

# **TAXATION OF INCOME, WEALTH, AND CONSUMPTION**



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# **Taxation of Income:**

## **Basic Concepts**

- Usually national, sometimes at the state level
- Direct tax on personal and corporate income
- Measured by income defined as broadly as possible
- Based on ability to pay > benefits received
- Goal is horizontal and vertical equity
- Administration is very difficult

# Key Issues

- **Economic efficiency:**  
**Cost of behavioral responses to tax (income and substitution effects)**
  - Disincentives to work, save, and invest
  - Costs of compliance and distortions caused by tax avoidance and tax evasion
- **Social equity:**  
**Fairness in allocation of tax burden**
  - Definition of tax base (who and what)
  - Determination of tax rate(s) (how much)
- **Administrative feasibility:**  
**Potential to generate revenue**
  - Targeting for precision and fairness
  - Simplicity for efficiency and fairness

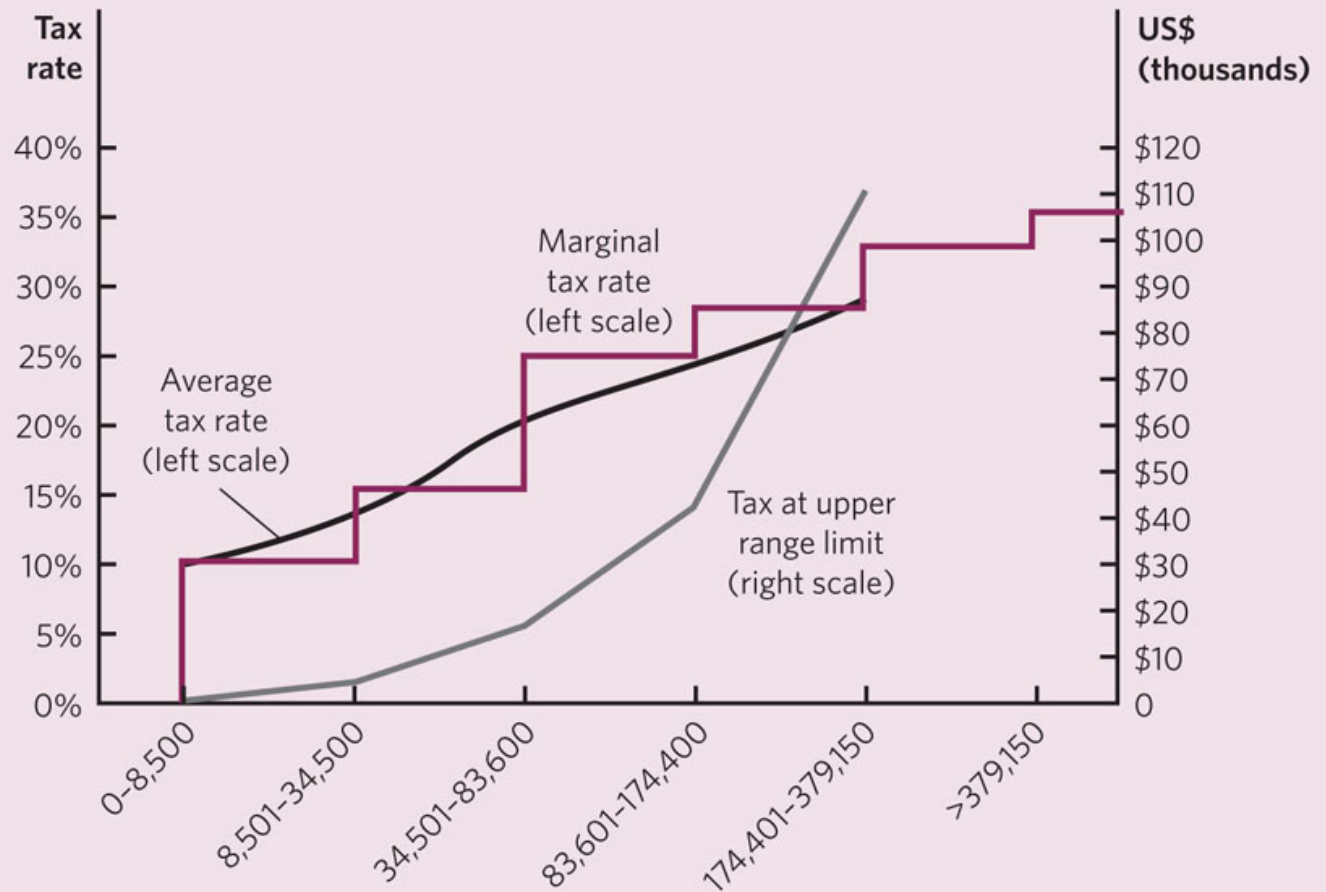
**TABLE 22.1 CALCULATING TAX LIABILITIES**

Wages and salaries	
Interest income, dividends	
Net business income	
Net rental income	
+ Other income	
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GROSS INCOME	
– IRA contributions (when eligible), and contributions by self-employed to pension plans	
– Alimony	
– ½ of self-employment tax	
– Part of health insurance premiums paid by self-employed for themselves and family	
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ADJUSTED GROSS INCOME	
<i>Alternative 1</i>	<i>Alternative 2: Itemized deductions</i>
– Standard deduction	– Mortgage interest
	– State and local income and property taxes
	– Medical expenses in excess of 10% of adjusted gross income
	– Charitable contributions
	– Moving expenses (connected to relocation for employment)
	– Employee expenses (in excess of 2% of income)
	– Casualty losses
– Exemptions	– Exemptions
<hr/>	
TAXABLE INCOME	
× Tax rate	
<hr/>	
TAX LIABILITY	
– Taxes previously withheld	
– Tax credits (child care expense, foreign taxes paid, earned income tax credit, college tuition)	
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TAXES DUE	

# Tax Rates

ITEM		
STATUTORY	MARGINAL	TAX RATE
STATUTORY	AVERAGE	TAX RATE
EFFECTIVE	MARGINAL	TAX RATE
EFFECTIVE AVERAGE TAX RATE		

FIGURE 22.1

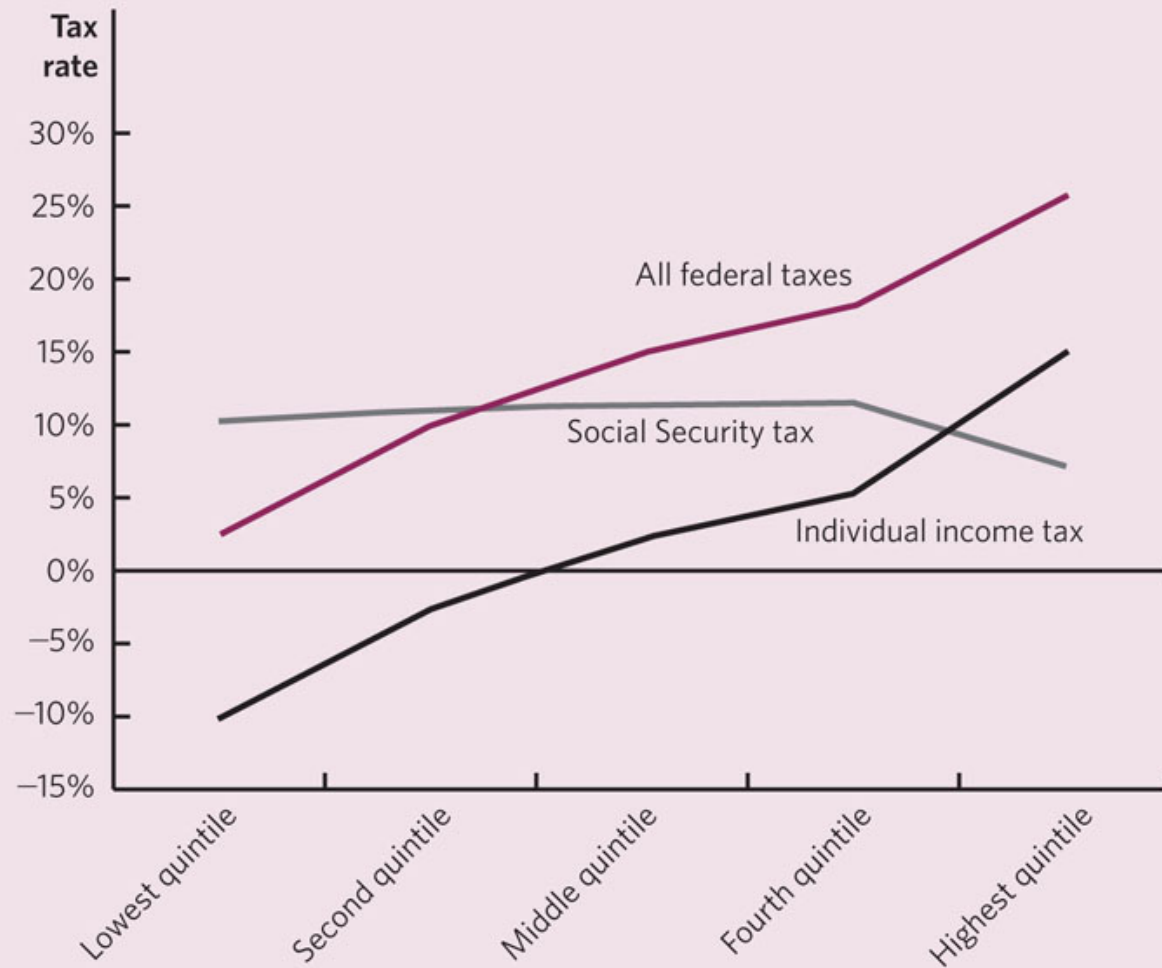


SOURCE: Internal Revenue Service,  
Form 1040 (2011).

Note: "Single" filing status.

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FIGURE 22.3



Note: Data for households with children.

SOURCES: Internal Revenue Service, Form 1040 (2003); and Congressional Budget Office.

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**TABLE 22.3 AVERAGE EFFECTIVE INDIVIDUAL INCOME TAX RATES BY INCOME CLASS AND TAX YEAR (INCOME CLASS IN QUINTILES + TOP 1%; RATE IN PERCENT)**

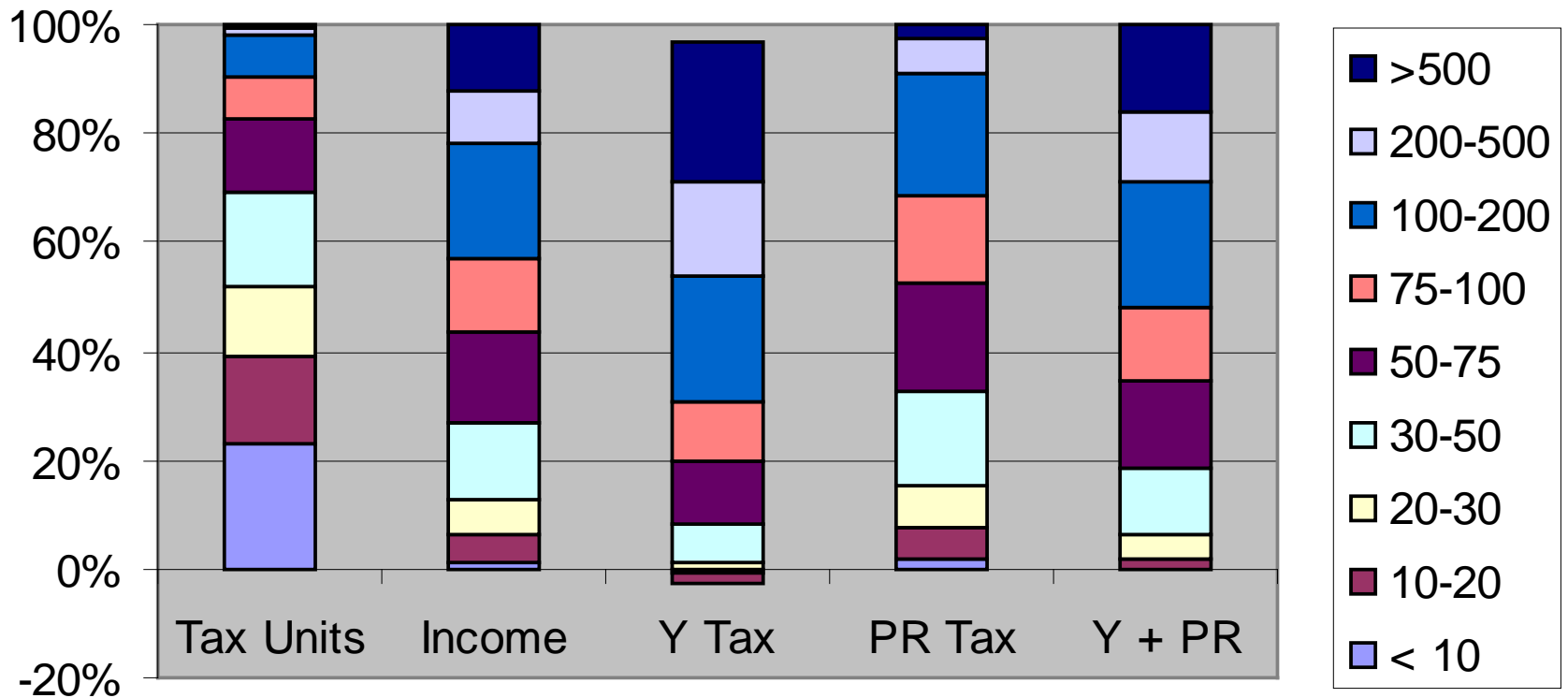
INCOME TAX QUINTILES	1985	1987	1996	1998	2000	2004	2011 (ESTIMATE)
Lowest	0.5	−0.6	−5.1	−5.4	−4.6	−6.2	−5.8
Second	4.0	3.2	1.8	1.5	1.5	−0.9	−2.9
Third	6.6	5.8	5.4	5.0	5.0	3.0	3.2
Fourth	8.8	8.1	7.9	7.9	8.1	5.9	7.0
Highest	14.0	14.9	16.1	16.5	17.5	13.9	14.9
All families	10.2	10.3	10.7	11.0	11.8	8.7	9.3
Top 1%	18.9	21.5	24.2	23.4	24.2	19.7	20.3

NOTE: Income class quintiles are based on comprehensive household income, which equals all pretax cash income, including taxes paid by businesses and employees' contributions to 401(k) retirement plans, plus all in-kind benefits. The 2011 estimate excludes in-kind benefits.

SOURCES: Congressional Budget Office, *Historical Effective Federal Tax Rates, 1979 to 2005*, (December 2007); and Urban-Brookings Tax Policy Center Microsimulation Model, *Average Effective Federal Tax Rates By Cash Income Percentiles, 2011* (February 2012).



## Distribution of U.S. Income and Payroll Tax Burden in 2003



# Tax Administration Terminology

- Tax Ratio: Level of Taxation  
 $\text{Tax Revenue/GDP (or Tax Revenue/GNP)}$
- Tax Capacity: Tax Potential  
Taxable Income or Wealth
- Tax Effort: Utilized Tax Capacity  
 $\text{Tax Collected/Tax Capacity}$
- Collection Ratio: Tax Administration Efficiency  
 $\text{Tax Collected/Tax Assessed}$

# Income Tax Reform

- Proportional (flat) tax vs. progressive tax
- Purest form: threshold (exempt amount) with single rate on all income above it
  - Possible economic benefits
  - Might lower and redistribute tax burden
  - Potential administrative advantages
- Trend in Eastern Europe
  - 1994: Estonia (26%) & Lithuania (33%)
  - 1995: Latvia (25%)
  - 2001: Russia (13%)
  - 2003: Serbia (14%)
  - 2004: Ukraine (13%) & Slovakia (19%)
  - 2005: Georgia (12%) & Romania (16%)
- Many potential problems
  - Flat tax  $\neq$  low tax rate
  - Flat tax  $\neq$  large tax base
  - Flat tax  $\neq$  simplicity
  - Correlation vs. causation
  - Transitional costs

# **Taxation of Wealth:**

## **Property Related Taxes**

- Annual tax on current value of real estate:  
Subject for rest of this class session (special tax)
- Transfer tax on the current value of real estate:  
Part of sales tax or value added tax (or special tax)
- Capital gains tax on real estate net appreciation:  
Part of income tax (unearned or passive income)

# Basic Concepts

- **Primary source of:**

Local

Discretionary

Revenue

- **Assessed on:**
  - **Capital value of land and improvements**
  - **Annual/rental value**
  - **Site value of land**
- **Tax rate can be:**
  - **Uniform or differentiated**
  - **Flat or progressive**

# Primary Purpose of the Property Tax

→ Ensure the long-term generation of adequate local government discretionary resources

**NOT**

- Guide allocative decisions
- Achieve social goals
- Recover capital costs

# Strengths

## Economic Efficiency

- Hard to avoid legally
- Supports local autonomy

## Social Equity

- Proxy for income tax
- Correlated with benefits
- Generally progressive

## Net Revenue Generation

- Potential money machine
- Relatively stable
- Can be enforced

# Weaknesses

## Economic Efficiency

- Impact on long-run allocative decisions

## Social Equity

- No direct relationship with ability to pay
- Can worsen regional disparities in wealth

## Net Revenue Generation

- Large number of statutory taxpayers
- High visibility
- Subjective assessment
- Threat to the sanctity of private property



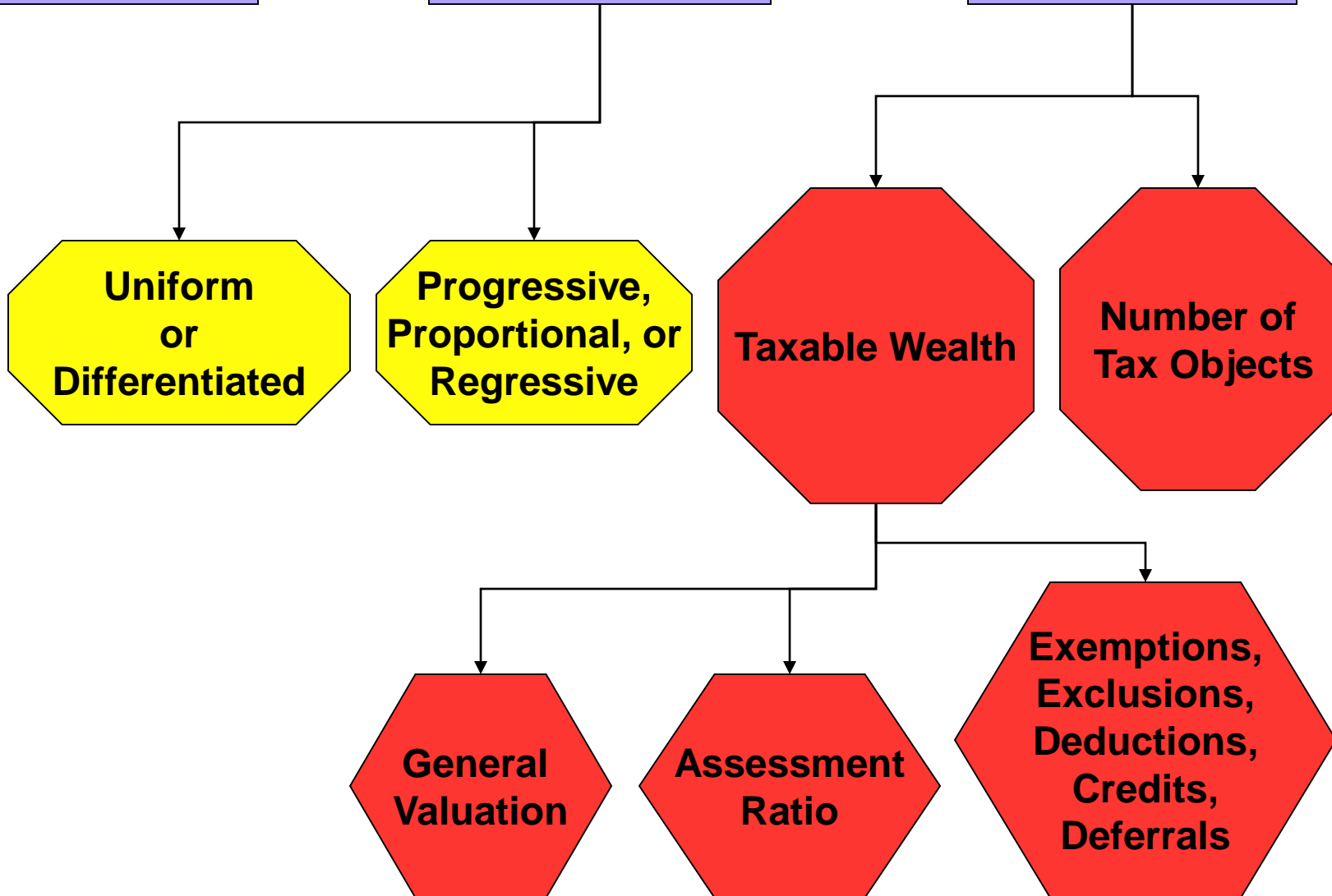
**Tax Revenue**

**=**

**Tax Rate**

**x**

**Tax Base**



# **Property Tax Example**

City of Cambridge

Commonwealth of Massachusetts

# FACTS ON FILE

## GENERAL

Population: Source: US Census Bureau (2010)	105,162
Area (Square miles):	6.26
Population Density	16,799 persons per square mile
Massachusetts Pop. Density	839.4 persons per square mile

## POPULATION CHARACTERISTICS

(Source: 2010 US Census Bureau)

	1990	2000	2010
White	75.3%	68.1%	66.6%
Black	13.5%	11.9%	11.7%
Asian	8.4%	11.9%	15.1%
American Indian	0.3%	0.3%	0.2%
Two or more races in combination	n/a	4.6%	4.3%
Other	2.5%	3.2%	2.1%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Hispanic Origin	6.8%	7.4%	7.6%
<i>Persons of Hispanic origin may be of any race.</i>			

## OTHER DEMOGRAPHIC

	2000	2010
Persons Under 18	13.3%	11.4%
Persons 18 or Older	86.7%	88.6%

## GOVERNMENT

Founded:	1630
Date of Incorporation as a City:	1846
Form of Government:	Council/Manager
Mayor:	Elected by the Council
No. of Councillors:	Nine

## COMMUNITY INFORMATION

Number of registered voters in Cambridge (Source: City's Record as of 4/14/2014)	65,309
Number of Parks & Play areas:	80
Number of Youth Centers:	5
Number of Community Schools:	12
Number of Senior Citizen Centers:	2
Number of Public Golf Courses:	1

## HOUSING

(Source: City of Cambridge as of 01/01/13)

Type of House	Median Value	FY14 Tax Bill*	# of Parcels
One family	\$741,600	\$4,407	3,825
Two family	\$690,150	\$3,976	2,532
Three family	\$786,900	\$4,787	1,256
Condominium	\$389,500	\$1,457	14,040
*includes residential exemption			

## INSTITUTIONS OF HIGHER LEARNING

(Source: Cambridge Community Development Department)

Degree Candidates  
2014

Harvard University	17,408
Massachusetts Institute of Technology	10,908
Lesley University	4,571
Cambridge College	2,946

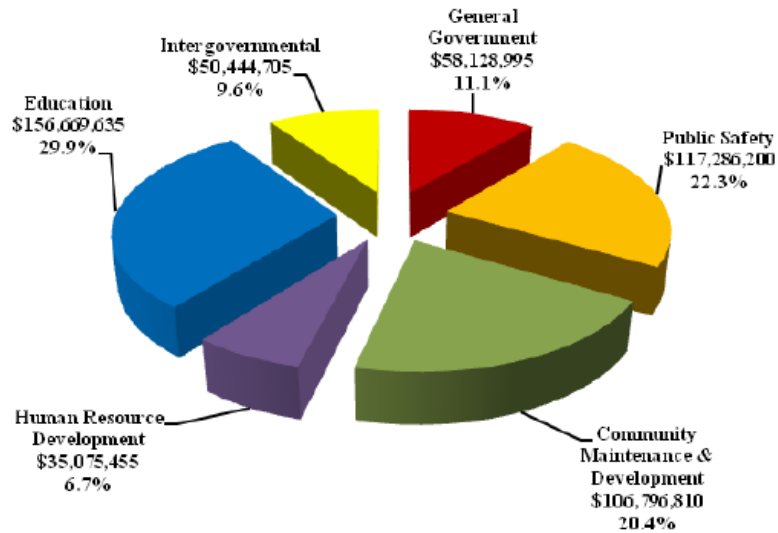


Harvard University

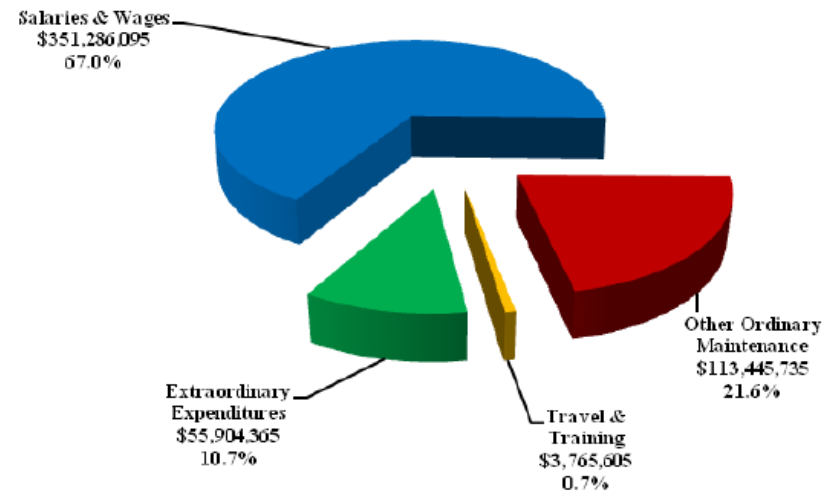


Massachusetts Institute of Technology

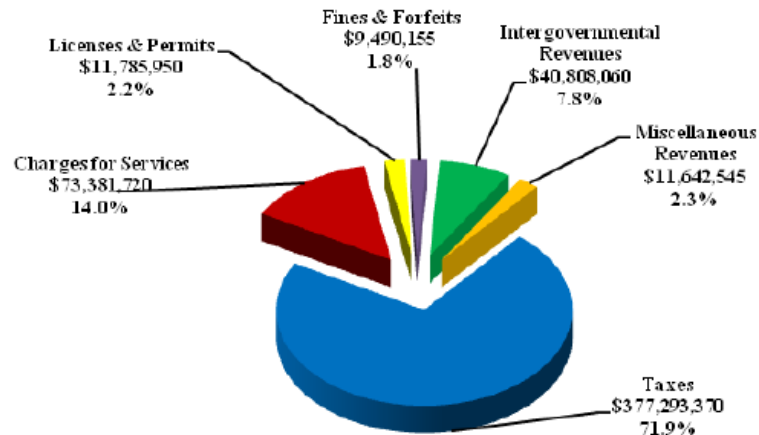
**FY15 OPERATING BUDGET-\$524,401,800**  
**APPROPRIATION BY FUNCTION**



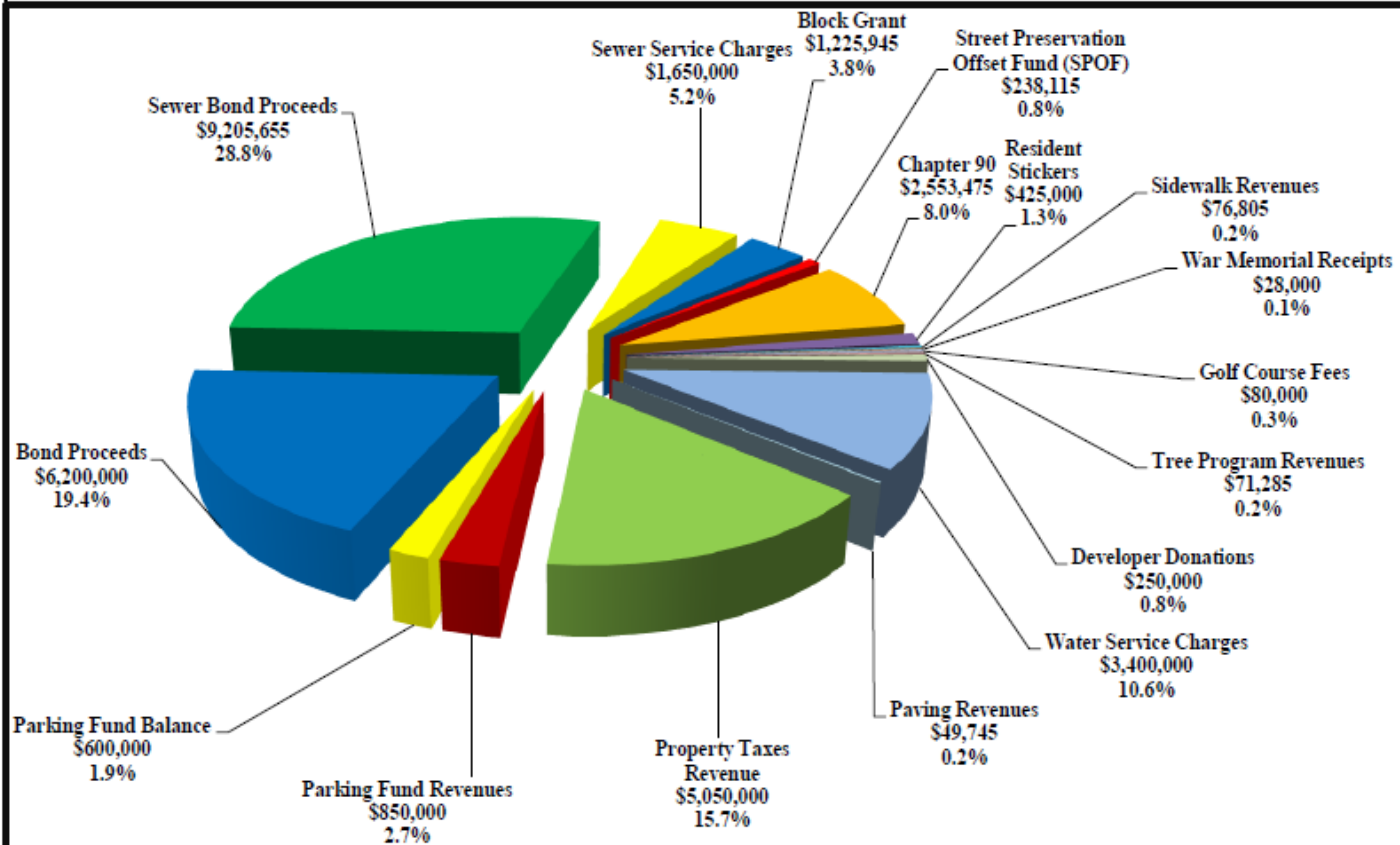
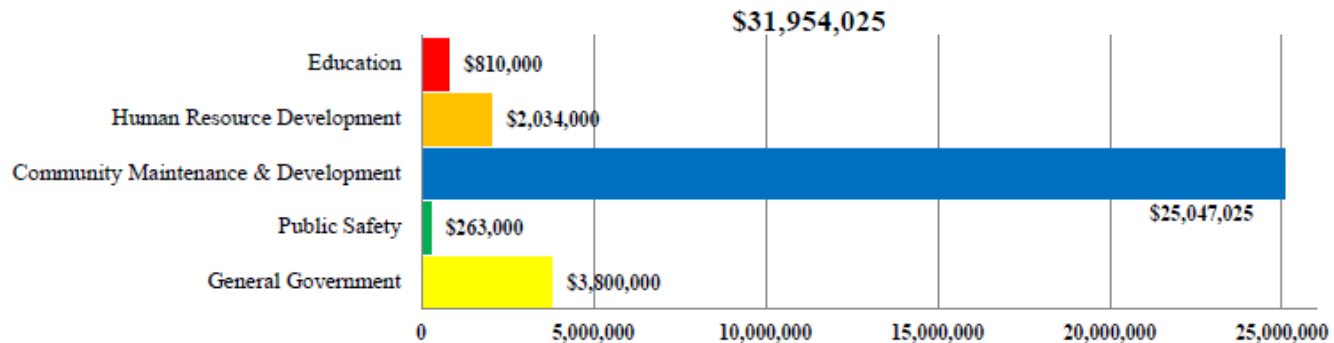
**FY15 OPERATING BUDGET-\$524,401,800**  
**APPROPRIATION BY STATUTORY CATEGORY**



**FY15 OPERATING BUDGET-\$524,401,800**  
**REVENUE BY SOURCE**

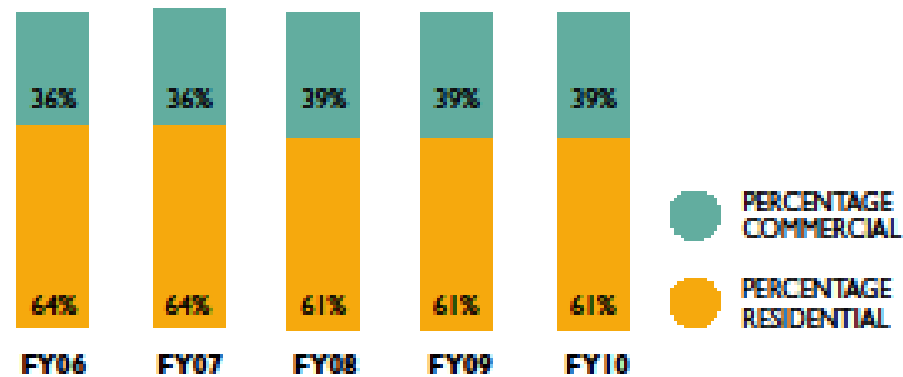


## FY15 PUBLIC INVESTMENT APPROPRIATION BY FUNCTION

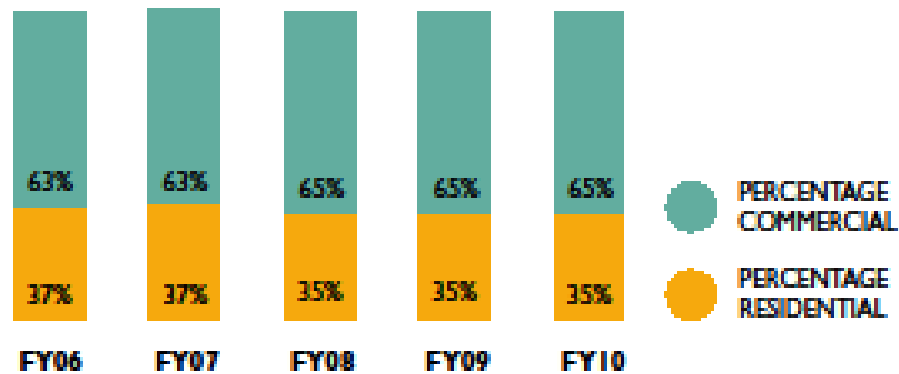


## FY15 PUBLIC INVESTMENT FINANCING PLAN

### PERCENTAGE RESIDENTIAL & COMMERCIAL PROPERTY VALUES



### PERCENTAGE OF PROPERTY TAX LEVY PAID BY RESIDENTIAL & COMMERCIAL PROPERTY OWNERS



# **Taxation of Consumption: Sales, Value Added, & Excise Taxes**

- General sales and companion use taxes usually subnational (state or local)
- Value added tax usually national
- Excise taxes at all levels

# General Sales and Companion Use Tax

- Seldom total consumption
- Usually at the retail stage
- Follows destination principle
- Have income and price effects
- Equity considerations



# Excise Taxes

- Extremely prevalent
  - Raise significant revenue, cause minimum economic distortion, administration relatively easy
  - Correct for negative externalities
  - Improve vertical equity
- Specific vs. ad valorem
- Revenue vs. regulation

# Alternative Taxes on Business

- Gross receipts tax:  
Tax on total revenue
- Value added tax (VAT):
  - Difference between sales and cost of goods/services
  - Usually based on consumption

# Alternative Business Tax Bases

Type	Subtraction Base	Additive Base	Tax Base
<b>Gross Y (Receipts)</b>	<b>Revenue</b>	Purchases + Wages + Depr. + $i$ + Rent + $\pi$	$a * \text{GDP}$ , $a > 1$
Value Added, Gross Y	Revenue – Purchases of Materials	Wages + Depr. + $i$ + Rent + $\pi$	GDP
Value Added, Net Y	Revenue – Purchases of Materials – Depr.	Wages + $i$ + Rent + $\pi$	National Income
<b>Value Added, Consumption</b>	<b>Revenue – Purchases of Materials – Capital Purchases</b>	Wages + $i$ + Rent + $\pi$ + Net Investment	Consumption
<b>Net Y (Profits)</b>	<b>Revenue – Purchases of Materials – Wages – <math>i</math> – Rent – Depr.</b>	$\pi$	$\pi$ or ROI

Source: Adapted from Ronald Fisher, *State and Local Public Finance*, 3<sup>rd</sup> ed., Table 17-2.

# Tax Bases and Production Stages

	<b>Farmer</b>	<b>Miller</b>	<b>Baker</b>	<b>Oven</b>	<b>Steel</b>	<b>Total</b>
<b>Sales</b>	\$100	\$500	<b>\$2,000</b>	\$500	\$200	\$3,300
<b>Materials</b>	0	100	<b>500</b>	200	0	800
<b>Capital Goods</b>	0	0	<b>500</b>	0	0	500
<b>Gross Receipts Tax @ 10%</b>	10	50	<b>200</b>	50	20	330
<b>VA, Gross Y</b>	100	400	1,500	300	200	2,500
<b>Gross Y VAT @ 10%</b>	10	40	150	30	20	250
<b>Depreciation</b>	0	0	100	0	0	100
<b>VA, Net Y</b>	100	400	1,400	300	200	2,400
<b>Net Y VAT @ 10%</b>	10	40	140	30	20	240
<b>VA, Consumption</b>	100	400	<b>1,000</b>	300	200	2,000
<b>Cons. VAT @ 10%</b>	10	40	<b>100</b>	30	20	200
<b>Profit</b>	8	40	<b>160</b>	40	16	264
<b>Profit Tax @ 10%</b>	0.8	4	<b>16</b>	4	1.6	26.4

Source: Adapted from Ronald Fisher, *State and Local Public Finance*, 3rd ed., Table 17-3.