

## Real World Graduation: Question 78: Tax Rates

Edward D. Duvall  
13 Apr 2019

### Question 78

The U. S. has a graduated personal income tax system. This means that income levels are divided into several levels, and those income divisions are taxed at different rates. The tax rates increase as the amount of income increases. The tax rate of the lowest division of income is called the "base rate", and all the other tax rates at the higher income levels are called "marginal rates". As a person's income increases, the marginal rates become higher, hence the name "graduated tax". For example, in tax year 2014, the income level divisions and marginal rates for single persons and married couples were:

- a) 10% rate for incomes between \$0 and \$9075 (single person), \$0 to \$18150 (married)
- b) 15% rate for incomes between \$9075 and \$36900 (single), \$18150 to \$73800 (married)
- c) 25% rate for incomes between \$36900 and \$89350 (single); \$73800 to \$148850 (married)
- d) 28% rate for incomes between \$89350 and 186350 (single); \$148850 to \$226850 (married)
- e) 33% rate for incomes between \$186350 and \$405100 (single); \$226850 to \$405100 (married)
- f) 35% rate for incomes between \$405100 and \$406750 (single); \$405100 to \$457600 (married)
- g) 39.6% rate for incomes above \$406750 (single); and above \$457600 (married)

There are slightly different marginal rates for "heads of household", but those are not relevant for this topic.

The overall size of the federal government depends on how much tax revenue it can obtain. It is clear from the tax schedule above that those who earn more must generally pay more in taxes. Some activists desire to reduce the size of the government by using a tactic they call "starving the beast". The idea is that if marginal tax rates are reduced, the government will receive less income tax revenue, and thus will ultimately force the government to reduce its budget targets. The claim is that in the long run, steadily declining revenue will require the government to reduce its spending and therefore its size. In other words, nearly all taxpayers would have more money left over from their paycheck. In what ways could this policy "starve the beast"?

- a) Money that would otherwise go to the government can be spent on appliances, cars, etc; the benefit accrues to selfish individuals and deprives the government of some revenue.
- b) Money that would otherwise go to the government can be spent on furthering one's education; the benefit accrues to selfish individuals and deprives the government of some revenue.
- c) Money that would otherwise go to the government can be spent on charitable causes. The benefits accrue to the less fortunate, but deprives the government of some revenue.
- d) Money that would otherwise go to the government can be spent on vacations or saved for the future; either way, the benefit accrues to selfish individuals and deprives the government of some revenue.
- e) All of the above to varying degrees, depending on individual preferences.

### Answer to Question 78

This is a trick question; all the answers are false, because they are all based on the false assumption that the total economy would remain fixed if the marginal tax rates are changed. Generally, a reduction in marginal tax rates causes the people to have more money in their pocket, which they desire to either save or spend. Spending it means increased demand for goods and services, which is met by suppliers increasing their supply to make more profit by expanding their businesses, which they do by buying equipment and hiring more people. These are financed by the portion of money retained by the taxpayers that is saved and invested rather than being spent. The net result is that although marginal rates are lower, the overall economy is larger by an amount that offsets the lower marginal rates, and the revenue to the government actually goes up. The "beast" is fed, not starved. (A similar problem occurs if marginal rates are increased on the argument that it will increase government revenue. Normally doing so will contract the overall economy due to a reduction in incentive, and less overall profit potential to businesses. The net result is that government revenue usually goes down, even though the tax rates are higher.) Reducing marginal rates is a good policy because it enhances freedom and allows the people to enjoy more of what they earn, but it does not usually decrease the government's revenue, and does not decrease the government's size. No economic policy established by the government will reduce the size of the government - governments can be restrained only by political means.

The error in each of the answers lies in the phrase "deprives the government of revenue". The benefit in answer a) accrues both to the individual and anyone who builds, designs, or sells the cars and appliances; but it is not selfish to provide for oneself. In b) the benefit accrues both to the individual and those who supply education; but it is not selfish to provide for oneself. In c), the benefit accrues both to others who are aided and to the individual, since he can reduce his income tax liability by deducting the charitable contribution. Even though he can deduct his contribution, the overall expansion of the economy does not deprive the government of revenue. In d) the benefit accrues both to the individual who receives a return on his savings, and investment, as well as those who borrowed it to expand production. The same thing applies to vacations: those in the tourism industry benefit from increased business. But again, it is not selfish to provide for oneself. The thing to remember is that while individuals will benefit, the overall expansion of the economy causes the government to collect more revenue.

Here is an extreme example of how marginal tax rates affect an economy. Suppose Congress was dumb enough to pass a law in which taxed incomes up to \$60,000 at 10%, but raised the marginal rate to 98% on any income over \$60,000. In such a scenario, a person would keep 90% of the first \$60,000, or \$54,000. But he would keep only 2% of all the income above \$60,000. The Figure contains a table of net income after taxes.

If your job pays less than \$60,000 per year, you will not have to pay the 98% rate, and your effective tax rate is only 10%. But suppose you had the opportunity to earn \$70,000 by working some overtime. Would you do it? Of course not - why would you, as a rational person, work to earn \$10,000 extra if you only got to keep \$200 of it? It is a waste of your time. You would refuse the overtime, and your employer would either forego the additional production you could provide, or incur the overhead expenses of employing other workers to do the same work. In either case, overall productivity would decrease.

Gross Income (\$)	Net on First \$60,000	Net on Income above 60,000	Total Net Income (\$)	Effective Tax Rate (%)
30,000	27,000	0	27,000	10.00
40,000	36,000	0	36,000	10.00
50,000	45,000	0	45,000	10.00
60,000	54,000	0	54,000	10.00
70,000	54,000	200	54,200	22.57
80,000	54,000	400	54,400	32.00
90,000	54,000	600	54,600	39.33
100,000	54,000	800	54,800	45.20
150,000	54,000	1,800	55,800	62.80
250,000	54,000	3,800	57,800	76.88
500,000	54,000	8,800	62,800	87.44
750,000	54,000	13,800	67,800	90.96
1,000,000	54,000	18,800	72,800	92.72
2,000,000	54,000	38,800	92,800	95.36
5,000,000	54,000	98,800	152,800	96.94
10,000,000	54,000	198,800	252,800	97.47

**Net Income and Total Tax rates for 98% Marginal Tax Rate Above \$60,000**

But it is worse than that. Consider a person already making \$100,000. He only gets to keep \$800 of the last \$40,000 he earned, which is clearly not worth his while. He will do the logical thing and reduce his work to a little over part-time; that is, limit his income to around \$60,000, and enjoy the rest of his time off. Meanwhile, productivity goes down. What if the person currently earning \$100,000 is the only doctor in your town? You will be without medical services for 5 out of 12 months, due solely to the doctor making a rational choice over tax rates. As the Figure shows, the situation gets increasingly worse as income increases. The net result is that nearly everyone will work up until they make \$60,000 and then take the rest of the year off. The overall result will be a loss of national income, stagnation of the economy, and widespread shortages because not enough is being produced; all due to the 98% marginal tax rate. This would be due to a lack of incentive caused by confiscatory tax rates; in fact overall revenue to the government would also decrease.

But Congress will never admit an error. Rather than repeal the 98% tax rate, Congress would then pass another law prohibiting vacations and sick time, and force everyone to work a full 2000 hours per year no matter how much or little they kept from their income. Such a policy was once known as slavery; it would now be known as "progressive economics".

If you understand the Figure and the overall effects on the economy of an extreme marginal tax rate, congratulations. You are smarter than at least 50% of the members of Congress (267 of 535).