

IEMS 326
Homework 6

See the syllabus for homework policies.

The answers to the first four exercises appear on p. 485 of the Luenberger section of the book, so you can check your solutions. You must show all your work (which need not be very lengthy). A solution consisting of nothing more than what appears on p. 485 will receive no credit.

1) Luenberger, Exercise 6.1 (p. 170).

2) Luenberger, Exercise 6.3 (p. 170).

3) Luenberger, Exercise 6.5 (pp. 170-171).

4) Luenberger, Exercise 7.1 (p. 193).

5) Read Luenberger's Exercise 6.6, entitled "Wild cats." For more background on wildcat oil wells, see <http://en.wikipedia.org/wiki/Wildcatter>. Do not actually solve Luenberger's exercise. Instead, criticize its assumptions. There are n wildcat oil well prospects, i.e. sites at which you could drill a wildcat well. None of the sites are near each other. Let R_j be the internal rate of return of spending money to drill a well at site j and then selling the oil that you pump (if you find any). Then R_j is random because your future cashflows from selling the oil are uncertain. Luenberger suggests that you assume that:

- The rates of return R_1, \dots, R_n are uncorrelated.
- The rates of return R_1, \dots, R_n have the same mean.

For each of these assumptions: do you consider it realistic? Why or why not?