Diagram to illustrate that doubling the tax rate produces less than twice as much revenue and more than doubles the excess burden. Reference to B&Z Chapter 10.2.

Size of Excise Tax, Revenue, and Burden

When tax rate =T, then excess burden is the (triangular) area E and tax revenue is N+F. When the tax rate is 2T, then the excess burden is the (triangular) area F+E, which is more than twice as large as E. At a tax rate of 2T, the revenue becomes M+N+R, which is less than twice as large and N+F.

Tax revenue is TQ. As T goes up, Q goes down. So revenue goes up less than proportionately with the tax rate. Excess burden is approximately $EB = \frac{1}{2}T(\Delta Q)$. When the tax rate goes up, so does the absolute size of the reduction in output, denoted by $\Delta Q$. So doubling tax rate more than doubles excess burden and halving tax rate reduces excess burden by more than half.