

Assignment IV – Engineering Economy (7pt total)**Ch 8: Tax (3pt)****Mini-case 8.1: Progress tax rate vs. Flat tax rate**

As discussed in this chapter, personal income taxes in most developed countries are progressive, meaning that the rate of taxation increases at higher income levels. However, in several countries a flat (or proportional) tax is used. In its basic form, a flat tax requires that a fixed percentage of income (for individuals) or profit (for corporations) be paid as tax. It is simple and said to be fairer for everyone, as well as more lucrative for governments.

Following the fall of communism, Russia and most of the former communist Eastern European countries instituted flat tax regimes. These countries have since had strong economic growth, and many economists credit the flat tax as a contributing factor to their success. Other countries with a flat tax system include Hong Kong, Saudi Arabia, Nigeria, Uruguay, and the Bahamas. For individuals, a flat tax is very easy to manage. For most workers, no tax return is required since deductions made by employers on their behalf complete their tax compliance. Also there is usually a minimum income before any tax is payable, so that low income earners are protected. There are several important consequences of a flat tax on businesses. One is that in most implementations profit is taxed only once, as opposed to some countries in which it is taxed at the company level and then again at the taxpayer level when profits are distributed as dividends or capital gains. Another important consequence for most implementations of a flat tax is that all capital purchases for a company are expensed in the year of purchase. Flat taxes also reduce the administration and associated compliance costs for companies, individuals, and governments. Discussion The concept of flat taxes has generated heated debate in some developed countries. The simplicity and efficiency of flat taxes make them attractive alternatives to bloated tax bureaucracies, massively complex tax rules, and frustrating reporting requirements that are the norm. Also, there is evidence that flat taxes promote compliance and generate more tax revenue than progressive taxes. However, there are those who would be adversely affected by a change to a flat tax, and there is considerable resistance generated whenever a serious effort to institute a flat tax is made. This may be why the only major countries to move to a flat tax in recent years are regimes such as Russia and the Eastern European countries that are newly instituting income taxes and consequently are not threatening entrenched interests.

Questions

1. Which of the following groups would likely welcome a flat tax? Which would resist it? (1pt)
(a) Accountants (b) Small business owners (c) Individuals with investments in the stock market (d) Government tax department workers (e) Low-wage earners (f) Rich people (g) Capital equipment manufacturers (h) Leasing companies (i) Welfare recipients (j) You
2. If a country changed from a tax regime in which corporate profits are taxed twice to a regime in which they are taxed only once, what would likely be the effect on the stock market? (1pt)
3. In the long run, would the ability to expense capital equipment fully in the year of purchase dramatically affect a company's investment decisions? If so, do you think society is better off as a consequence of these effects, or worse off? (1pt)

Ch 6: Financial Accounting and Business Plan (4pt)

In a 2-page maximum report, describe a business plan that includes a 5-year road map for a start-up company to commercialize your proposed solution. Please describe the following:

- Mission statement (0.5pt)
- Market analysis of the solution and its potential competition (1pt)
- Financial viability of the product (cost structure for production and pricing); (1pt)
- Team members and their respective roles (0.5pt)
- Funding requirement for 5 years. Including a cash flow analysis on different type of incomes and expenses. Assuming an 8% nominal interest rate for loans and no cash reserve at the starting. (1pt)

Assignment submission:

1. All assignments should be submitted through the assignment dropbox on **Avenue to Learn**.
2. Use a Word processor (e.g. MS Word or WordPerfect) for the written part of the assignment is required.
3. Written assignment formatting requirements:
 - a. US Letter size paper;
 - b. Margin 1" all four sides;
 - c. Header: 3P04, title of the assignment, Student name
 - d. Footer: Updated date, page number, student ID
4. It is recommended to use this Word file as the template for written assignments.
5. It is recommended to use Equation Editor or equivalent for equations. Scanned hand-written equations will be accepted.
6. Convert your Word/WordPerfect/scanned file into PDF (e.g. MS Word built-in PDF printer). Submit **BOTH** the MS Word file and the PDF, as well as the Excel file. Do NOT use a zip file.
7. Name the files using the following required method for each assignment. For this assignment, use 3P04_A4_[Last Name][First Initial].docx/pdf/xlsx (please remove the [] in the file name). An example would be 3P04_A4_FangQ.pdf.
Please note that no space may be used in the file name since they will cause problems when downloading.
8. For Excel files (if applicable), put each problem in a separate tab. Name the tab with problem number: e.g. A3-5
9. Assignments are due on different dates and times. Pay attention to the requirements and failing to meet these requirements will result in up to 20% penalty. Submission after the due date/time will result in a 20% penalty up to the assignment end time, after which no submission will be accepted/graded.