

## 7.1

# Defining Pure and Impure Public Goods

		Is the good rival in consumption?	
		Yes	No
Is the good excludable?	Yes	Private good (ice cream)	Impure public good (Cable TV)
	No	Impure public good (crowded sidewalk)	Public good (defense)

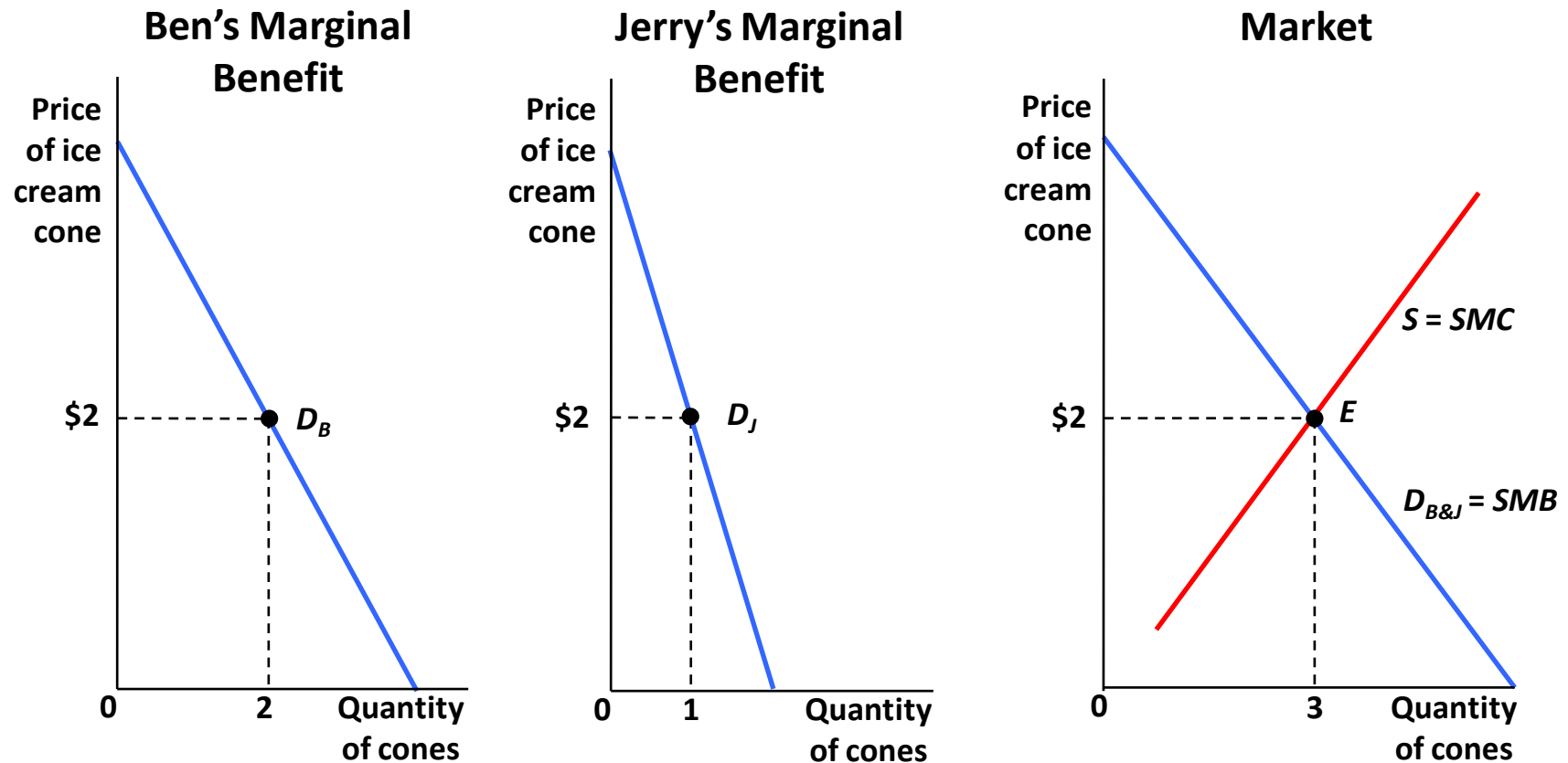
## Optimal Provision of Public Goods

How much of the public good should society provide?

- Markets will not provide the correct amount.
- To answer this question, start by reconsidering the market for a private good, ice cream cones.
- Ben and Jerry have different tastes for ice cream ( $ic$ ), relative to the other good ( $c$ ). How does the market aggregate their preferences?

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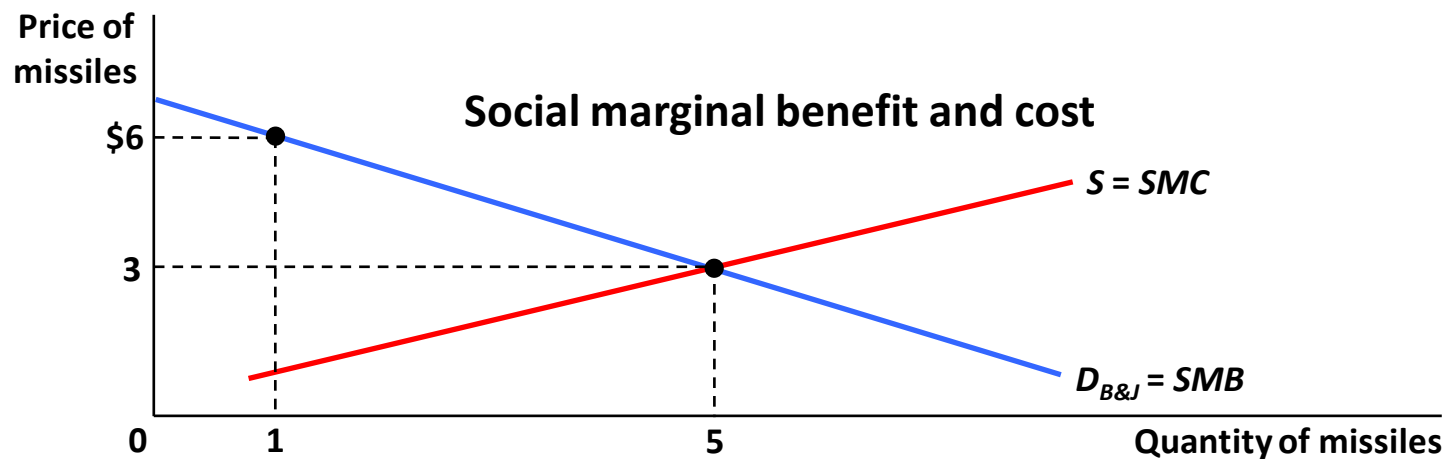
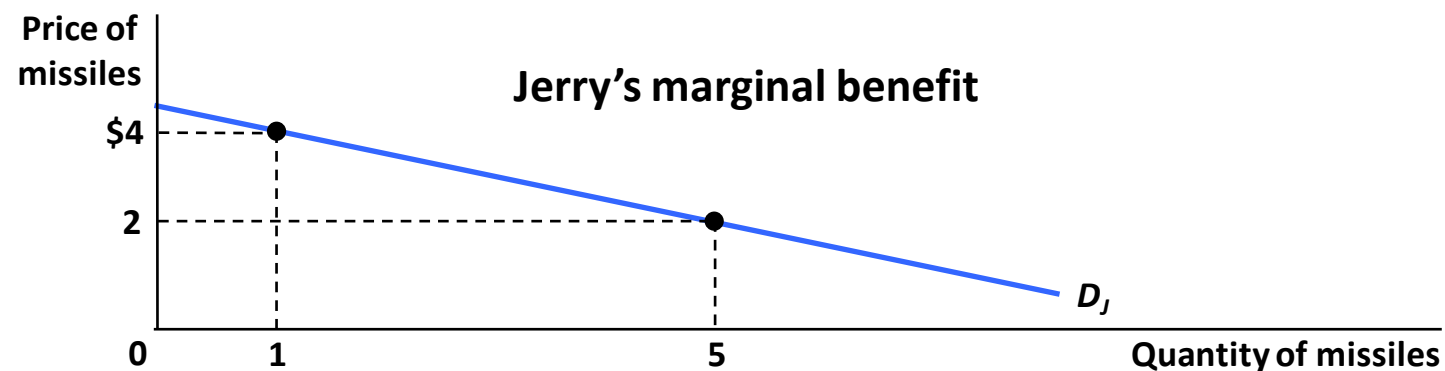
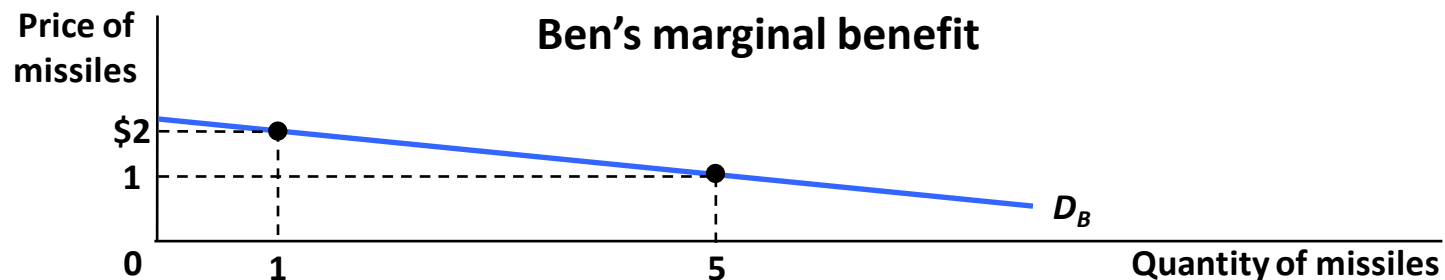
## Horizontal Summation in the Private Goods Market



- To find social demand curve, add quantity at each price—sum horizontally.

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## Vertical Summation in the Public Goods Market



## APPLICATION: The Free Rider Problem in Practice

The free rider problem is one of the most powerful concepts in all of economics.

- **Radio and television programming:**
  - WNYC has an estimated listening audience of about 1 million people, but only 7.5% of their listeners support the station.
  - The United Kingdom uses a non-market solution: The BBC charges an annual licensing fee to anyone who owns and operates a TV!

## APPLICATION: The Free Rider Problem in Practice

- **File sharing:**
  - 85% of users of a file sharing program download files only from others.
  - The file-sharing software Kazaa gives download priority to users according to their ratings, thus discouraging free riders.
- **Bicycle shares:**
  - Users were expected to return each bike riding.
  - Within four days, not a single bicycle was left.
  - Literal example of a “free ride.”

## APPLICATION: Business Improvement Districts

Clean, safe sidewalks are public goods.

- Cities attempt to provide them through street repair and police work, financed with tax revenue.
- But New York City's Times Square in the 1980s was a failure:
  - “Dirty, dangerous, decrepit, and increasingly derelict”
- In 1992, a group of private firms formed a “Business Improvement District” to improve the area themselves.

## APPLICATION: Business Improvement Districts

How did this BID work?

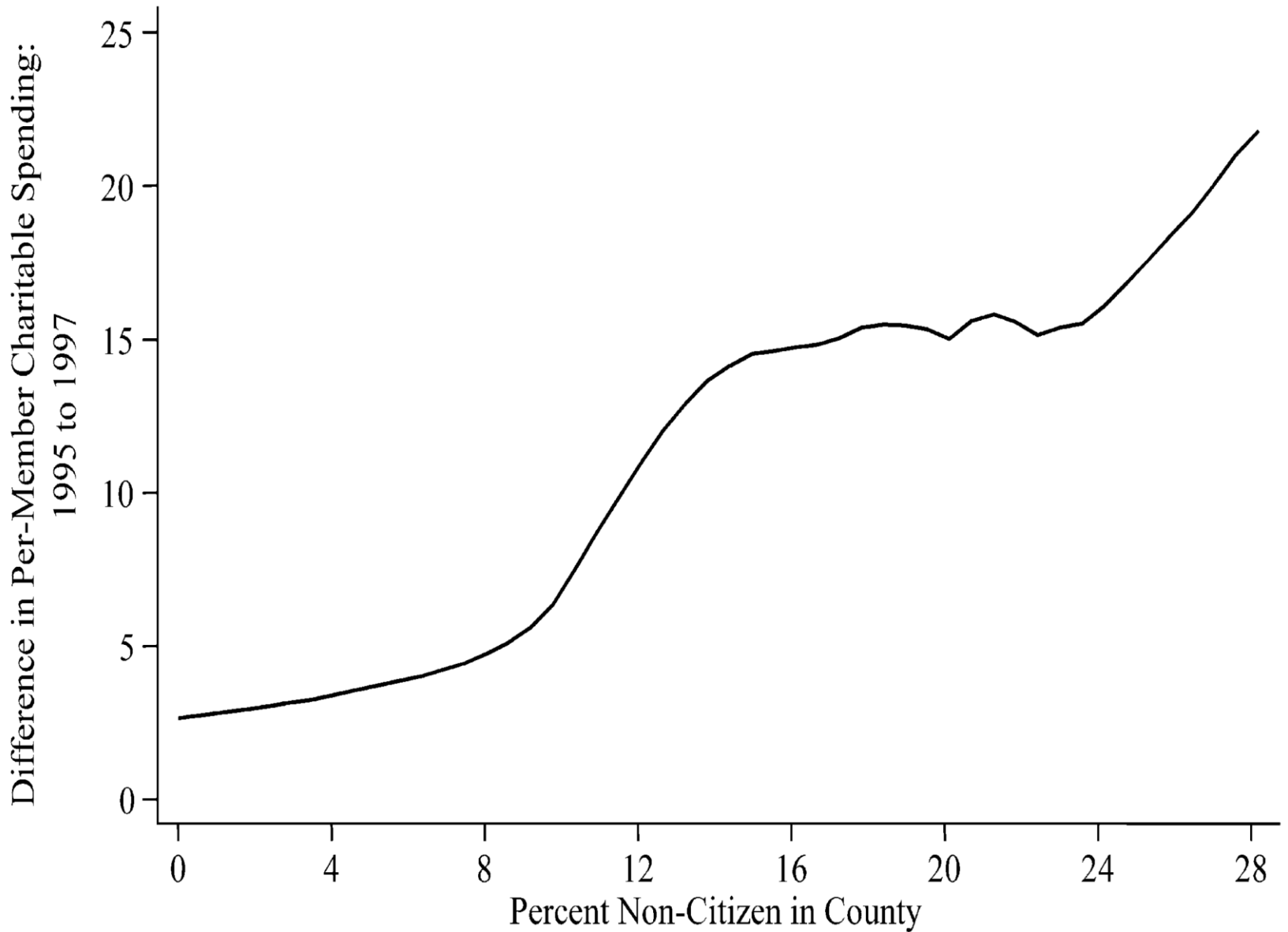
- A (BID) is a legal entity that privately provides local services and funds these services with fees charged to local businesses.
- How do BIDs overcome free rider problem?
- NYC law allows BIDs to levy fees on non-paying members, as long as 60% of members contribute.
- Resounding success:
  - Crime has dropped significantly.
  - The area is cleaner and more attractive.
  - Business and tourism are booming.



## APPLICATION: Business Improvement Districts

Resounding success:

- Crime has dropped significantly.
- The area is cleaner and more attractive.
- Business and tourism are booming.
- Success of BIDs depends on the legal underpinnings:  
Can members charge fees to encourage payment?



Source: Hungerman 2005

## Civic duty mailing

Dear Registered Voter:

**DO YOUR CIVIC DUTY AND VOTE!**

Why do so many people fail to vote? We've been talking about this problem for years, but it only seems to get worse.

The whole point of democracy is that citizens are active participants in government; that we have a voice in government. Your voice starts with your vote. On August 8, remember your rights and responsibilities as a citizen. Remember to vote.

**DO YOUR CIVIC DUTY – VOTE!**

## Hawthorne mailing

Dear Registered Voter:

**YOU ARE BEING STUDIED!**

Why do so many people fail to vote? We've been talking about this problem for years, but it only seems to get worse.

This year, we're trying to figure out why people do or do not vote. We'll be studying voter turnout in the August 8 primary election.

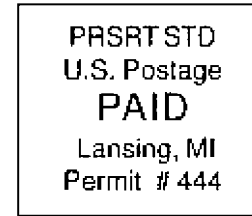
Our analysis will be based on public records, so you will not be contacted again or disturbed in anyway. Anything we learn about your voting or not voting will remain confidential and will not be disclosed to anyone else.

**DO YOUR CIVIC DUTY – VOTE!**

**Self mailing**

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ECRLOT \*\*C050  
THE WAYNE FAMILY  
9999 OAK ST  
FLINT MI 48507

Dear Registered Voter:

**WHO VOTES IS PUBLIC INFORMATION!**

Why do so many people fail to vote? We've been talking about the problem for years, but it only seems to get worse.

This year, we're taking a different approach. We are reminding people that who votes is a matter of public record.

The chart shows your name from the list of registered voters, showing past votes, as well as an empty box which we will fill in to show whether you vote in the August 8 primary election. We intend to mail you an updated chart when we have that information.

We will leave the box blank if you do not vote.

**DO YOUR CIVIC DUTY—VOTE!**

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OAK ST	Aug 04	Nov 04	Aug 06
9999 ROBERT WAYNE		Voted	_____
9999 LAURA WAYNE	Voted	Voted	_____

## Neighbors mailing

Dear Registered Voter:

### WHAT IF YOUR NEIGHBORS KNEW WHETHER YOU VOTED?

Why do so many people fail to vote? We've been talking about this problem for years, but it only seems to get worse. This year, we're taking a new approach. We're sending this mailing to you and your neighbors to publicize who does and does not vote.

The chart shows the names of some of your neighbors, showing which have votes in the past. After the August 8 election, we intend to mail an updated chart. You and your neighbors will all know who voted and who did not

### DO YOUR CIVIC DUTY – VOTE!

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MAPLE DR	Aug 04	Nov 04	Aug 06
9995 JOSEPH JAMES SMITH	VOTED	VOTED	_____
9995 JENNIFER KAY SMITH	VOTED		_____
9997 RICHARD B JACKSON	VOTED		_____
9999 KATHY MARIE JACKSON		VOTED	_____
9987 MARIA S. JOHNSON	VOTED	VOTED	_____
9987 TOM JACK JOHNSON	VOTED	VOTED	_____

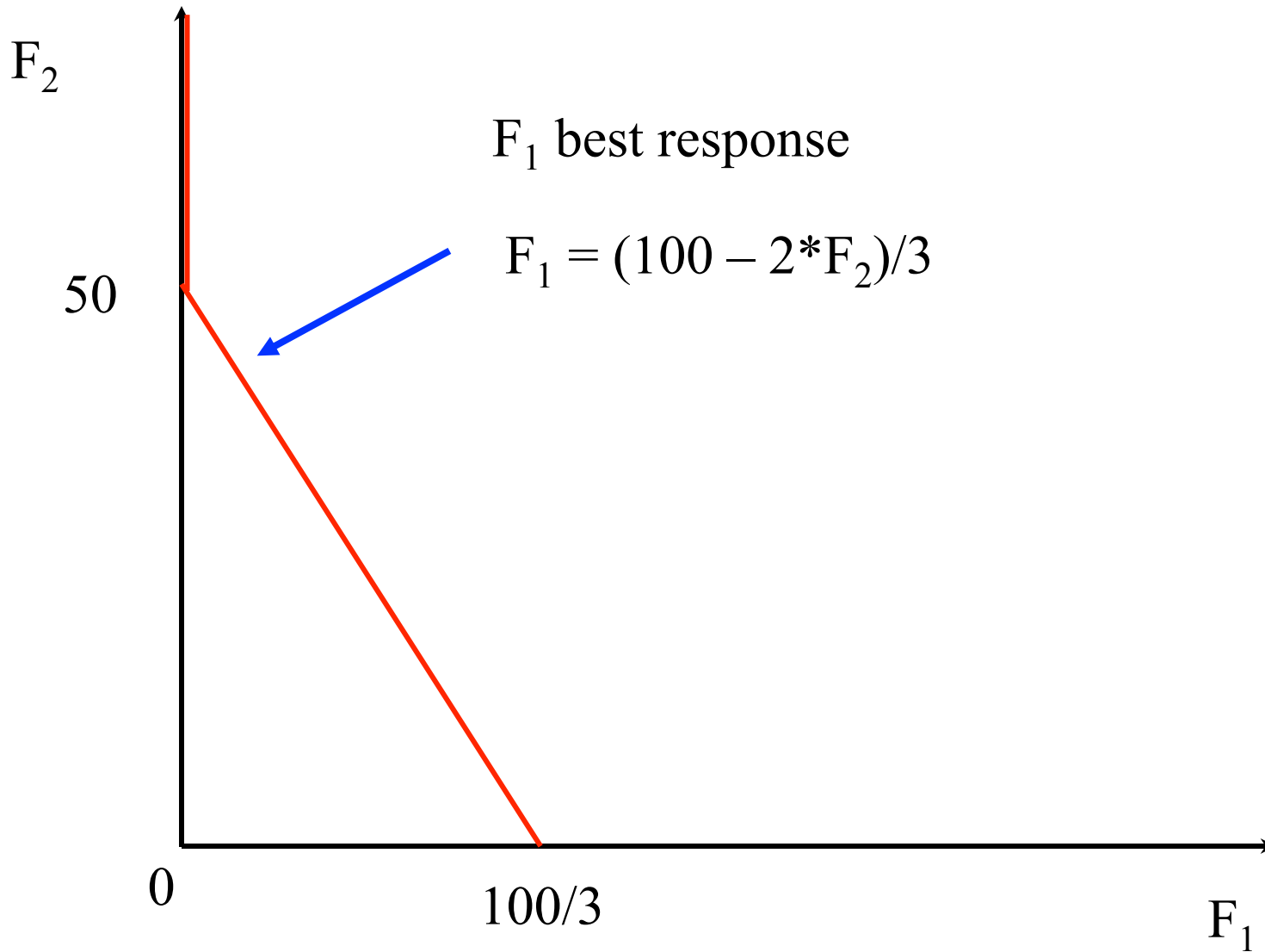
Source: Gerber, Green, and Larimer (2008)

**TABLE 2. Effects of Four Mail Treatments on Voter Turnout in the August 2006 Primary Election**

	Experimental Group				
	Control	Civic Duty	Hawthorne	Self	Neighbors
Percentage Voting	29.7%	31.5%	32.2%	34.5%	37.8%
N of Individuals	191,243	38,218	38,204	38,218	38,201

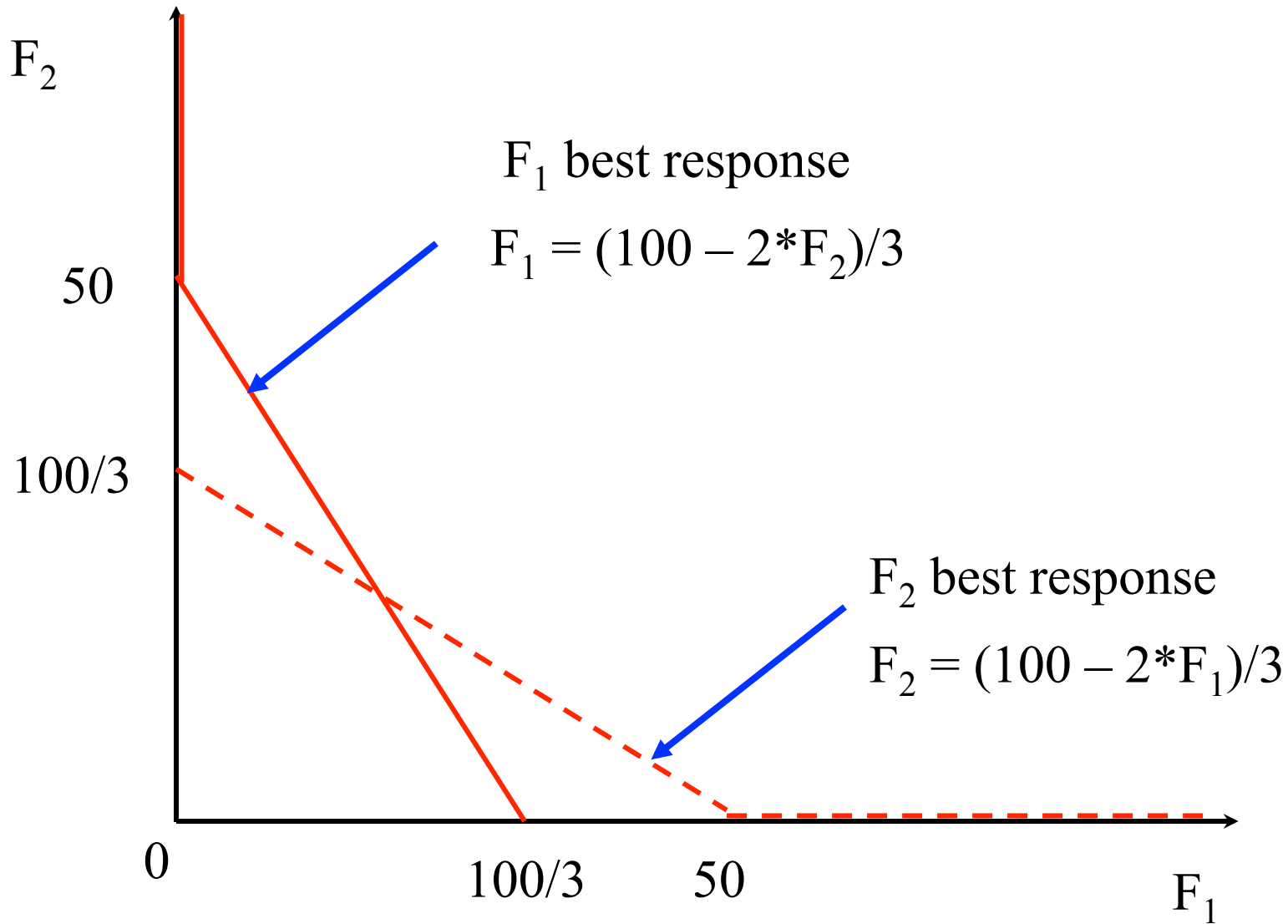
Source: Gerber, Green, and Larimer (2008)

# Private Provision of Public Good

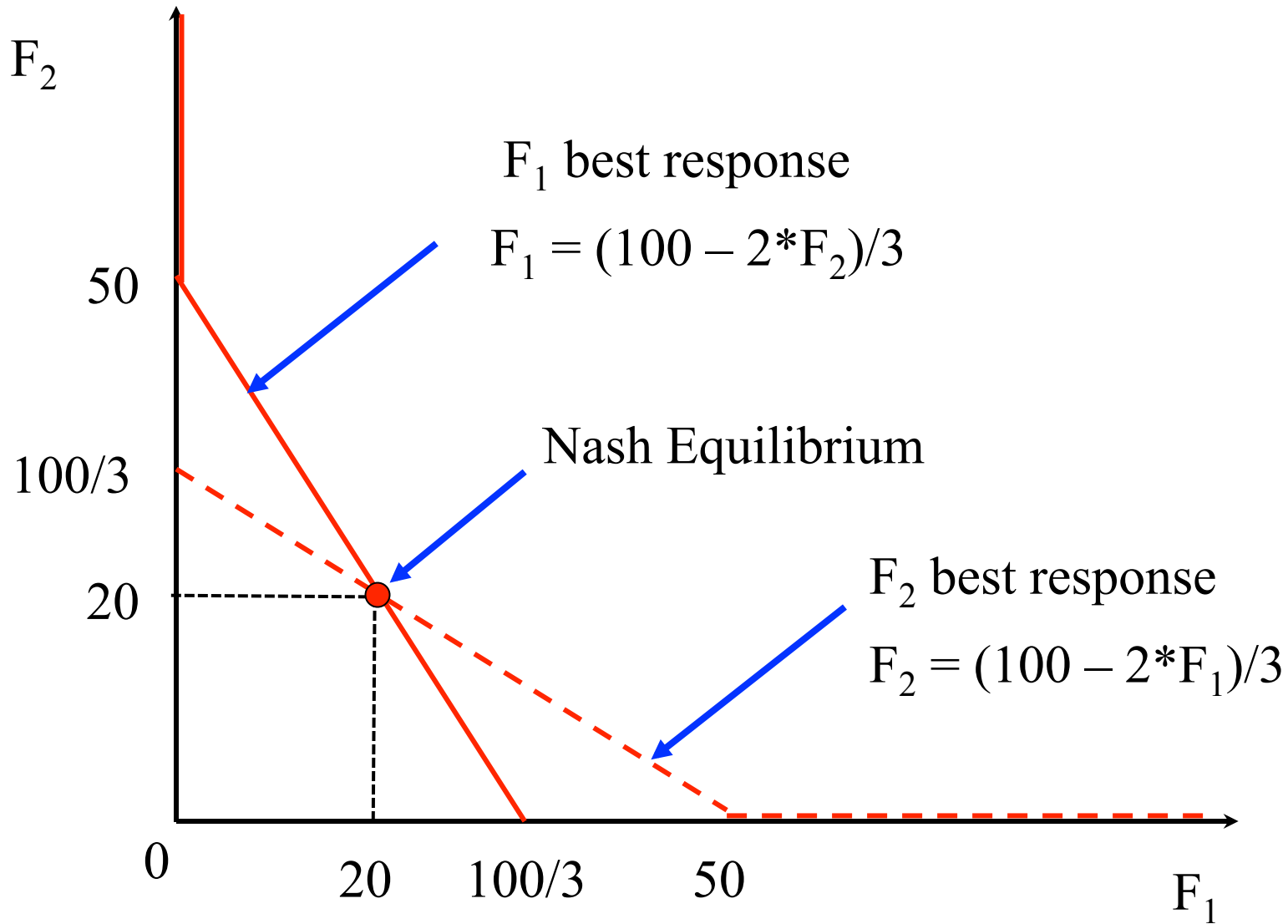




# Private Provision of Public Good



# Private Provision of Public Good



# Average tax rates by income group in 2018: US vs. France (% of pre-tax income)

