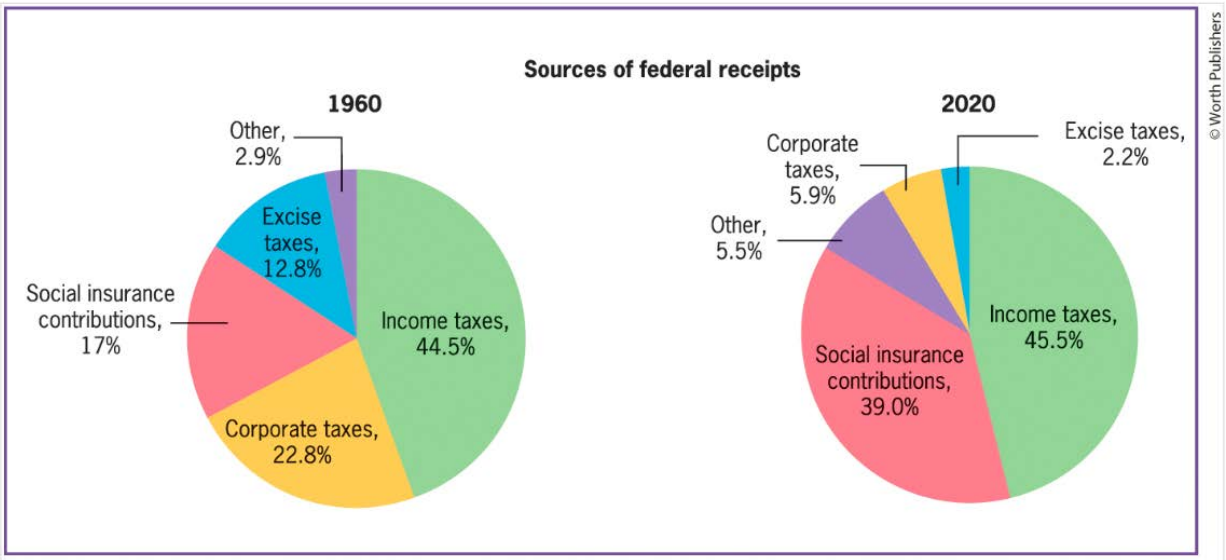


**FIGURE 19-1 The Sources of Federal Government Revenue (% of Total Receipts)** • The federal government depends much less on corporate and excise taxes and much more on payroll taxes than it did in 1960. Its biggest source of revenue, then as now, is the individual income tax.

Data from: Bureau of Economic Analysis (2021a), Table 3.2.

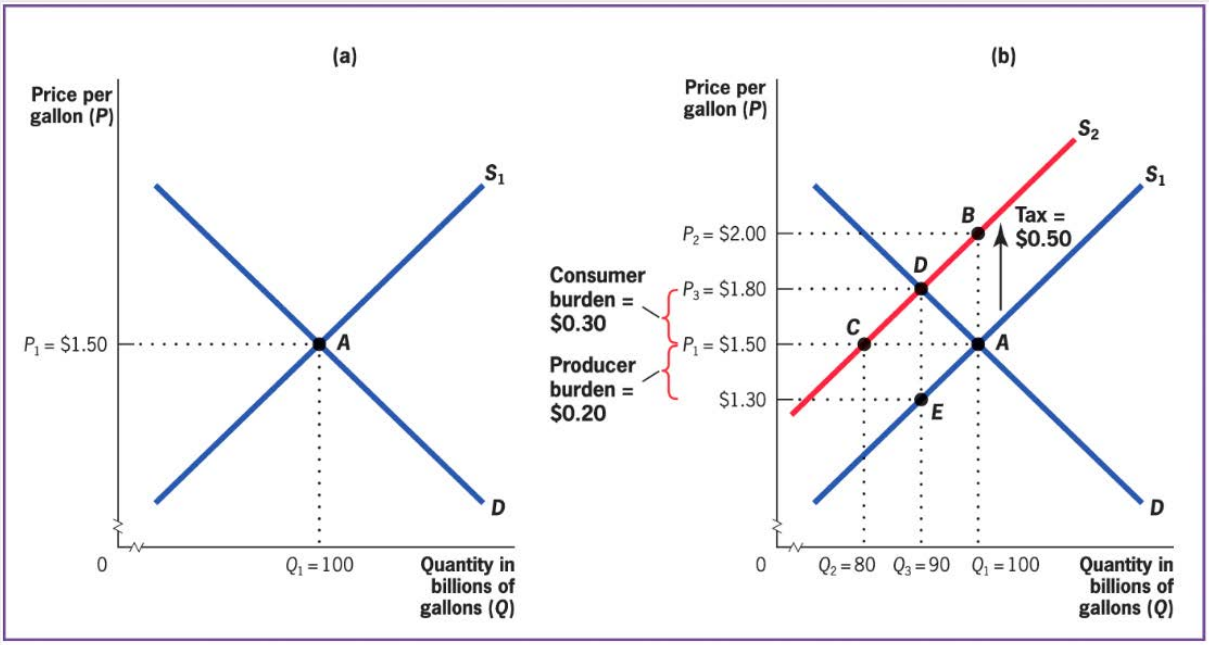




**FIGURE 19-2 Statutory Burdens Are Not Real Burdens** • Panel (a) shows the equilibrium in the gas market before taxation (point *A*). A 50¢ tax levied on gas producers (the statutory burden) in panel (b) leads to a decrease in supply from $S_1$ to $S_2$ and to a 30¢ rise in the price of gas from $P_1$ to $P_3$ (point *D*). The real burden of the tax is borne primarily by consumers, who pay 30¢ of the tax through higher prices, leaving producers to bear only 20¢ of the tax.

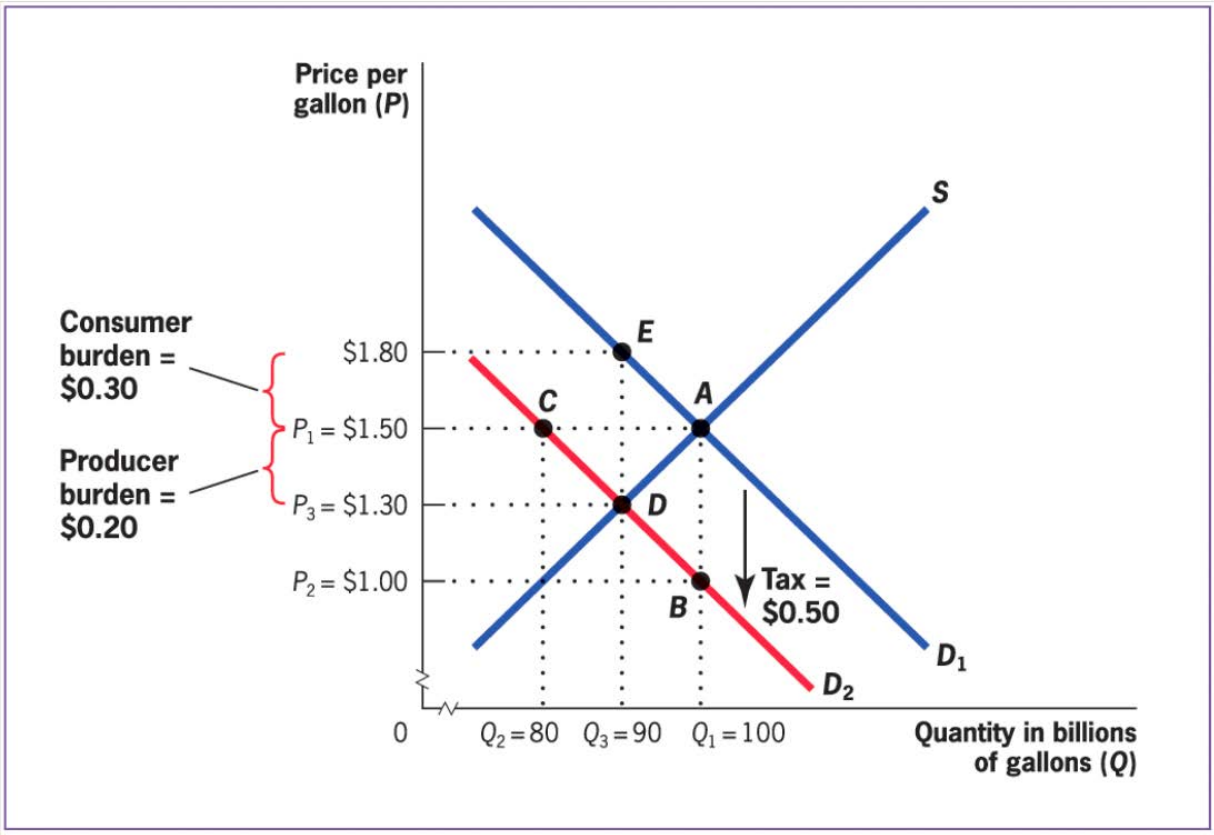




**FIGURE 19-3 The Side of the Market Is Irrelevant** • A 50¢ tax levied on gas consumers (the statutory burden) leads to a decrease in demand from $D_1$ to $D_2$ and to a 20¢ fall in the price of gas from $P_1$ to $P_3$ (with the market moving from the pre-tax equilibrium at point *A* to the post-tax equilibrium at point *D*). The real burden of the tax is borne primarily by consumers, who pay the 50¢ tax to the government but receive an offsetting price reduction of only 20¢. Producers bear that 20¢ of the tax.

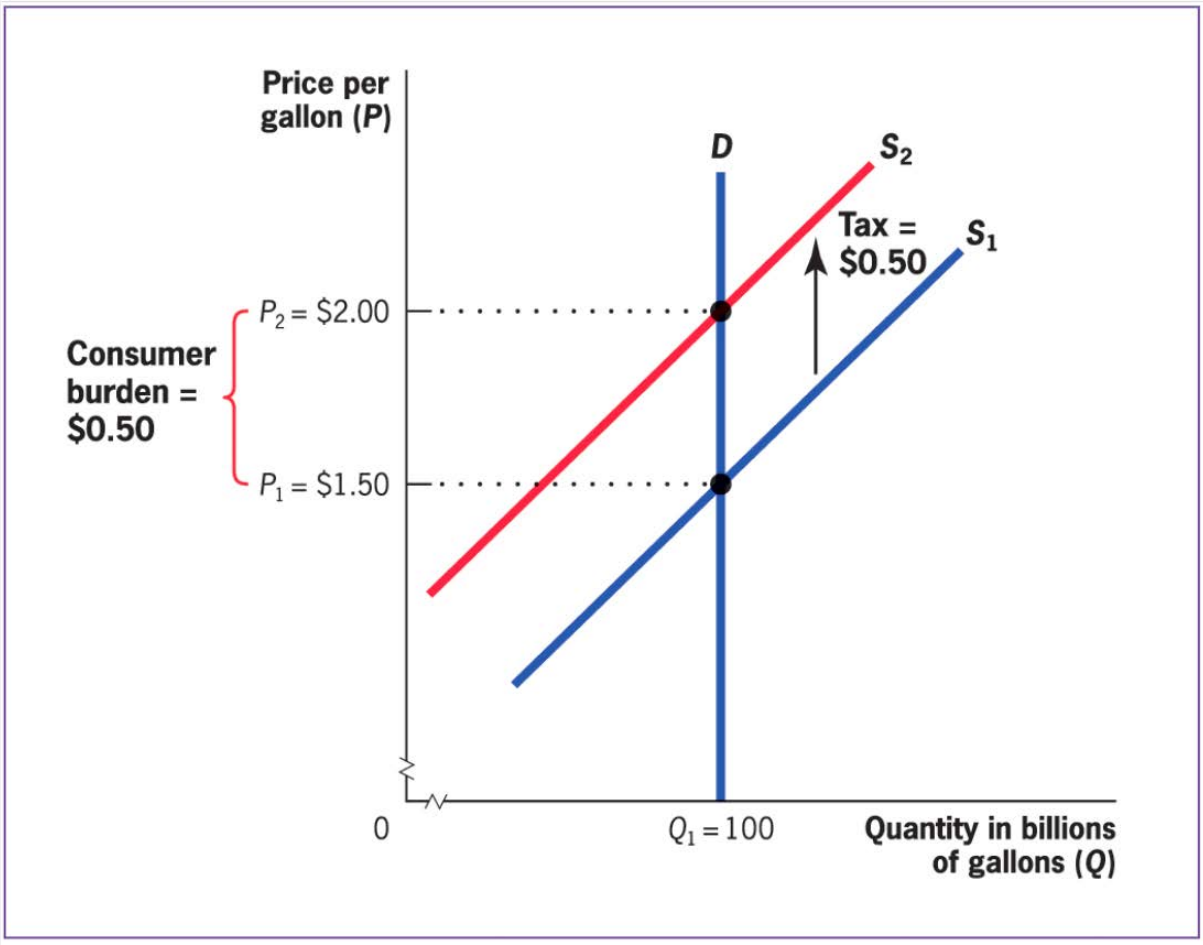




**FIGURE 19-4 Inelastic Factors Bear Taxes** • A tax on producers of an inelastically demanded good is fully reflected in increased prices, so consumers bear the full tax.

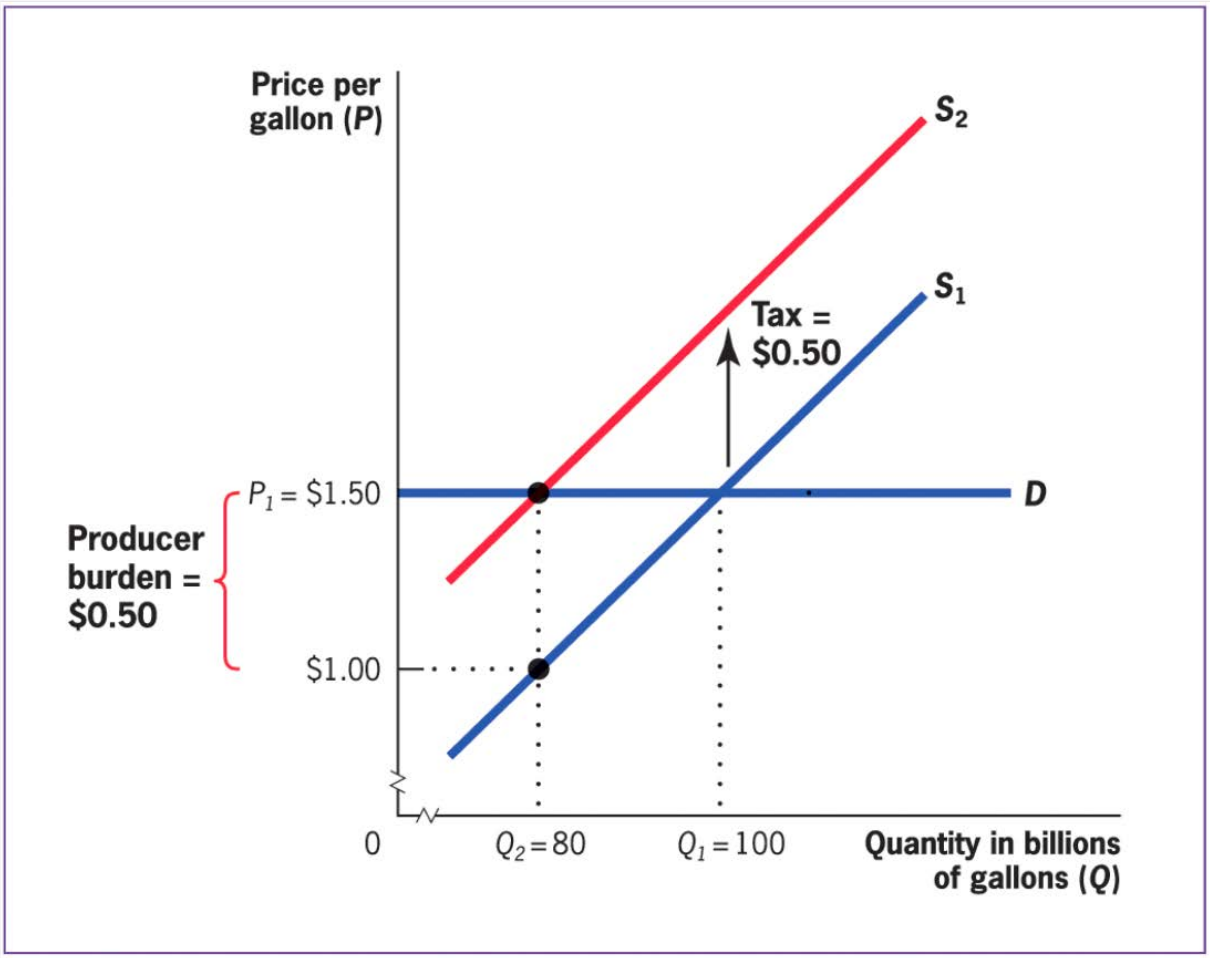




**FIGURE 19-5 Elastic Factors Avoid Taxes** • A tax on producers of a perfectly elastically demanded good cannot be passed along to consumers through an increase in prices, so producers bear the full burden of the tax.

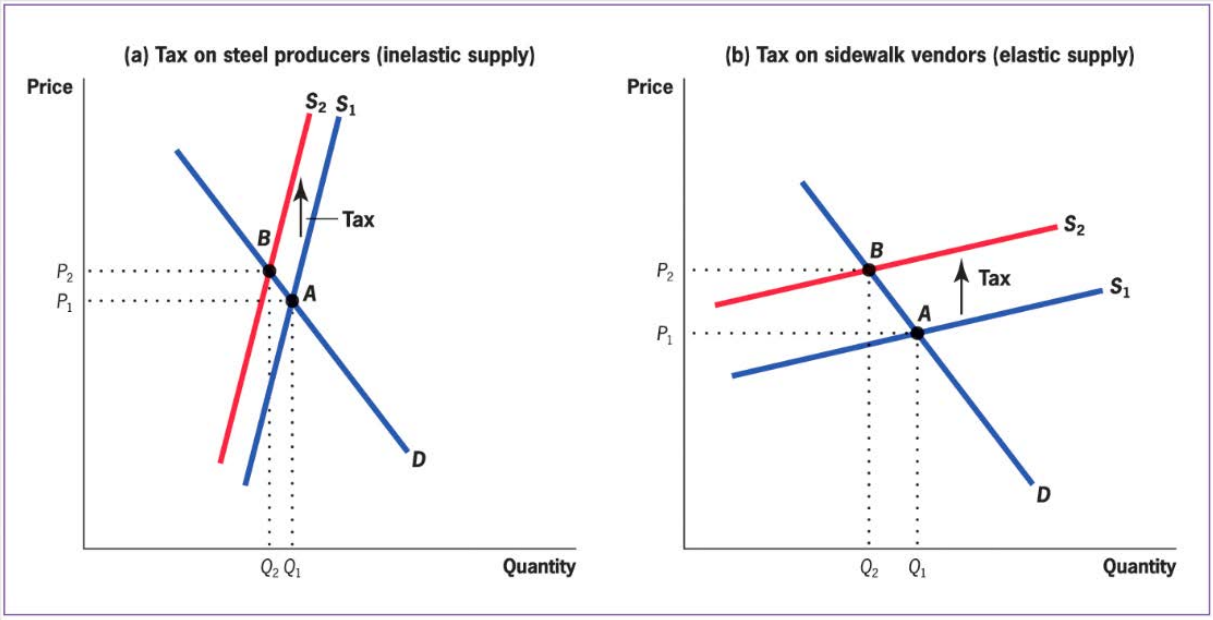




**FIGURE 19-6 Elasticity of Supply Also Matters** • A tax on producers of an inelastically supplied good, as in panel (a), leads to a very small rise in prices, so producers bear most of the burden of the tax. An equal-sized tax on producers of an elastically supplied good, as in panel (b), leads to a large rise in prices, so producers bear little of the burden of the tax (and consumers bear most of the burden).

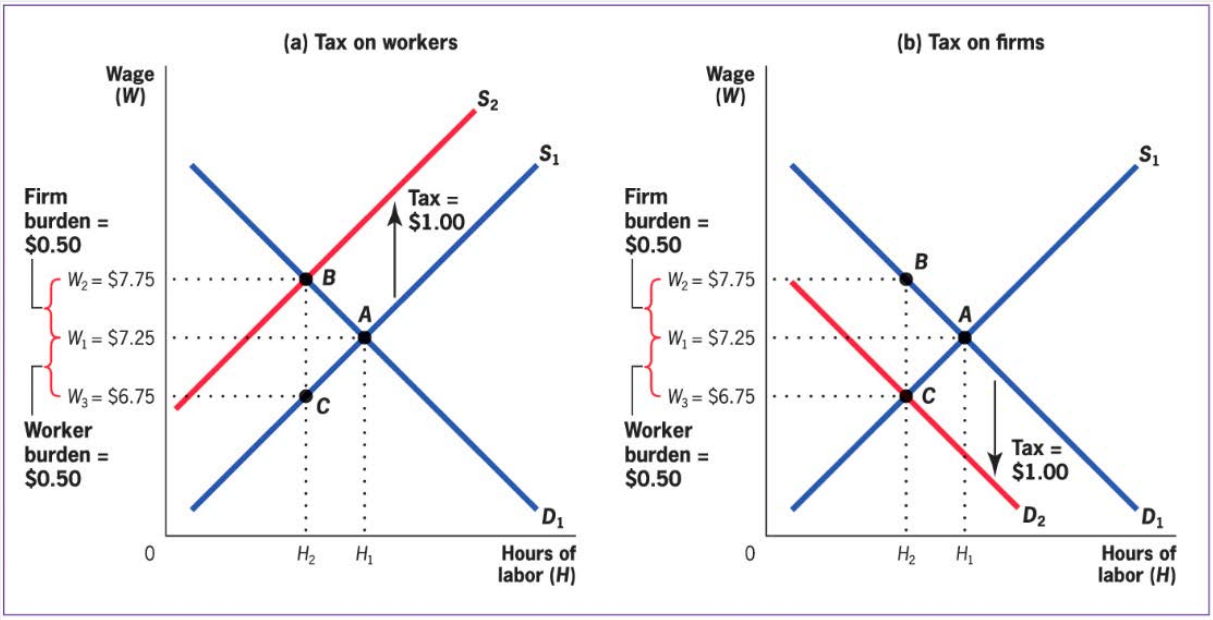




**FIGURE 19-7 Incidence Analysis Is the Same in Factor Markets** • These figures show the market for labor where firms are the consumers and workers are the producers of hours worked at a wage rate *W*. A $1.00 tax per hour worked that is levied on workers, shown in panel (a), leads the supply curve to rise from $S_1$ to $S_2$ and the wage to rise from its initial equilibrium value of $7.25 (point *A*) to a higher value of $7.75 (point *B*). A tax of $1.00 per hour worked that is levied on firms, shown in panel (b), leads the demand curve to fall from $D_1$ to $D_2$ and the wage to fall from $7.25 to $6.75 at point *C*. Thus, regardless who pays the tax, workers and firms each have a burden of 50¢ per hour.

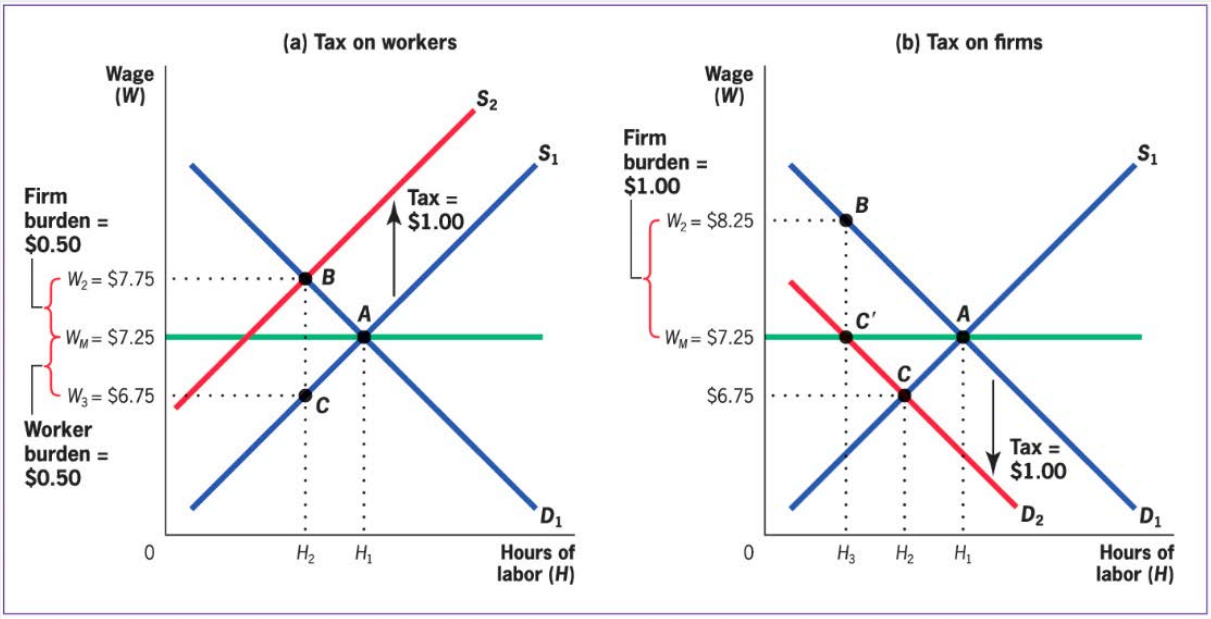




**FIGURE 19-8 Incidence Analysis in Factor Markets Differs with a Minimum Wage** • The analysis here is the same as shown in Figure 19-7, with the addition of the constraint that the wage cannot fall below $7.25 per hour. If the payroll tax is levied on workers, as shown in panel (a), this constraint has no effect: the wage rises to $7.75, as shown in Figure 19-7, and workers and firms equally share the burden of the tax. If the payroll tax is levied on firms, as shown in panel (b), however, the firms cannot lower the wage to the desired $6.75 per hour, so the firms bear the full amount of the tax.

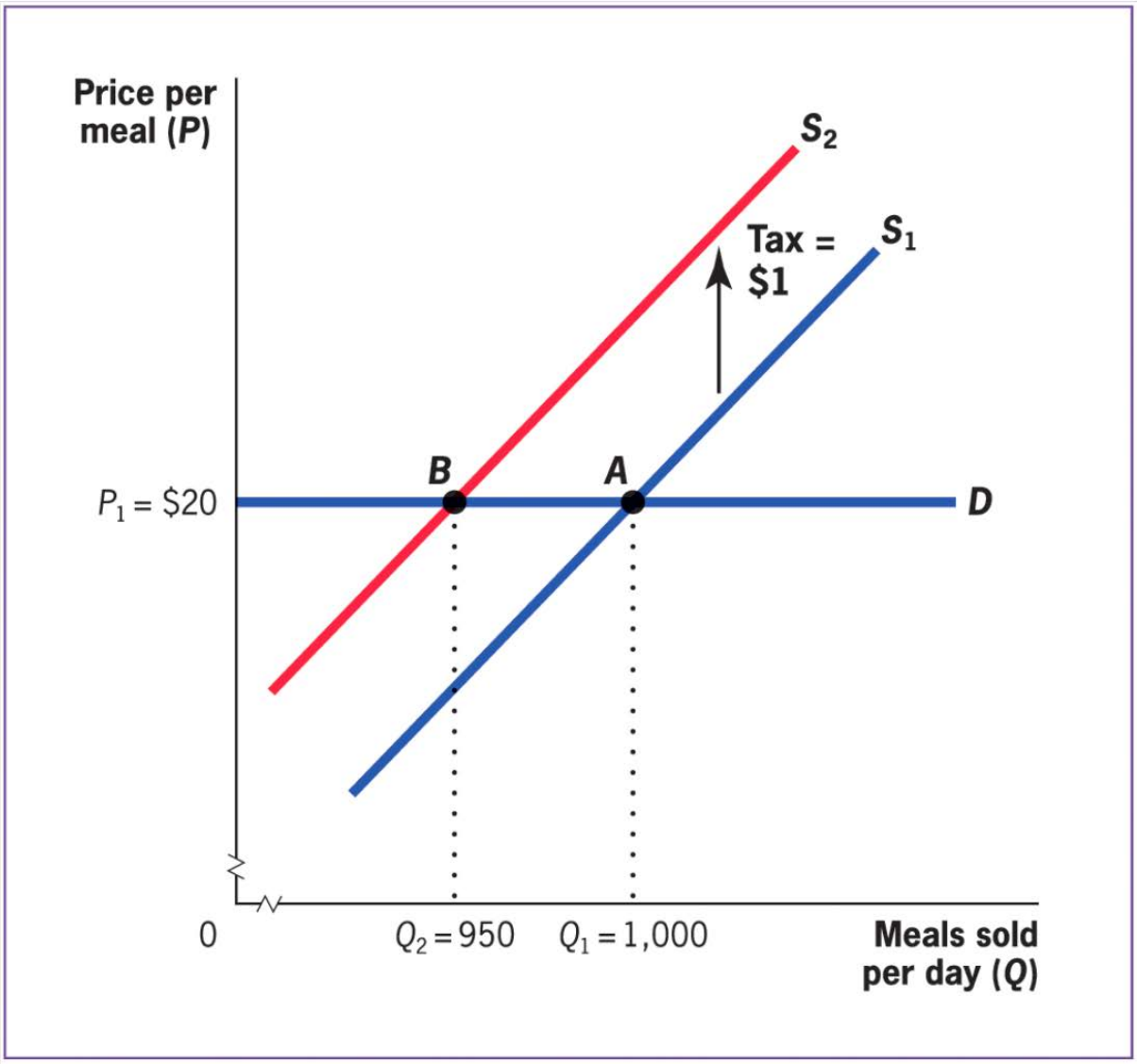




**FIGURE 19-9 The Incidence of a Tax on Bozeman Restaurants** • The demand for restaurants in Bozeman is perfectly elastic, so prices cannot increase when they are taxed; as a result of a $1.00 tax on restaurant meals, the supply of meals falls from $S_1$ to $S_2$, and the quantity of meals demanded and supplied falls to $Q_2$ (950). The price of a restaurant meal remains at $20, so the restaurant, which is paying the tax, bears its full burden.

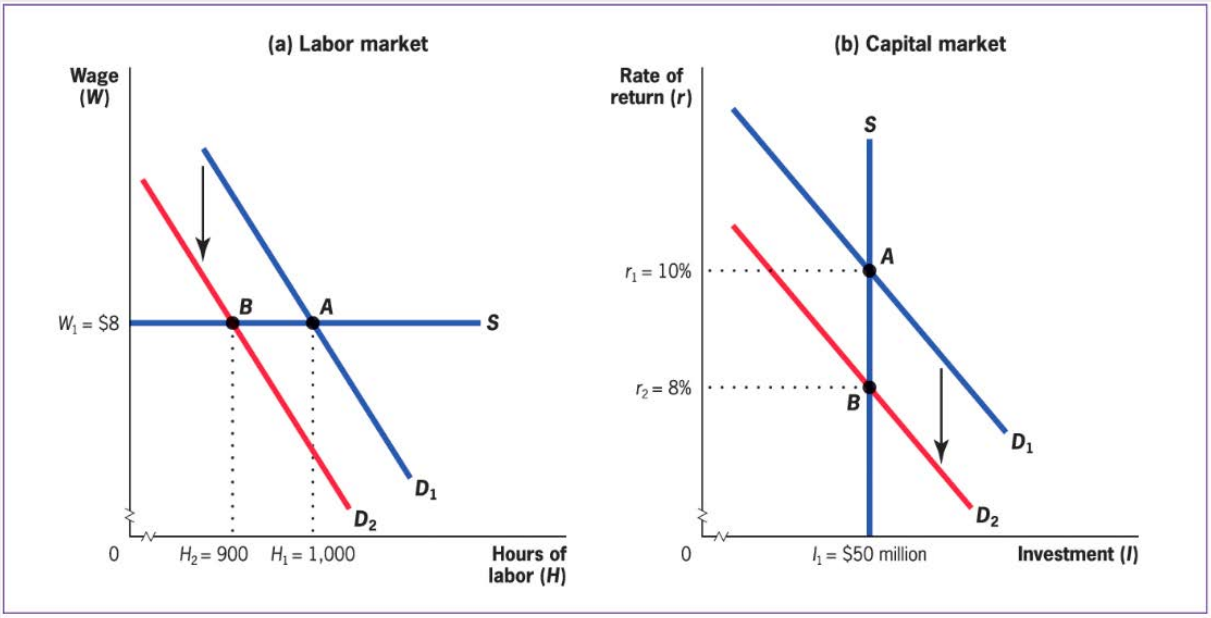




**FIGURE 19-10 The Incidence of a Bozeman Restaurant Tax on Labor Versus Capital** • If the burden of a tax on restaurants is borne by the restaurants, it must be borne by the factors of production used by the restaurants. In panel (a), the supply of labor to restaurants in Bozeman is perfectly elastic, so when demand for labor falls to $D_2$, it cannot be reflected in lower wages; the wage is unchanged and workers do not bear any of this tax. In panel (b), the supply of capital to restaurants in Bozeman is perfectly inelastic, so when demand for capital falls to $D_2$, the rate of return to capital falls by the full amount of this tax to $r_2$ .

## TABLE 19-1 Effective Tax Rates

| | 1980 | 1990 | 2000 | 2010 | 2015 | 2017 |
|---|---|---|---|---|---|---|
| | **Total effective tax rate** | | | | | |
| **All households** | 22.40% | 21.70% | 23.10% | 18.60% | 21.10% | 20.80% |
| **Bottom quintile** | 8.90% | 10.70% | 6.60% | 0.00% | 1.50% | 1.30% |
| **Top quintile** | 26.90% | 24.90% | 27.80% | 24.00% | 26.70% | 26.10% |
| | **Effective income tax rate** | | | | | |
| **All households** | 12.30% | 10.20% | 11.80% | 7.90% | 10.10% | 10.50% |
| **Bottom quintile** | 0.00% | –1.20% | –6.10% | –13% | –11.60% | –10.90% |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Top quintile** | 11.10% | 14.50% | 17.60% | 13.80% | 16.20% | 16.60% |
| | **Effective payroll tax rate** | | | | | |
| **All households** | 6.90% | 8.40% | 8.00% | 7.90% | 7.80% | 7.80% |
| **Bottom quintile** | 6.00% | 8.60% | 9.30% | 9.80% | 9.80% | 9.40% |
| **Top quintile** | 5.50% | 6.90% | 6.30% | 6.80% | 6.50% | 6.50% |
| | **Effective corporate tax rate** | | | | | |
| **All households** | 2.80% | 2.20% | 2.40% | 2.10% | 2.50% | 1.80% |
| **Bottom quintile** | 1.20% | 1.00% | 1.00% | 0.80% | 0.90% | 0.60% |
| **Top quintile** | 4.10% | 3.00% | 3.30% | 3.00% | 3.50% | 2.50% |
| | **Effective excise tax rate** | | | | | |
| **All households** | 0.80% | 0.90% | 0.90% | 0.60% | 0.70% | 0.70% |
| **Bottom quintile** | 1.60% | 2.30% | 2.40% | 2.40% | 2.40% | 2.20% |
| **Top quintile** | 0.60% | 0.60% | 0.50% | 0.40% | 0.40% | 0.20% |

Data from the Tax Policy Center: https://www.taxpolicycenter.org/statistics.

## TABLE 19-2 Top and Bottom Quintile's Share of Income and Tax Liabilities

| | 1980 | 1990 | 2000 | 2010 | 2015 | 2017 |
|---|---|---|---|---|---|---|
| | **Top quintile** | | | | | |
| **Share of income** | 46.00% | 49.50% | 54.40% | 53.40% | 55.00% | 55.20% |
| **Share of tax liabilities** | 55.30% | 57.00% | 65.60% | 68.90% | 69.50% | 69.20% |
| | **Bottom quintile** | | | | | |
| **Share of income** | 4.90% | 3.90% | 3.80% | 3.80% | 3.70% | 3.70% |
| **Share of tax liabilities** | 2.00% | 1.90% | 1.10% | 0.00% | 0.30% | 0.20% |
| | **Top 1%** | | | | | |
| **Share of income** | 9.00% | 12.00% | 17.50% | 15.30% | 16.60% | 16.70% |
| **Share of tax liabilities** | 13.20% | 15.40% | 24.50% | 24.10% | 26.20% | 25.30% |

Data from the Tax Policy Center: https://www.taxpolicycenter.org/statistics.

This table shows the share of income and tax liabilities accruing to the top and bottom income quintiles over time.

# 14.41 Public Finance and Public Policy
Fall 2024