

## Background

Who bears the burden of the federal excise taxes?

DISTRIBUTION OF TAX BURDENS

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### Q. Who bears the burden of federal excise taxes?

**A. Workers, owners of capital, and households that consume a disproportionate amount of taxed items all bear the burden of federal excise taxes.**

Excise taxes create a wedge between the price the final consumer pays and what the producer receives. An excise can either raise the total price (inclusive of the excise tax) consumers pay or reduce the business revenue available to compensate workers and investors.

The burden of an excise can be separated into two pieces: (1) the reduction in real household income, which equals the gross revenue generated by the excise tax and (2) the increase in the price of the taxed good or service relative to the prices of other goods and services, which depends on the mix of consumption by each household and equals zero across all households. Importantly, the decline in real income is the same regardless of whether nominal incomes fall (holding the price level constant) or whether the price level rises (holding nominal incomes constant).

#### REDUCTION IN REAL INCOME

The reduction in real income is spread across wages, profits, and other returns to labor and capital. The reduction in wages, in turn, reduces both individual income taxes and payroll taxes. Likewise, the reduction in profits reduces corporate income taxes and individual income taxes on the profits of pass-through business (like partnerships) and other returns to capital. These “excise tax offsets” amount to about 22 percent of excise tax revenues and are considered in distributional analyses.

#### CHANGE IN RELATIVE PRICES

An excise tax also increases the price of the taxed good or service relative to the prices of all other goods and services. While the price of the taxed item rises, the prices of all other items may either remain unchanged as the overall price level rises or fall slightly if the price level remains unchanged.

Either way, this change in relative prices burdens households that consume a larger-than-average share of the taxed item. However, households that consume a smaller-than-average share of the taxed item, or do not consume it at all, benefit from this change in relative prices.

#### TIMING OF THE TAX BURDEN

This still leaves open the timing of the tax burden—that is, whether the burden is assigned when income is earned or when it is consumed. Some distributional analyses follow the latter approach and distribute excise taxes in proportion to current levels of consumption. Alternative analyses assign the burden based on current income. Under the income-based approach, one can think of excise taxes as a reduction in purchasing power

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at the point income is earned. Of course, if all households fully consumed their income in each year, the two methods would yield identical results.

The Urban-Brookings Tax Policy Center distributes the burden of an excise tax when income is earned, taking into account the “offset” and the relative price effect. The US Department of the Treasury’s Office of Tax Analysis, as described in Cronin (1999), distributes excise taxes in the same manner. The Joint Committee on Taxation and the Congressional Budget Office, however, distribute the entire burden of excises in proportion to consumption of the taxed goods and services.

#### DISTRIBUTION OF FEDERAL EXCISE TAXES

While the share of federal excise tax paid rises with income, federal excises are regressive. That is, the average federal excise tax rate (the excise tax burden as a percentage of pretax income) declines as income rises. The average tax rate falls from 1.2 percent in the bottom quintile, to 0.6 in highest quintile, and to 0.4 percent of income in the top 1 percent (table 1). (Each quintile contains 20 percent of the population, ranked by income.)

Federal excise taxes also account for a larger share of the total federal tax burden (including individual and corporate income taxes, payroll taxes, the estate tax, and excise taxes) for lower-income groups than for higher-income groups. In the bottom two quintiles, excise taxes are the second-largest source of the total

**TABLE 1**

### Distribution of Federal Excise Taxes, 2018



Expanded Cash Income Percentile	Share of Total Excise Tax Burden (%)	Average Federal Excise Tax Rate (%)	Average Total Federal Tax Rate (%)
Lowest quintile	6.8%	1.2%	2.9%
Second quintile	12.2%	1.0%	7.6%
Middle quintile	16.6%	0.8%	12.1%
Fourth quintile	22.3%	0.8%	15.5%
Top quintile	41.8%	0.6%	22.9%
All	100.0%	0.7%	17.8%
<b>Addendum (top quintile breakdown)</b>			
80–90	14.2%	0.7%	18.4%
90–95	8.8%	0.6%	19.9%
95–99	10.4%	0.6%	22.1%
Top 1 percent	8.5%	0.4%	29.6%
Top 0.1 percent	3.4%	0.3%	30.6%

**Source:** Urban-Brookings Tax Policy Center. “TPC Microsimulation Model, version 0718-1.”

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federal tax burden, well behind payroll taxes. Those income groups have negative average income tax rates resulting from refundable income tax credits.

Federal excise tax revenues will total about \$102 billion in fiscal year 2018, or 3 percent of federal tax revenues. Five categories of excise taxes—highway, tobacco, air travel, health, and alcohol—account for about 95 percent of total excise tax receipts.

The distributional burden varies somewhat across the different categories of excise taxes (table 2). The most noticeable is the tobacco excise tax, for which the share of tax paid varies the least across income quintiles. The bottom quintile pays 16 percent of tobacco taxes and 17 percent of penalties under the Affordable Care Act (ACA) (compared to 4 to 5 percent of other excises), while the top quintile pays 27 percent of tobacco taxes and 23 percent of ACA penalties (compared to about 45 to 50 percent of other excises). Tobacco taxes and ACA penalties are the most regressive of the major federal excise taxes. The remaining categories vary only modestly from each other. Excise taxes on air travel are tilted the most toward higher-income households, with 53 percent paid by households in the top income quintile.

TABLE 2

#### Distribution of Federal Excise Taxes by Category of Excise Tax, 2018



Expanded Cash Income Percentile	Share of Total Excise Tax Burden (%)						
	Highway	Tobacco	Air Travel	Health	ACA Penalties	Alcohol	Other
Lowest quintile	4.2%	15.8%	4.5%	3.7%	16.9%	3.6%	4.1%
Second quintile	10.6%	19.2%	7.0%	10.3%	23.4%	9.1%	9.6%
Middle quintile	16.9%	17.7%	13.9%	16.5%	17.4%	17.3%	15.7%
Fourth quintile	23.1%	20.7%	21.5%	23.4%	19.0%	23.4%	22.6%
Top quintile	44.6%	26.7%	52.6%	45.7%	22.9%	45.5%	47.8%
All	100%	100%	100%	100%	100%	100%	100%
<b>Addendum (top quintile breakdown)</b>							
80–90	14.8%	9.2%	16.6%	15.0%	11.6%	15.2%	15.3%
90–95	9.1%	4.5%	11.8%	9.7%	5.3%	10.2%	10.1%
95–99	11.2%	6.0%	13.9%	11.4%	4.8%	11.3%	12.0%
Top 1 percent	9.5%	7.0%	10.4%	9.6%	1.2%	8.7%	10.2%
Top 0.1 percent	3.8%	3.3%	3.9%	3.8%	0.1%	3.5%	4.0%
<b>Aggregate revenue (\$ billions)</b>	<b>\$39.7</b>	<b>\$13.5</b>	<b>\$16.3</b>	<b>\$16.3</b>	<b>\$11.8</b>	<b>\$8.7</b>	<b>\$5.5</b>

Source: Urban-Brookings Tax Policy Center. "TPC Microsimulation Model, version 0718-1."

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#### Data Source

Congressional Budget Office. [Budget and Economic Data](#). Revenue Projections, by Category. Apr 2018. Table 5. “Excise Tax Revenues Projected in CBO’s April 2018 Baseline, by Source.”

Office of Management and Budget. [Budget of the United States Government, Fiscal Year 2019, Historical Tables](#). Table 2.3. “Receipts by Source as Percentages of GDP: 1934–2023”; and Table 2.4. “Composition of Social Insurance and Retirement Receipts and of Excise Taxes: 1940–2023.”

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#### Further Reading

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