

Problem S1

(AAPL) The following are screen shots from Apple profile on Google Finance.

Financials (Balance Sheet) ...

| In Millions of USD (except for per share items) | As of 2015-09-26 |
|---|-------------------|
| Cash & Equivalents | 10,669.00 |
| Short Term Investments | 20,481.00 |
| ... | - |
| Other Current Assets, Total | 15,085.00 |
| Total Current Assets | 89,378.00 |
| Property/Plant/Equipment, Total - Gross | 49,257.00 |
| ... | |
| Other Long Term Assets, Total | 5,556.00 |
| Total Assets | 290,479.00 |
| Accounts Payable | 35,490.00 |
| ... | |
| Total Current Liabilities | 80,610.00 |
| Long Term Debt | 53,463.00 |
| Total Liabilities | 171,124.00 |
| Redeemable Preferred Stock, Total | - |
| ... | |
| Total Equity | 119,355.00 |

Summary ...

Apple Inc. (NASDAQ:AAPL) [Add to portfolio](#)

121.06
+0.14 (0.12%)
Nov 6 - Close
NASDAQ real-time data - Disclaimer
Currency in USD

| | | | |
|------------|-----------------|-----------|-----------|
| Range | 120.62 - 121.81 | Div/yield | 0.52/1.72 |
| 52 week | 92.00 - 134.54 | EPS | 9.20 |
| Open | 121.11 | Shares | 5.58B |
| Vol / Avg. | 0.00/50.03M | Beta | 0.86 |
| Mkt cap | 674.95B | Inst. own | 62% |
| P/E | 13.16 | | |

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- Estimate Apple latest market value.
- Find the market-to-book ratio of Apple.
- Comment on the value in (b), and justify its magnitude, in no more than five lines.

Problem S2

(UPS Battery) On January 1, 2015, you bought a backup battery for your office uninterruptible power supply (UPS) system. In each of the next three years, the battery can fail and a new battery needs to be bought (if you want to keep using the UPS system). The maximum lifespan of the battery is four years; i.e., the battery must be replaced after four years. Due to chemical properties, the probability of the battery failure is fixed at 20% in each year. Each year, it is estimated that the battery will save \$1,200 in backup power cost. The market interest rate is 8%.

- (a) Provide a fair valuation for the battery on January 1, 2015.
- (b) It's now January 1, 2016. Suppose the battery did not fail yet, and because of a new ventilation system you have recently installed in the office, the failure probability of the battery has dropped to 15% in each of the two coming years. What are the normal and abnormal economic earnings in 2015?