



In Class Exercises (ICE) - 11/27/00

In this activity, you'll have a chance to learn something about modeling investments and stock indices. The financial index that you'll be modeling is the Price-to-Earnings Ratio (or "P/E Ratio"). This is one of the indicators that a lot of investors use to decide whether to buy a stock. The "Motley Fool" web-site (www.fool.com) describes the P/E Ratio:

"Let's just get our hands dirty from the outset and calculate the P/E for Cindy's Snowshoes (NASDAQ: RAKD). Your daily paper shows you Cindy's stock trading at \$20 per share. Your broker informs you that last year the company earned \$2.50 per share. The P/E ratio? Right. 8."

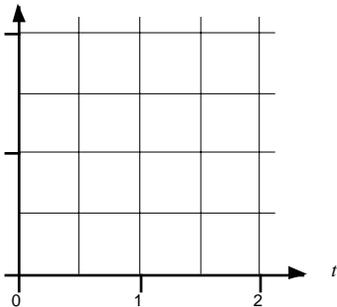
- Table 1 (below) shows prices and earnings per share of America Online (NYSE: AOL) shares. Complete the table by calculating the P/E ratios.***

Year	t	Price of 1 share (\$)	Earnings per share (\$)	P/E ratio
1998	0	13.14	-0.040	
1999	1	55.00	0.300	
2000	2	52.88	0.480	

Table 1: Share prices and earnings for FY1998, 1999, 2000 for AOL¹.

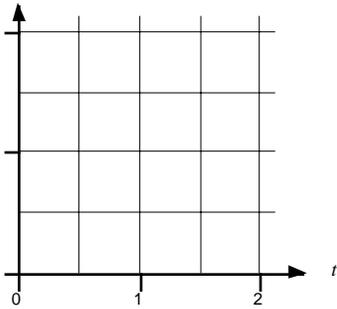
The real trick with buying and selling stock is trying to figure out what is going to happen to the stock prices and earnings in the future. To do this, you make mathematical models for the stock price and the stock earnings. Basically, these models are functions that give either the stock price or the earnings as functions of time.

- Use the information in Table 1 to find a formula for earnings as a function of 't.' Use the axes given below to represent your model graphically.***

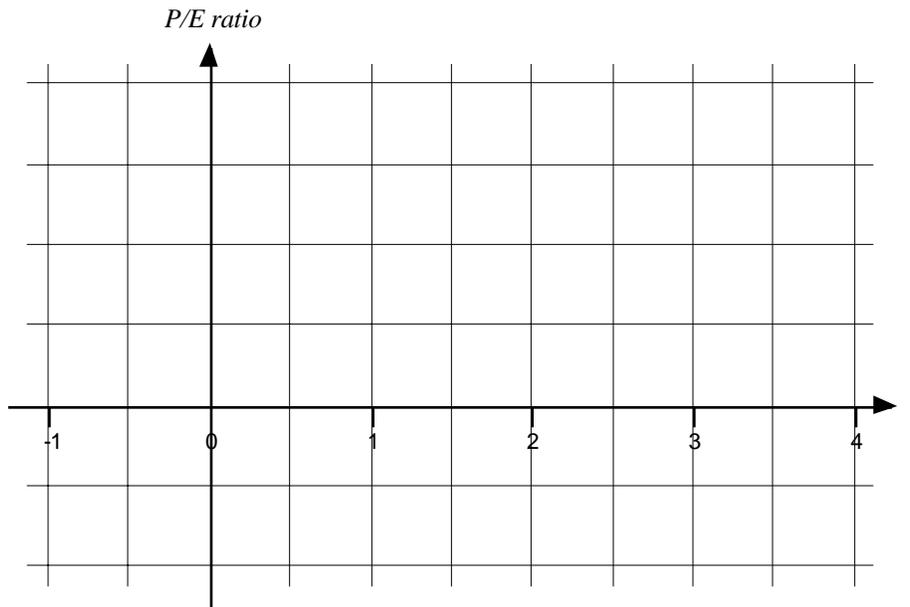


¹ The prices given are the closing prices at the end of June during each year. Source: <http://www.fool.com>

- Use the information in Table 1 to find a formula for price as a function of 't.' Use the axes given below to represent your model graphically.



- Use the formulas that you have found to represent price and earnings to model the P/E ratio as a function of time. Use the axes provided to represent your model graphically.



- How can you use the appearance of your plot of P/E ratio versus time to make decisions about when AOL represents a good investment? For example, what features of the graph tell you when AOL stock did not earn any dividends?

- The investment advice that most responsible financial professionals suggest is to choose "good" companies, buy their stock and hold the stock for a long time. What does your model predict the P/E ratio of AOL will be in the long term?