From Accounting to Finance

- Accounting measures, interprets and communicates the information on financial health of a firm or organization.
- This information is used by …

– Owners, investors and creditors	⇒	to evaluate operations of the firm and/or for investment decisions.
– Management	⇒	to plan and control
– Employees and unions	⇒	for contract negotiations
– Lenders and suppliers	⇒	for credit decisions
– Government agencies and regulatory bodies	⇒	for assessing tax liabilities and/or for approving new issues of stocks and bonds

- Three kinds of business activities involve accounting: (a) financing, (b) investing, and (c) operating.

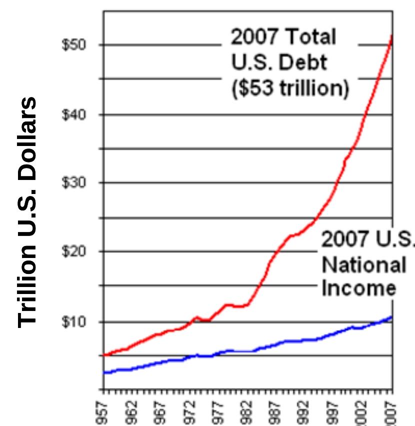
> **General Motors Getting Eaten Alive by a Free Lunch** by *Allan Sloan* (http://www.washingtonpost.com/wp-dyn/articles/A64599-2005Apr18.html): "Pension and health care obligations are eating GM alive. The bill for the "free" lunch has come in -- and GM is having trouble paying the tab. In the past two years, GM has put almost $30 billion into its pension funds and a trust to cover its OPEB (other post-employment benefits) obligations. Yet these accounts are still a combined $54 billion underwater. At year-end, OPEB was $57 billion in the hole, even though GM threw $9 billion into an OPEB trust in 2004. The company has no legal obligation to pre-fund these costs, but it's trying to show the financial markets and its workers that it's dealing with them. The OPEB trust has a hefty $20 billion of assets – but GM calculates its obligations at a staggering $77 billion. …"

- The basic accounting equation is Assets = Liabilities + Owner's Equity
- Financial statements summarize the entire accounting information:
  - ⇒ Balance sheet is date-specific, it shows the firm's financial position (i.e., assets, liabilities and owner's equity) at a specific point in time.
  - ⇒ Income statement reflects the flow of resources that reveal the firm's performance over a specific time-period.
  - ⇒ Cash-flow statement provides investors, creditors as well as the firm's managers with the relevant information about a firm's cash receipts and cash payments for its operations, investments and financing during an accounting period (poor cash flow means trouble!).

$$\textbf{Debt ratio} = \frac{\textbf{Total debt}}{\textbf{Total assets}}$$

is a leverage ratio that measures how much a firm relies on debt financing, e.g., a value of 0.5 or greater indicates that the firm is heavily leveraged, as 50% or more of its operations are debt-financed. This is not a healthy, and often causes bankruptcy.

But then, note that the U.S. itself is heavily debt-financed. Our total debt in 2007 stood at $52.9 trillion ($41.5 trillion private household, business and financial sector debt and $11.4 trillion federal, state and local government debt), for instance, as is graphed below. Is the U.S. headed for bankruptcy, then? Clearly not, once we realize that U.S. dollar is effectively the world's reserve currency.



http://mwhodges.home.att.net

- Financial ratios help evaluate a firm's liquidity, activity, profitability and leverage, e.g.,
  - ⇒ Current ratio = Current assets/Current liabilities indicates the firm's liquidity
  - ⇒ Inventory turnover = Sales/average inventory and asset turnover = sales/average assets indicates a firm's activity level
  - ⇒ Return on assets (ROA) = Net income/average assets and Return on equity (ROE) = Net income/average equity indicate a firm's profitability.
  - ⇒ Debt ratio = Total liabilities/Total assets is one of the most used indicators of how leveraged a firm is.

http://www.youtube.com/watch?v=mYFKuXetYM4

- P/E (or Price/Earnings) ratio is perhaps the best known of the financial ratios that is also used for stock and market valuation, e.g., this brokerage house Charles Schwab's Anna Kournikova commercial.

The rational here is simple and straightforward. For the Gordon-Growth model of equity valuation as $P = D/(r-g)$, where P is price, D is dividend, r is discount rate and g the sustainable growth rate, an equivalent form works out to be $P = E/ROE$, where E denotes earnings and ROE = r is the return on equity (as also the discount rate)*.

* Wealth Forever: The Analytics of Stock Markets by Sarkis J. Khoury, Poorna Pal, Chunsheng Zhou, and John Karayan (World Scientific, 003).