr>
<tr>
<td>Net Fixed Assets</td>
<td>532.8</td>
<td>550.0</td>
<td>17.2</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>1,380.8</td>
<td>1,450.0</td>
<td>69.2</td>
</tr>
</tbody>
</table>

#### Liabilities and Equity

<table>
<thead>
<tr>
<th>Liabilities and Equity</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Liabs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt due in 1 year</td>
<td>96.6</td>
<td>100.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Payables</td>
<td>349.9</td>
<td>360.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Total current liabilities</td>
<td>446.5</td>
<td>460.0</td>
<td>13.5</td>
</tr>
<tr>
<td>Long term debt</td>
<td>425.0</td>
<td>450.0</td>
<td>25</td>
</tr>
<tr>
<td>Shareholders equity</td>
<td>509.3</td>
<td>540.0</td>
<td>30.7</td>
</tr>
<tr>
<td><strong>Total Liabilities and Equity</strong></td>
<td>1,380.8</td>
<td>1,450.0</td>
<td>69.2</td>
</tr>
</tbody>
</table>

### I/S and Statement of Cash Flows for Executive Paper


<table>
<thead>
<tr>
<th>$ millions</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>2,200.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costs of Goods Sold</td>
<td>1,500.0</td>
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<td></td>
</tr>
<tr>
<td>Other Costs (SGA)</td>
<td>480.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>53.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBIT</td>
<td>166.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>42.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax</td>
<td>49.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td><strong>74.5</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividend</td>
<td>43.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained earnings</td>
<td>30.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings per share, dollars</td>
<td>5.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividend per share, dollars</td>
<td>3.09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sources and Uses of Funds (2006)

<table>
<thead>
<tr>
<th>Sources</th>
<th>$ millions</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>74.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>53.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>127.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borrowing</td>
<td>25.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock issues</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total sources</strong></td>
<td><strong>152.8</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Uses</th>
<th>$ millions</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in net working capital</td>
<td>38.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment</td>
<td>70.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividends</td>
<td>43.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total uses</strong></td>
<td><strong>152.8</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Executive Paper - Other Data

<table>
<thead>
<tr>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>1110</td>
<td>1231</td>
</tr>
<tr>
<td>598</td>
<td>708</td>
</tr>
<tr>
<td>14.16</td>
<td>14.16</td>
</tr>
<tr>
<td>42.25</td>
<td>50</td>
</tr>
</tbody>
</table>
Leverage Ratios

Determining possibility of financial distress

- **Debt ratio** = Total Debt / Total Equity

  - also known as Total debt to equity ratio
  - a simple ratio of the amount of debt to the book value of equity
  - for Executive Paper (EP) this ratio is 550/540 = 1.02
    - typical range for US firms is 0.5 - 1.5 (avg = 0.74)
  - greater ratio => greater probability of financial distress
    - also depends on volatility of income
    - many variations: includes debt-capital ratio or total debt to equity ratio

- **LT Debt to equity** = LT Debt / Total Equity
- **Debt to Total Capital ratio** = Total debt / (Total debt + Total Equity)

  - there are many other ways debt ratios can be calculated
    - be sure you know how the ratio is calculated before commenting on its value

---

Leverage Ratios

- **Times interest coverage**

  - this is extent to which the firm is able to meet its interest payments

  \[ \text{times interest coverage} = \frac{\text{EBIT}}{\text{interest expense}} \]
  or sometimes seen as \( \frac{(\text{EBIT} + \text{D&A})}{\text{interest expense}} \)

  - sometimes other income/expenses is added to EBIT
  - EP’s times interest coverage = (166.7)/42.5 = 3.9
    - average for US firms = 14.5
    - thus EP had pre-tax cash flows of 3.9 times their interest expense for the period
      - clearly higher ratios are better
      - if this ratio is below 1, the firm will either need to borrow to pay interest or default on its fixed claim obligations
      - if this ratio is really high, it suggests room for additional borrowing
    - we measure this ratio on pre-tax income because interest payments are made from pre-tax income
      - interest payments are tax deductible
Liquidity Ratios

- Liquidity ratios provide an indication of firms’ ability to get their hands on cash
  - this is extremely important to short term creditors
  - several different ratios
    - most broad is
      \[
      \text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}
      \]
      - for EP this ratio is \( \frac{900}{460} = 1.96 \)
        - average for US firms is 1.74
      - this ratio compares cash-like assets to near term (1 year) payments
        - clearly higher is safer
      - affected by short term securities and short term debt
        - a firm borrows ST $100 and invests in T-bills
        - Net working capital is unaffected by current ratio decreases
          - sometimes we remove short term borrowings and investments

Other Liquidity Ratios

- Quick ratio (acid-test ratio)
  - because some ST assets are less like cash than others, some analysts like to look only at “near cash” assets
    \[
    \text{Quick ratio} = \frac{(\text{cash}&\text{equivalents} + \text{receivables})}{\text{current liabilities}}
    \]
    - EP’s quick ratio = \( \frac{(110 + 440)}{460} = 1.20 \) (avg = 1.23)
    - creditors like to see this ratio around 1
  - even more narrowly, we have the cash ratio
    \[
    \text{Cash ratio} = \frac{(\text{cash} + \text{ST securities})}{\text{current liabilities}}
    \]
    - EP’s cash ratio = \( \frac{110}{460} = .24 \)
    - one concern with liquidity ratios is that they do not take into account the firm’s capacity to borrow liquid funds
      - who cares if you have no cash around if you have a line of credit available to you?
Efficiency Ratios

- These ratios indicate how well the firm is managing its assets
  - most common is sales turnover ratio
    - it measures how hard the firm’s assets are working to produce revenues
      - EP’s Sales/asset ratio = \( \frac{2,200}{\frac{(1380.8 + 1450)}{2}} \) = 1.55
        - each dollar of assets produced $1.55 of sales
        - US company average = 0.97
      - high ratios are better but there is likely a capacity limit
    - note we average assets as they are likely to change over the period
    - occasionally we might look at sales to some component of assets
      - like sales/fixed assets or sales/net working capital

\[
\text{Asset turnover ratio} = \frac{\text{Sales}}{\text{Average Total Assets}}
\]

- Short Term Efficiency Ratios
  - One important aspect of efficient operations is inventory and receivables management
  - inventory ratios are meant to indicate how efficiently the firm is managing its inventories and supply chain
    - for this we often look at an inventory turnover ratio
      - average inventory is (begin of yr + end of year)/2
      - for EP this ratio = \( \frac{1500}{\frac{(339.9+350)}{2}} \) = 4.35 (US avg = 12.2)
        - thus EP’s inventory turns over just over 4 times per year
        - a low turnover would suggest inefficient supply management and tying up extra money
      - it is sometime easier to look at average days of inventory

\[
\text{Inventory Turnover} = \frac{\text{Cost of Good Sold}}{\text{Average Inventory}}
\]

\[
\text{Average Days of Inventory} = \frac{365}{\text{Inventory Turnover}}
\]

- EP’s average days of inventory = \( \frac{365}{4.35} \) = 83.9 days
Short Term Efficiency Ratios

- We have similar ratios for receivables management
  - leaving accounts receivables outstanding costs money
  - receivable turnover ratio

  \[ \text{Accounts Receivables Turnover} = \frac{\text{Sales}}{\text{Average A/R}} \]

  - average A/R is (begin of year + end of year)/2
  - EP’s A/R turnover = \( \frac{2,200}{\left(\frac{433.1 + 440}{2}\right)} = 5.04 \)
    - US firm average = 10.4
  - thus, receivables turnover just over 5 times per year
  - a higher number is better or convert it into average days of receivables outstanding

  \[ \text{Average Days of A/R Outstanding} = \frac{365}{\text{A/R Turnover}} \]

  - EP’s days A/R outstanding = \( \frac{365}{5.04} = 72.4 \) days
    - US firm average = \( \frac{365}{10.4} = 35 \) days
    - lower is better as this is how long EP waits to collect its payments

Profitability Ratios

- These ratios indicate where profits are coming from (or not coming from)

  \[ \text{Gross Margin} = \frac{\text{Gross Profit}}{\text{Sales}} = \frac{(\text{Sales} - \text{COGS})}{\text{Sales}} \]

  - for EP this ratio = \( \frac{2200 - 1500}{2200} = 700/2200 = 32\% \)
    - US firm average = 45\%

  \[ \text{Operating Margin} = \frac{\text{Operating Income}}{\text{Sales}} \text{ or } \frac{\text{EBIT}}{\text{Sales}} \]

  - US firm average = 20\%
  - for EP this ratio = \( \frac{166.7}{2200} = 7.6\% \)
    - because it includes interest expense in the income measure this ratio measures profitability that is independent of the firm’s financing and/or tax position

  \[ \text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}} \]

  - for EP this ratio = \( \frac{74.5}{2200} = 3.4\% \)
    - US firm average = 13.6\% (close to record highs)
    - though this will be dependent upon the level of debt
Performance Measures

- Other ratios tell us about returns (performance)
  - Return on assets (ROA)
    \[
    \text{Return on assets} = \frac{\text{EBIT} - \text{tax}}{\text{Total assets}}
    \]
    - EP's ROA ratio = \((166.7 - 49.7)/(1450) = 8.1\%\)
      - US firm average = 8.2\%
    - higher is clearly better for all these performance measures
    - since the denominator is all assets, the numerator should reflect
      the earnings to all assets (debt + equity)
  - Return on investment (ROI)
    \[
    \text{Return on investment} = \frac{\text{Net Income}}{\text{LT Debt + Equity}}
    \]
    - EP's ROI = \(74.5 / (450 + 100 + 540) = 6.8\%\) (US avg = 12.2\%)
  - Return on equity (ROE)
    \[
    \text{Return on equity} = \frac{\text{Net Income}}{\text{Total equity}}
    \]
    - EP's ROE = \(74.5/ 540 = 13.7\%\) (US avg = 20\%)

Market Value Ratios

- Other ratios are based upon market values
  - sometimes rather than depending entirely on accounting
    figures, some ratios use market values
    \[
    P / E \text{ ratio} = \frac{\text{Market Capitalization}}{\text{Net Income}} = \frac{\text{Stock price}}{\text{Earnings per share}}
    \]
    - this is the price an investor is willing to pay per dollar of earnings
      - should remove dividends to preferred shares from earnings
    - EP's P/E ratio = 50/5.37 = 9.3
    - average P/E ratio of US market is around 21 (historical avg 16)
      - P/E is meaningless if earnings are negative
      - beware that P/E is infinite when earnings go to zero
    - should use forward looking earnings estimates rather than historic
      - can find earnings estimates on analyst pages for most companies
    \[
    \text{Dividend yield} = \frac{\text{dividend per share}}{\text{stock price}}
    \]
    - EP's dividend yield = \(3.22 / 50 = 6.4\%\) (US firm avg = 2.1\%)
      - this is the return one can expect even if there is no price increase
Market Value Ratios

- **Market to book ratio**
  
  \[
  \text{Market to Book ratio} = \frac{\text{stock price}}{\text{book value of equity per share}}
  \]

  - EP’s market to book ratio = \(\frac{50}{(590/14.16)} = 1.2\)
    - US firm avg = 4.0
    - this ratio indicates the factor by which the market values the equity of the firm relative to how the accountants measure it
    - typically the market value is higher since the market values intangible assets (R&D, brand names, employee training)
  - can be done either on per share basis or total basis
    - EP’s market to book ratio = \(\frac{50 \times 14.16}{590} = 1.2\)
    - market to book ratios are commonly used to help determine the price to pay when a company goes public
    - market price is book value times comparable market to book ratio
    - consider value of similar firm to EP with book value of equity of $300m
      - estimate of market price of firm = $300m \times 1.2 = $360m

Choosing Benchmarks

- Ratio analysis is only useful in that they can be compared to some benchmark
  - typically ratios are compared to a set of similar firms
    - these are referred to as “comparables”
      - important that the firms are similar to the target
      - these “comps” can be used to determine the value of a firm
    - or ratios can be compared to industry benchmarks
      - these are published by various financial services
      - sometimes industry groups can be too broad
    - alternatively compare the ratios to previous year’s ratios
      - this allows evaluation of how the firm is performing over time
  - bottom line:
    - ratio analysis is only as good as the benchmarks against which the comparisons are made
      - as much thought needs to go into getting the right benchmark
Summary

- Basic components of financial statements
  - balance sheet - snapshot of accounts
  - income statement - flow of profits
  - statement of cash flow and owners’ equity
    - denote source and uses of funds and changes in equity

- Financial Ratios
  - purpose and dangers
  - types of ratios
  - benchmarks

- take on problem set #1
  - I want to see professional looking write-ups
  - turn in one write-up per group, use a group name in the file
  - email to corpfin@jhu.edu by class time on Feb 10