

The utility-maximizing behavior model illustrates how economists assume consumers make rational choices to attain the highest possible total utility within their given budget constraints. By following the marginal decision rule, consumers achieve the utility-maximizing condition where they equate their expenditures to their budgets, and they maintain equal ratios of marginal utility to price across all pairs of goods and services. In an ideal scenario of constant consumption, consumers derive identical additional utility per dollar spent on all goods and services. However, the law of diminishing marginal utility states that as consumers increase their consumption of a particular good or service over a period, the marginal utility they derive from that good or service eventually diminishes. Furthermore, the law of demand demonstrates that an increase in price induces a reduction in the quantity demanded (Rittenberg & Tregarthen, 2009).

A person smokes about 500 packs of cigarettes a year, therefore the suggested legal changes might have an intriguing effect on how much he smokes. One way to look at it would be that the \$1 per pack rise in cigarette taxes would essentially cost him \$500 more a year to smoke, which would discourage him from continuing at his present level of consumption. According to estimates, the price elasticity of demand for cigarettes is around -0.4, which means that a 10% rise in price corresponds to a 4% drop in the amount desired. Using this elasticity estimate, the \$1/pack tax hike might theoretically reduce his yearly consumption by 8–10. This tax hike would result in a 20–25% increase in the retail price he pays.

However, the income tax cut of \$500 complicates the analysis. This \$500 boost to after-tax income would offset the increased financial burden from the cigarette tax and leave the overall budget essentially unaffected, at least in purely monetary terms. One could argue that with no net reduction in disposable income, he would have little financial impetus to curb his smoking.

The most common perspective is that the interplay of these measures is not just about dollars and cents. The cigarette tax hike is usually made with a clear purpose of disincentivizing smoking by making it more expensive, costing hard earned money along with sending a strong signal about the social costs and negative health impacts of the habit. Even if income is made whole through the tax cut, he may be inclined to re-evaluate his smoking patterns considering this anti-smoking public policy stance. Studies have shown that smokers sometimes do respond to such "price shocks" in cigarette costs by attempting to quit or reduce consumption.

Ultimately, while the combined effect of the \$1 cigarette tax and \$500 income tax cut may not pack a sudden financial punch, I believe it could spur at least a moderate reduction in smoking levels. The higher cigarette prices, coupled with the symbolic anti-smoking implications of the price hike, would prompt me to consider cutting back, even if I don't eliminate the habit entirely. Real-world data shows that rising cigarette prices have been one of the most effective policy tools for reducing smoking rates over time. So, while the \$500 income offset muddles the financial calculation somewhat, the behavioral and social signaling effects of the cigarette tax increase would likely result in a decline in smoking from current levels, perhaps on the order of 5-10%.

Reference:

Rittenberg, L. & Tregarthen, T. (2009). Principles of Economics