Suppose you currently earn a taxable income of $100,000 per year. You are subject to a marginal tax rate of 50%. Currently your average tax rate is 35%. Calculate your annual tax. Calculate the extra tax that you would pay per year if your annual income increased to $110,000. What is your average tax rate at an annual income of $110,000?

The payroll tax for unemployment insurance in a certain nation taxes all wages up to a maximum per worker of $30,000 at a 5% flat rate. What are the marginal and average tax rates on the wages for each of the following workers?

a. A restaurant worker with an annual wage income of $18,000.

b. An assistant bank manager with a salary of $75,000 per year.

c. A corporate CEO with an annual salary of $500,000.

Let’s say an income tax system should follow the principles below:

1. Progressivity – the average tax rate rises as family income increases.

2. Across-family horizontal equity – families with equal incomes would have equal tax burden.

3. Across-marriage horizontal equity – tax burdens would be marriage neutral, independent of whether two individuals decide to wed.

Suppose progressive tax schedule:

Average Tax Rate

Taxable Income Marginal Tax Rate **beginning of bracket** **End of bracket**

$0 to 20,000 10%

$20,000 to 80,000 20%

above $80,000 30%

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Individual Income | Individual Tax | Family tax with individual filing | Total Family Income | Family tax with total family income |
|  |  |  |  |  |  |
| **Hillary** | $140,000 |  |  | **$150,000** |  |
| **Bill** | $10,000 | $1,000 |
|  |  |  |  |  |  |
| **George** | $75,000 |  |  | **$150,000** |  |
| **Laura** | $75,000 |  |

If each family paid the total tax from individual filings then the second principle is violated. If each family paid the tax from filing jointly, the third principle is violated.

The annual demand for standard sized bottled water in the city of Los Angeles is given by the following equation: *QD* = 1,000-300*P*, where *P* is the price per bottle and *QD* is the quantity (in 1000’s) of bottled water demanded per year. The supply of bottled water is given by the equation *QS* =100*P*.

A. Solve for the equilibrium quantity and price of bottled water.

Suppose Los Angeles decided to raise revenues for services for the homeless by levying a fifty cent ($.50) tax, to be paid directly by retailers, on each bottled water sold within the city.

B. Illustrate, using Supply/Demand, the change in the market for bottled water brought on by the tax.

C. Calculate the new after tax market equilibrium price and quantity.

D. Calculate the amount of tax revenues raised.

E. Calculate the excess burden of the tax and compare to the revenue raised.

F. How much of the fifty cent tax is the consumer ultimately bearing? What is the retailers’ burden?