Taxation

Prepared for the CIDE Conference

Desafíos de la Competitividad

En México 2009

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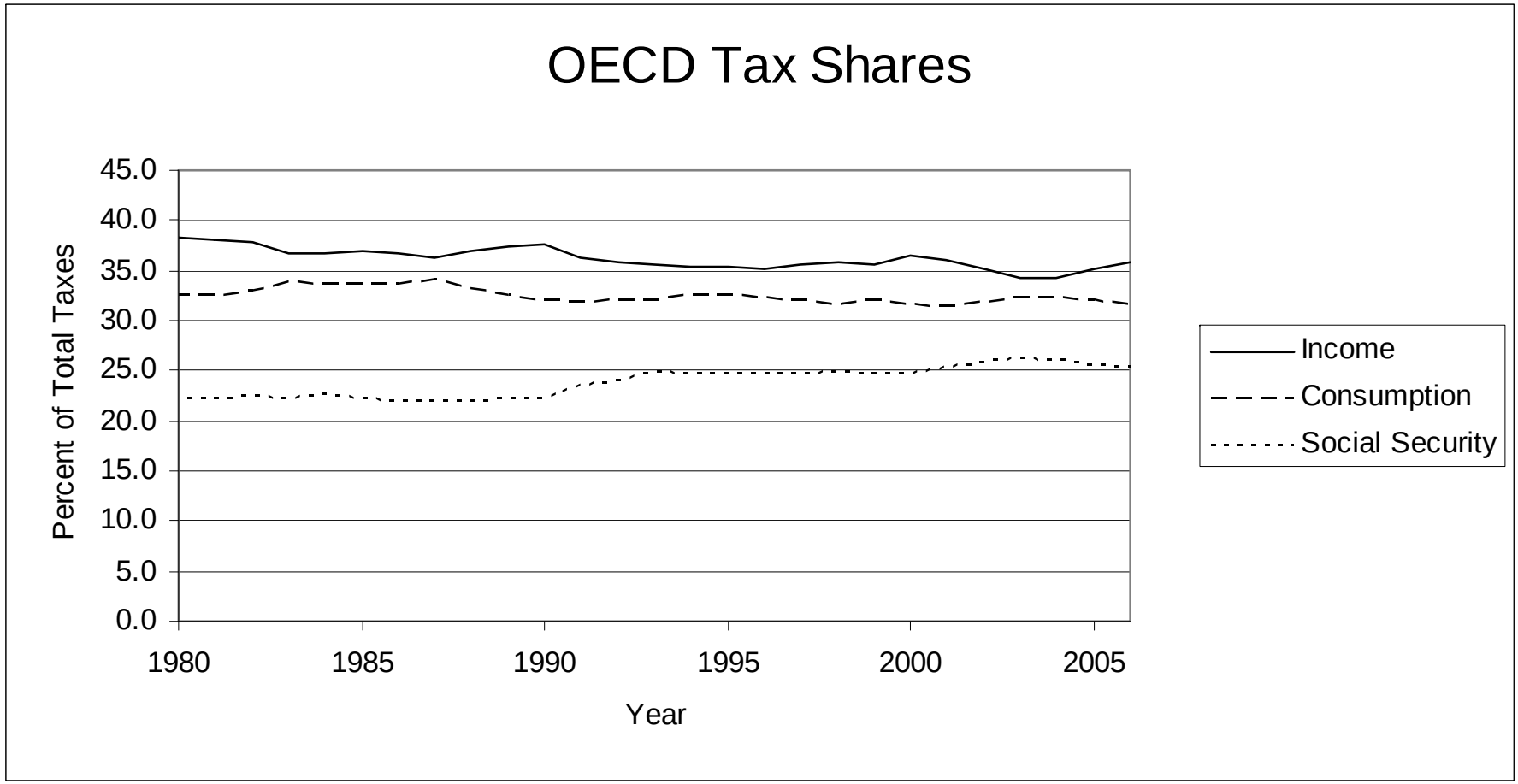
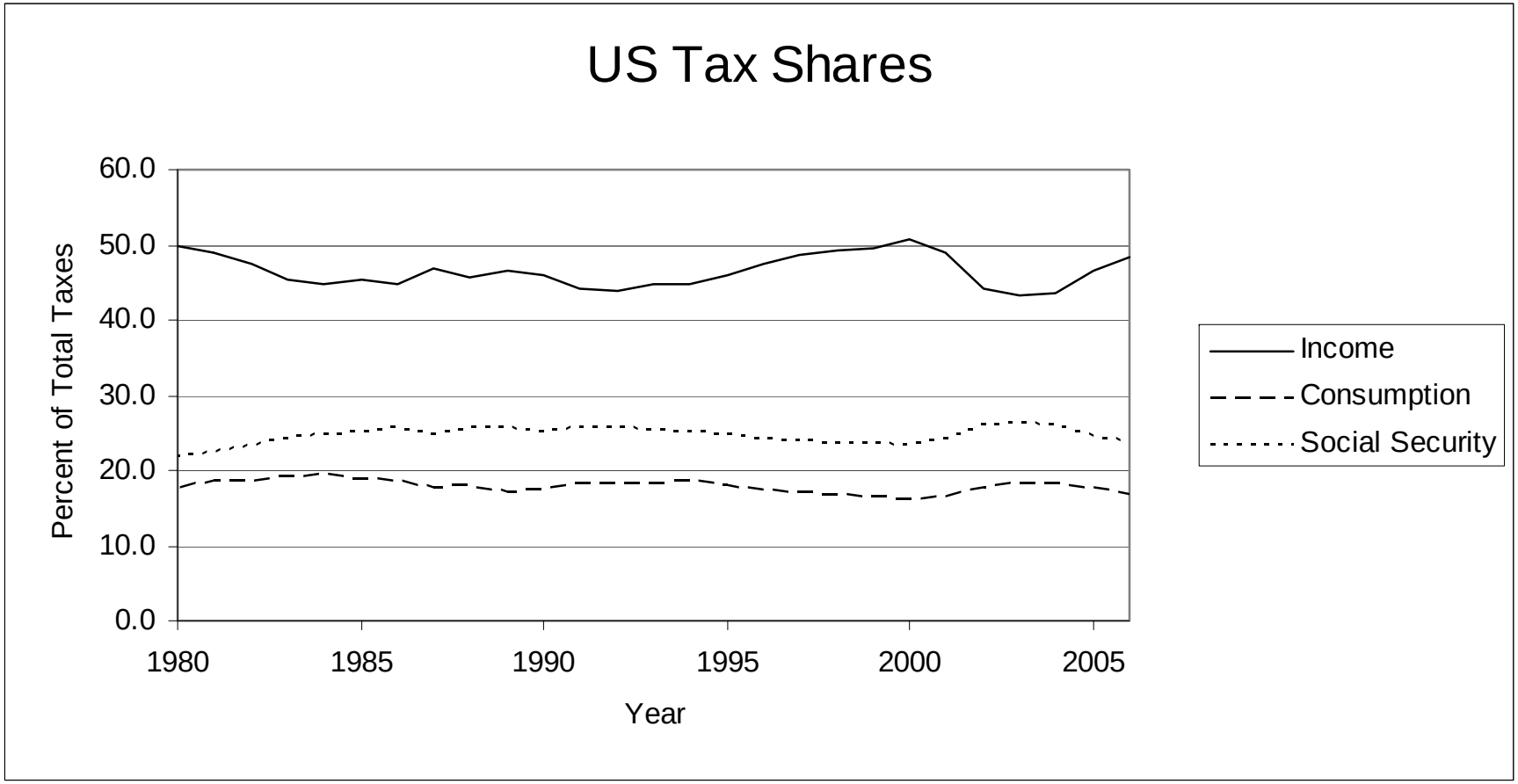
Outline

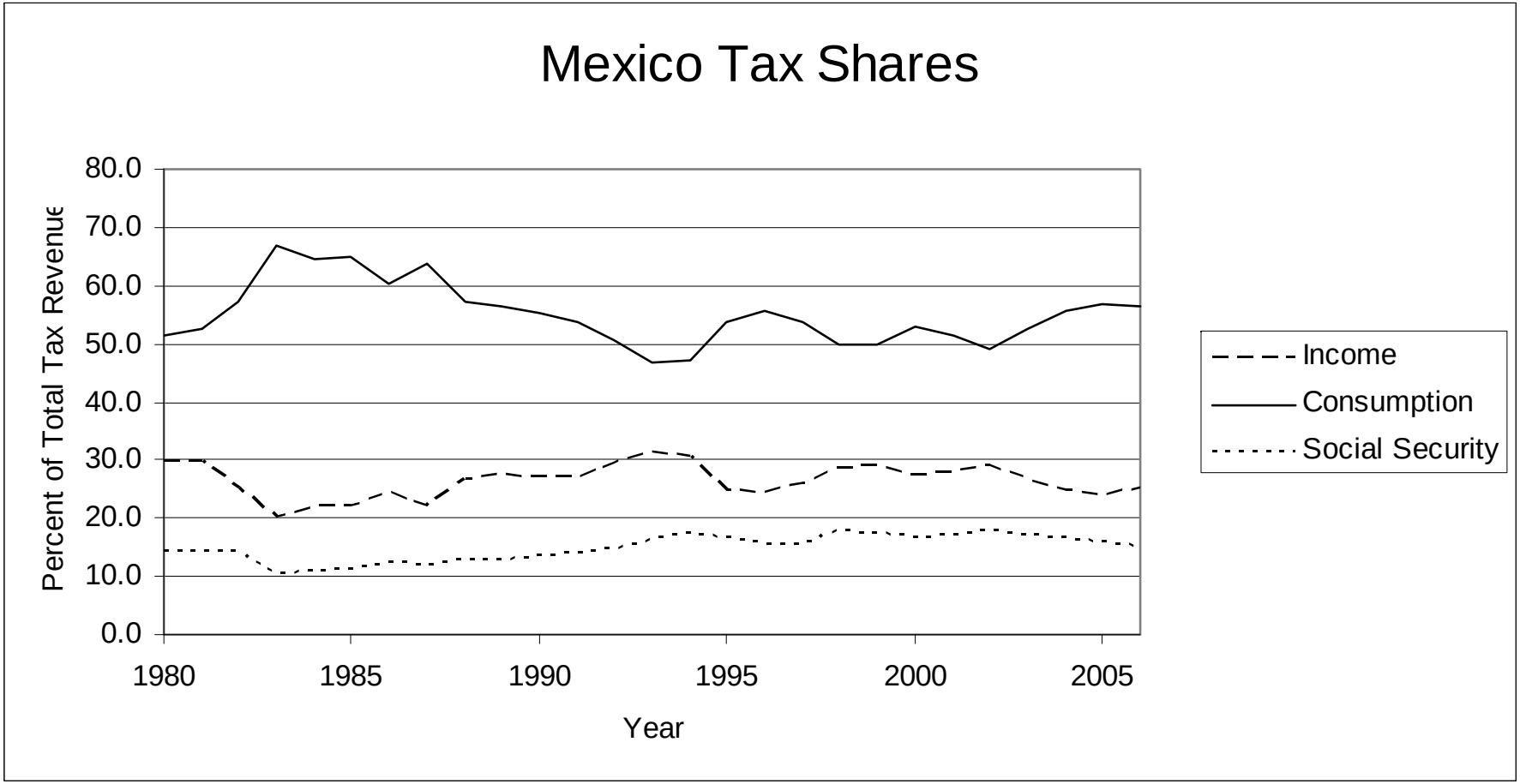
- Trends in taxation
- Tax design
- Tax reform
- Role of environmental taxes

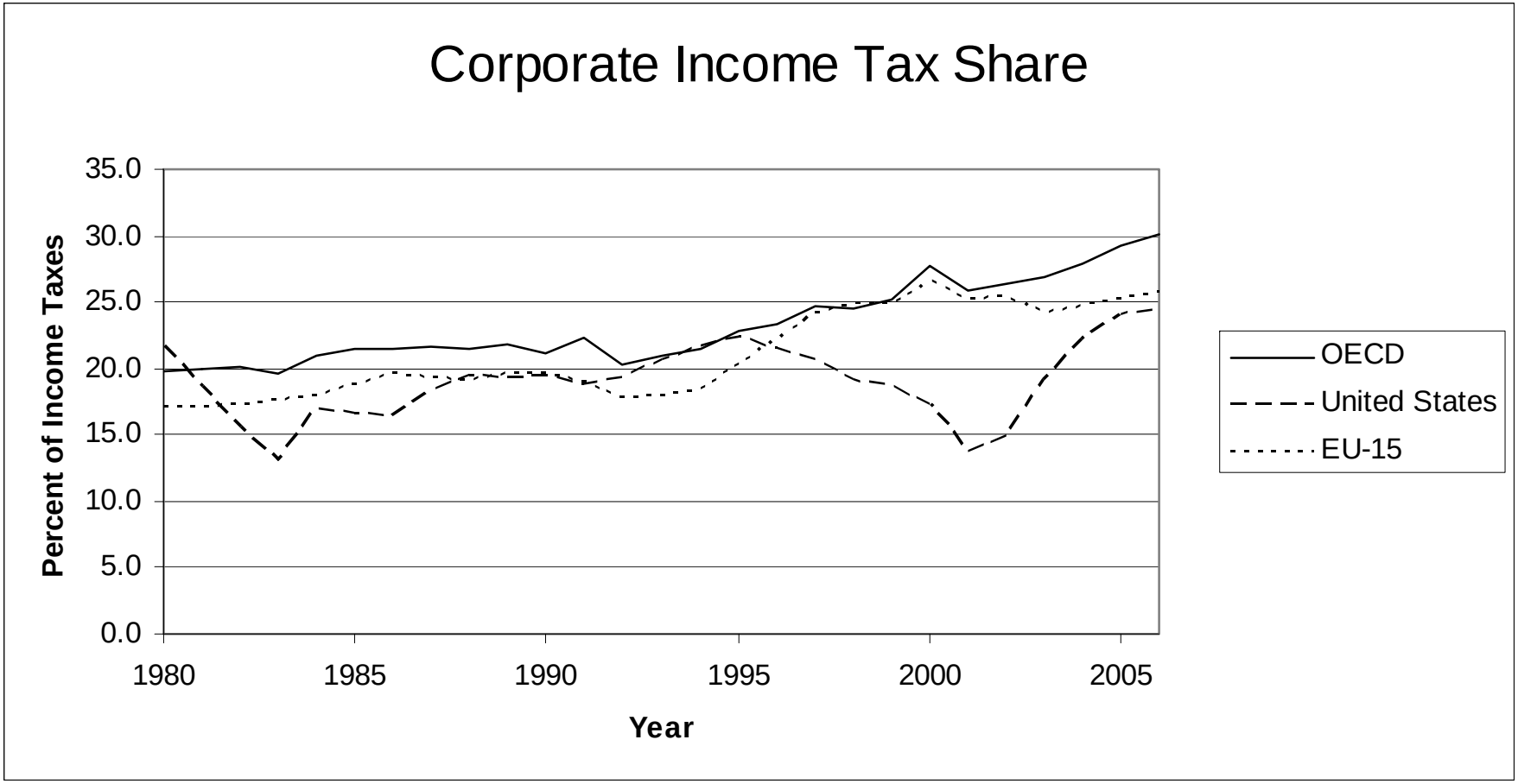
Overview

- Historic tax trends may not be a good guide to future trends
  - Increased globalization
  - Environmental concerns
- Economic forces suggest a shift to more regressive taxes
- Instruments exist to address regressivity in the tax code


OECD Tax Shares
Percent of Total Taxes
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1980
1985
1990
1995
2000
2005
Year
Income
Consumption
Social Security


US Tax Shares
Percent of Total Taxes
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1980
1985
1990
1995
2000
2005
Year
Income
Consumption
Social Security


Mexico Tax Shares
Percent of Total Tax Revenue
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1980
1985
1990
1995
2000
2005
Year
Income
Consumption
Social Security


Corporate Income Tax Share
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Percent of Income Taxes
1980
1985
1990
1995
2000
2005
Year
OECD
United States
EU-15

Tax Design

- Fundamental question: income or consumption?
- Haig-Simons Definition of Income:

$$Y = C + \underbrace{\Delta W}_{S}$$

- Savings includes
  - Net additions to bank or stock accounts (+)
  - Unrealized capital gains (+)
  - Depreciation of physical assets (-)
  - Erosions of real value due to inflation (-)

Taxing Income

- Broad base
- Key distortions
  - Labor supply
  - Savings and investment behavior
- Measurement issues add complexity
  - Capital gains: lock-in
  - Inflation tax
  - Tracking basis

Taxing Consumption

- Narrower base
- No savings distortion
- Concerns with regressivity
- Lower administrative and compliance costs
- Greater enforcement ability

Optimal Capital Income Tax

- What is the optimal rate?
- Classic analysis suggests a rate of zero!
  - Atkinson-Stiglitz (1976), Ordover-Phelps (1979), Judd (1985), Chamley (1986)
- Recent results more mixed
  - Optimal rate is negative, Judd (2001)
  - Optimal rate is positive, Saez (2002), Golosov, Kocherlaktoa and Tsyvinski (2003), Acemoglu, Golosov and Tsyvinski (2009)

More Pressing Concerns

- Administrative considerations
  - Bradford (1986), Slemrod and Yitzhaki (2002)
- Factor mobility and globalization
  - Hines and Summers (2009)

Tax Reform

- Discussion above assumed a de novo tax system
- Tax reform confers windfall gains and losses
- Shifts from income to consumption taxation typically confer windfall gains on rich (and possibly poor)
- Middle class may be an obstacle to reform

Salience and Reform

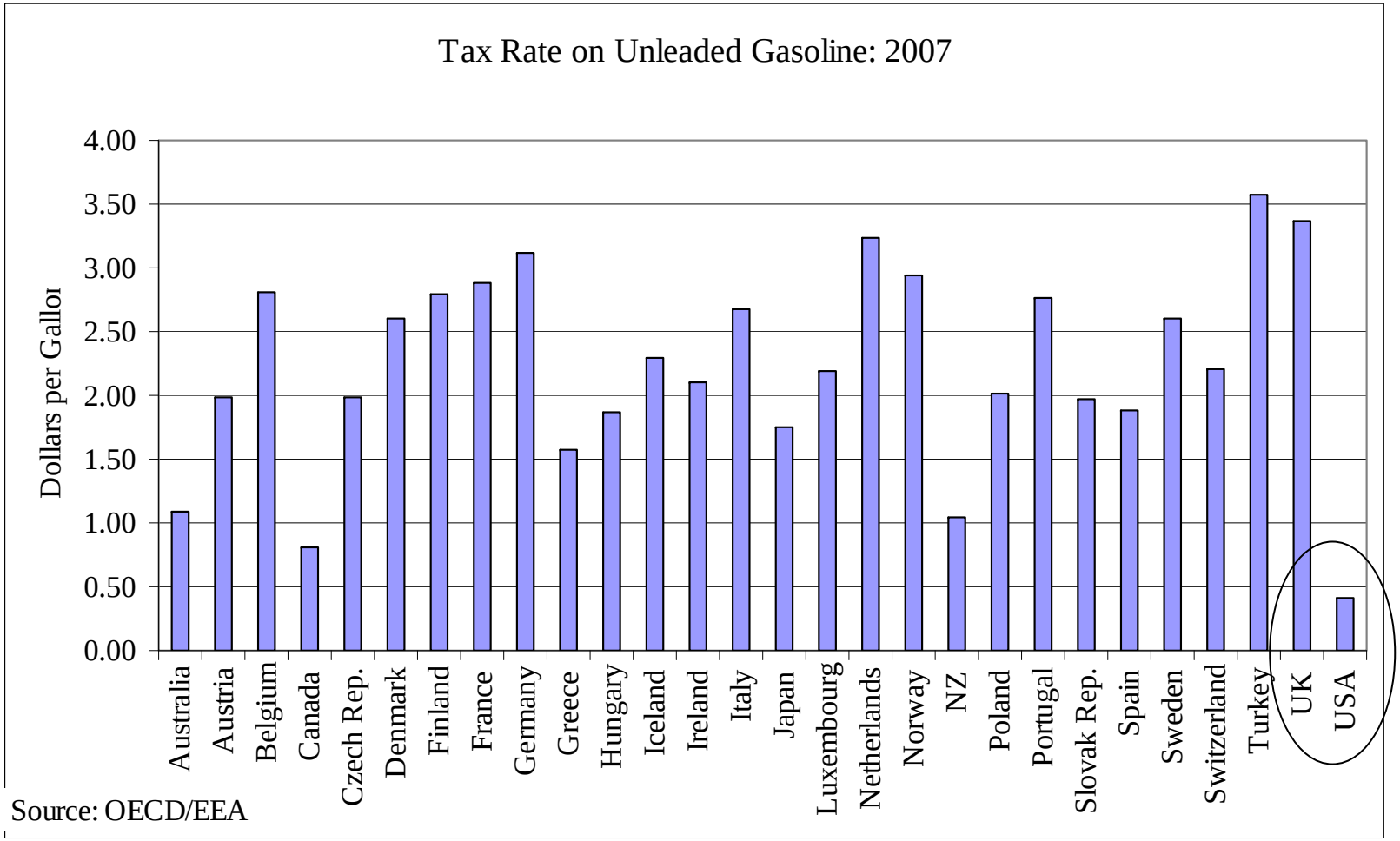
- Evidence that salience affects equilibrium tax rates
  - Finkelstein (2007), Chetty, Looney and Kroft (2009)
- A promising example in the United States due to Graetz (2008)

Graetz Plan

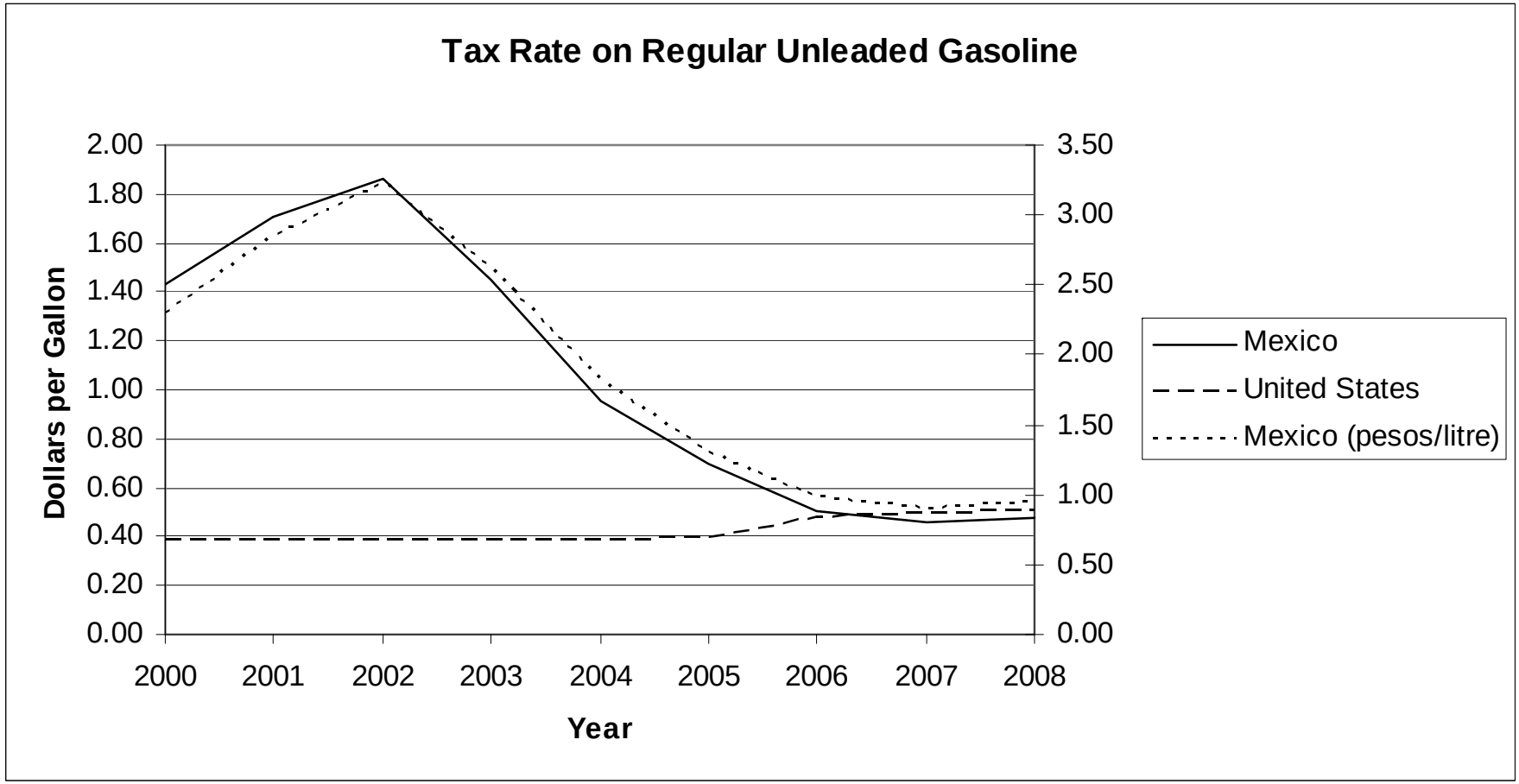
- New federal consumption tax: 10 – 15%
- Income tax reduced in scale
  - $100,000 standard deduction
  - 25 percent tax rate
- Eliminates 90 percent of income tax filers
- Combined state and federal consumption taxes brought in line with rest of OECD

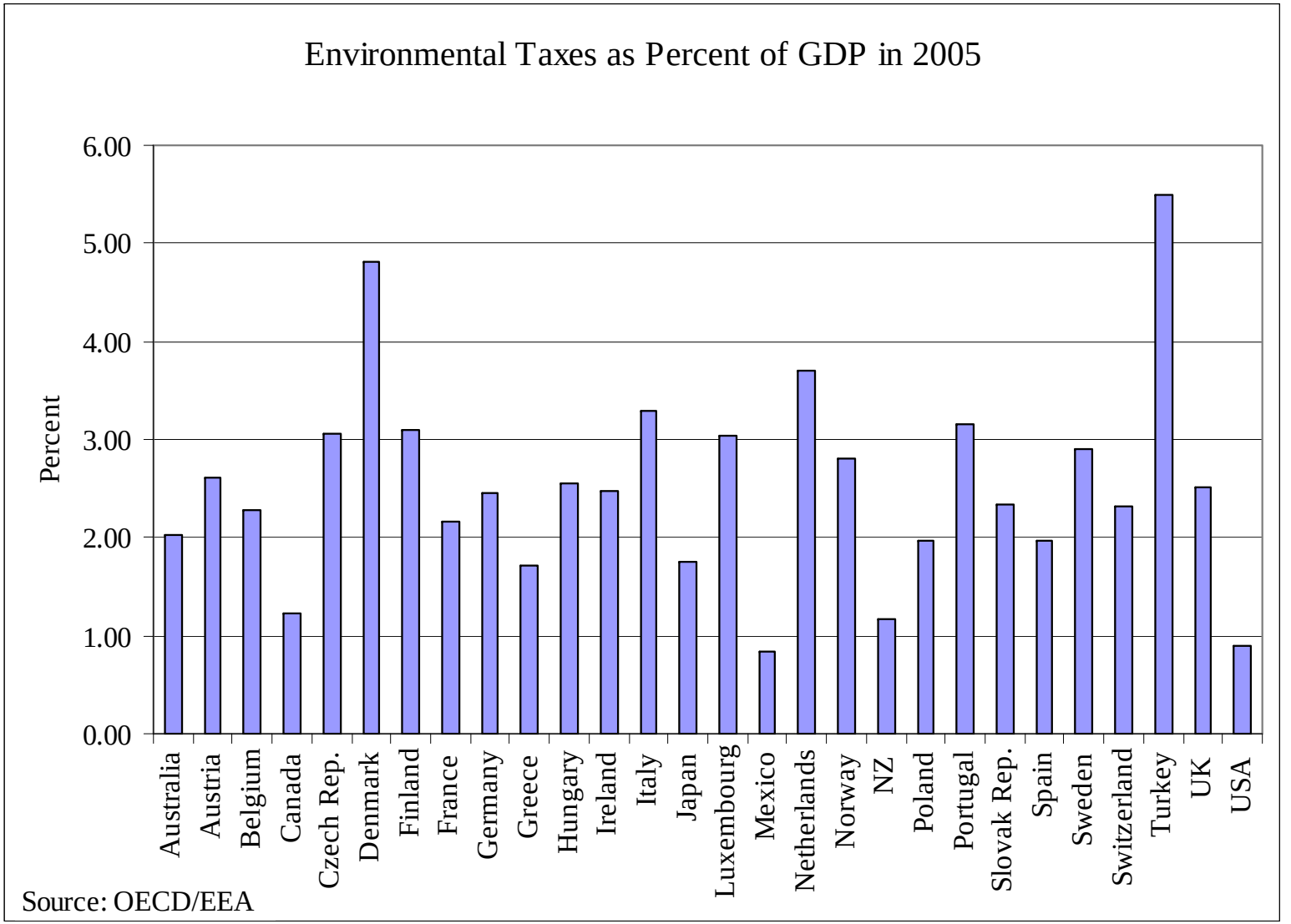
Environmental Taxes

- An emergent source of revenue
- Various possibilities
  - Increases in gasoline taxes
  - Pollution and congestion taxes
  - Greenhouse gas taxes
  - Reductions in energy subsidies



Source: OECD/EEA

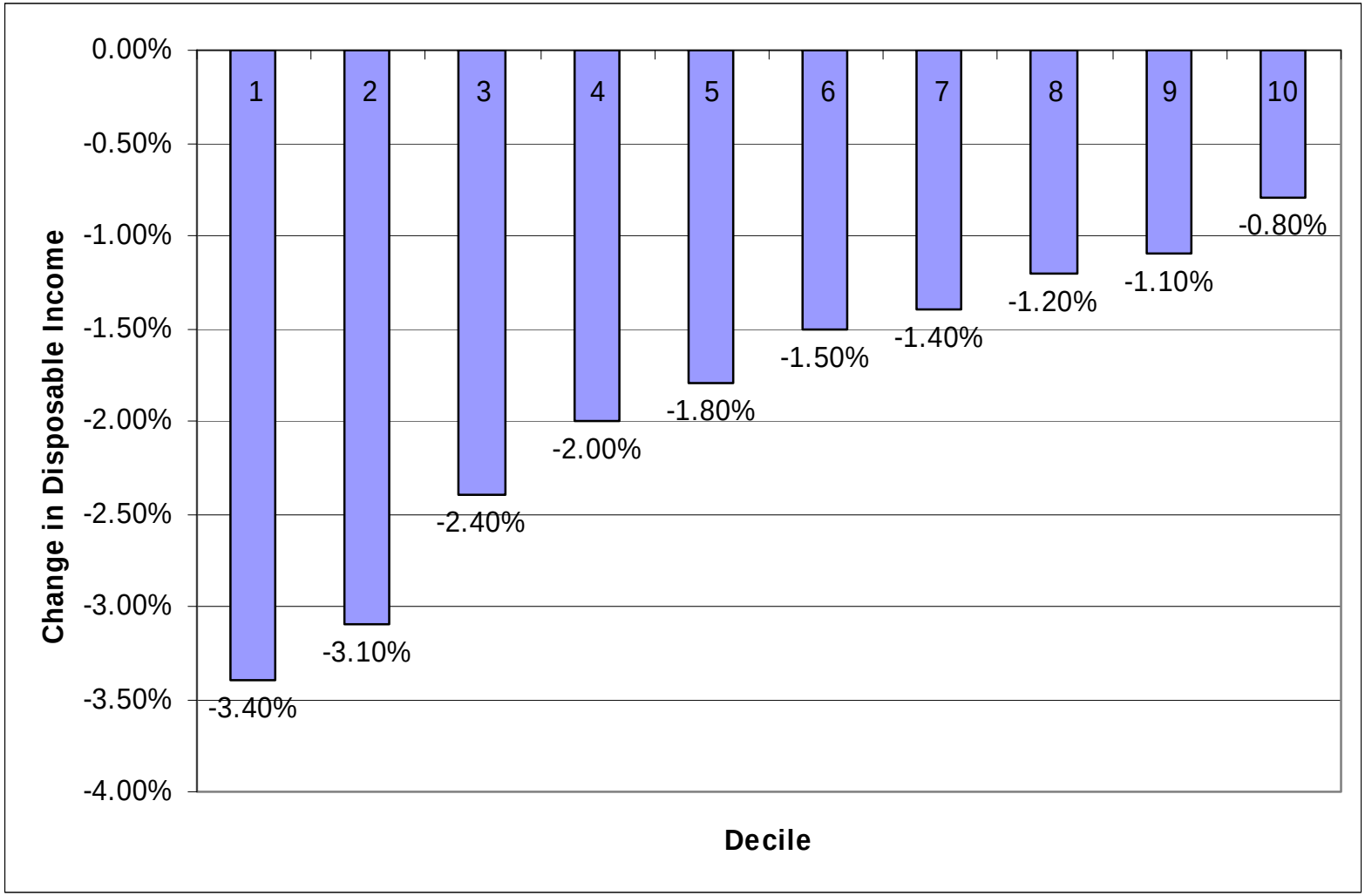

Tax Rate on Regular Unleaded Gasoline
Dollars per Gallon
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year
Mexico
United States
Mexico (pesos/litre)


Environmental Taxes as Percent of GDP in 2005
Percent
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Australia
Austria
Belgium
Canada
Czech Rep.
Denmark
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Japan
Luxembourg
Mexico
Netherlands
Norway
NZ
Poland
Portugal
Slovak Rep.
Spain
Sweden
Switzerland
Turkey
UK
USA
Source: OECD/EEA

Distributional Tensions

- Both globalization and environmental concerns appear to lead to a more regressive tax system
- Globalization impacts arise from capital mobility
- Environmental concerns driven by low income elasticity of energy demand

Distributional Impact of Carbon Tax

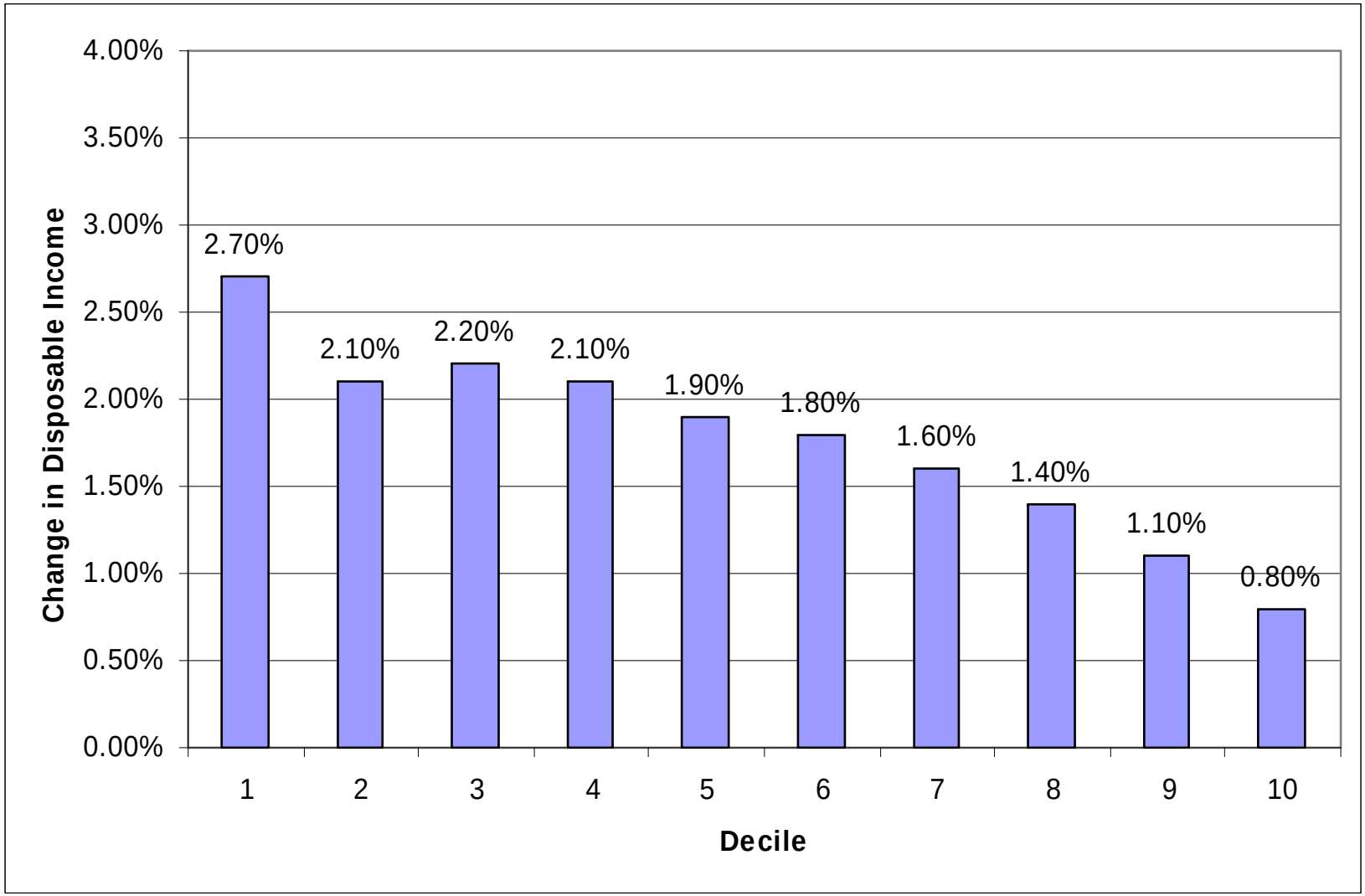


Metcalf (2007)

Green Taxes vs. Green Tax Reforms

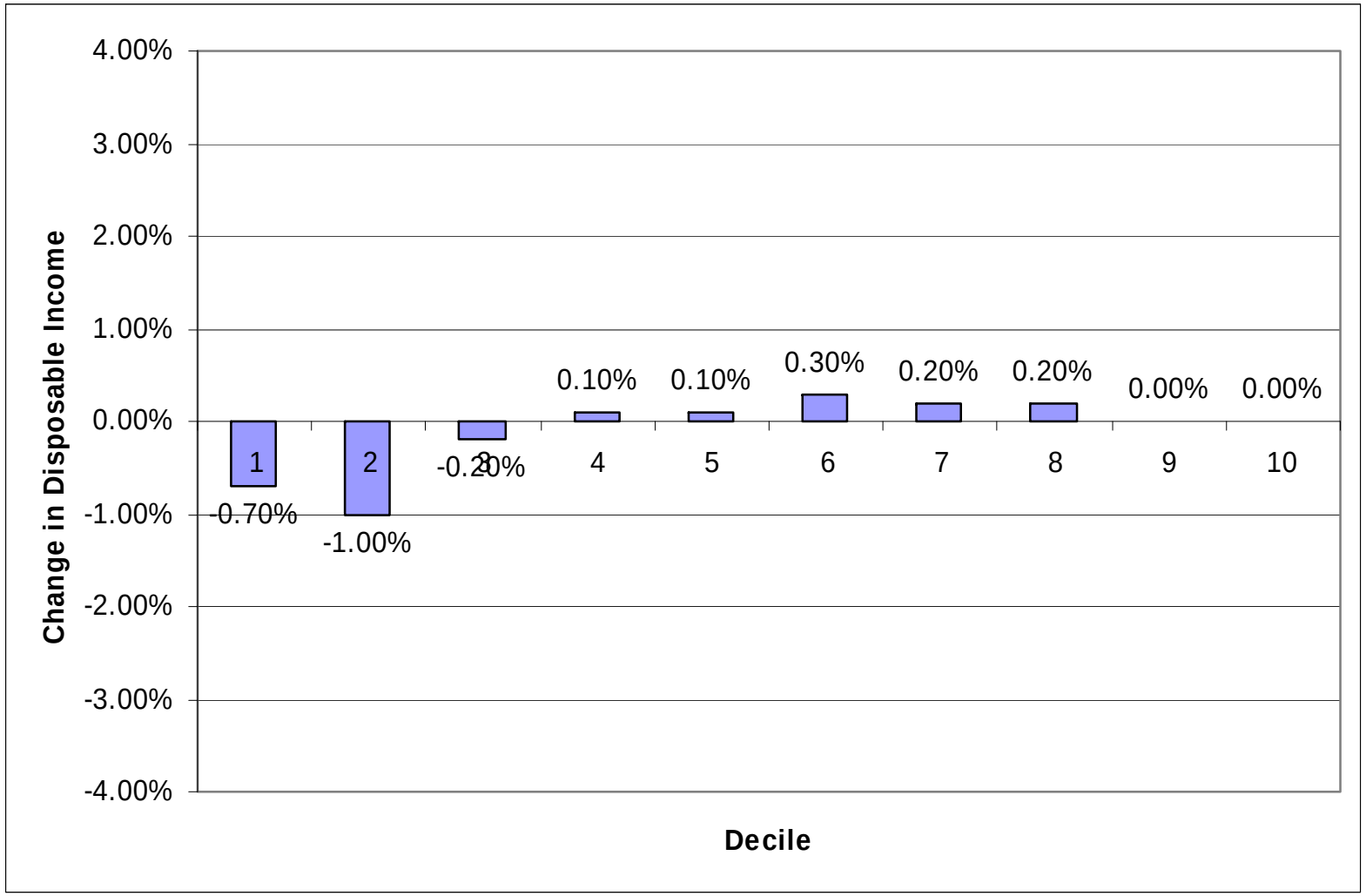
- Need to focus on use of revenue
- Possible environmental tax reforms: use environmental revenue to
  - Lower payroll taxes
  - Environmental tax dividends
  - Compensate affected industry owners for windfall losses (free permit allocation)

Distributional Impact of Payroll Tax Credit



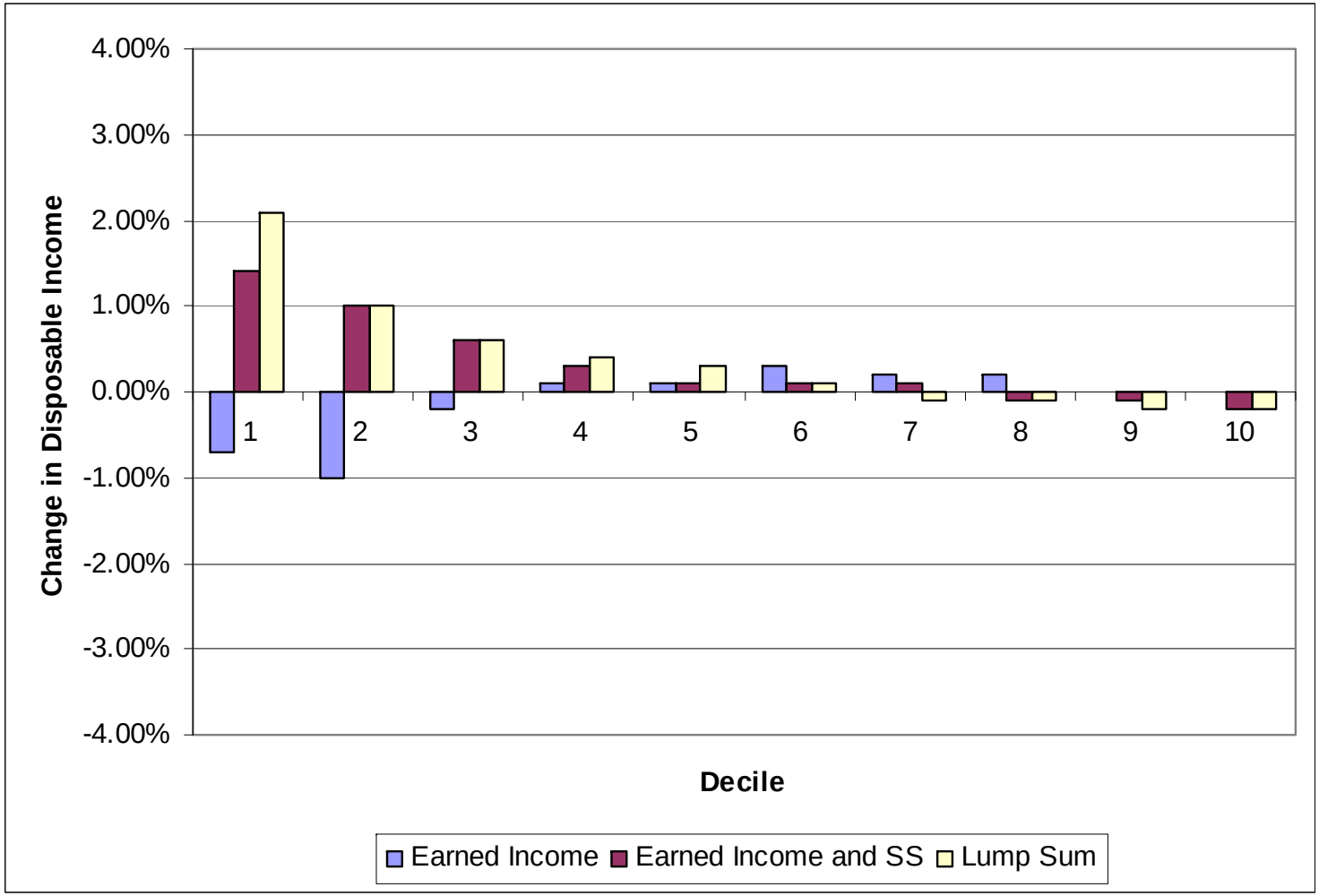
Metcalf (2007)

Net Impact



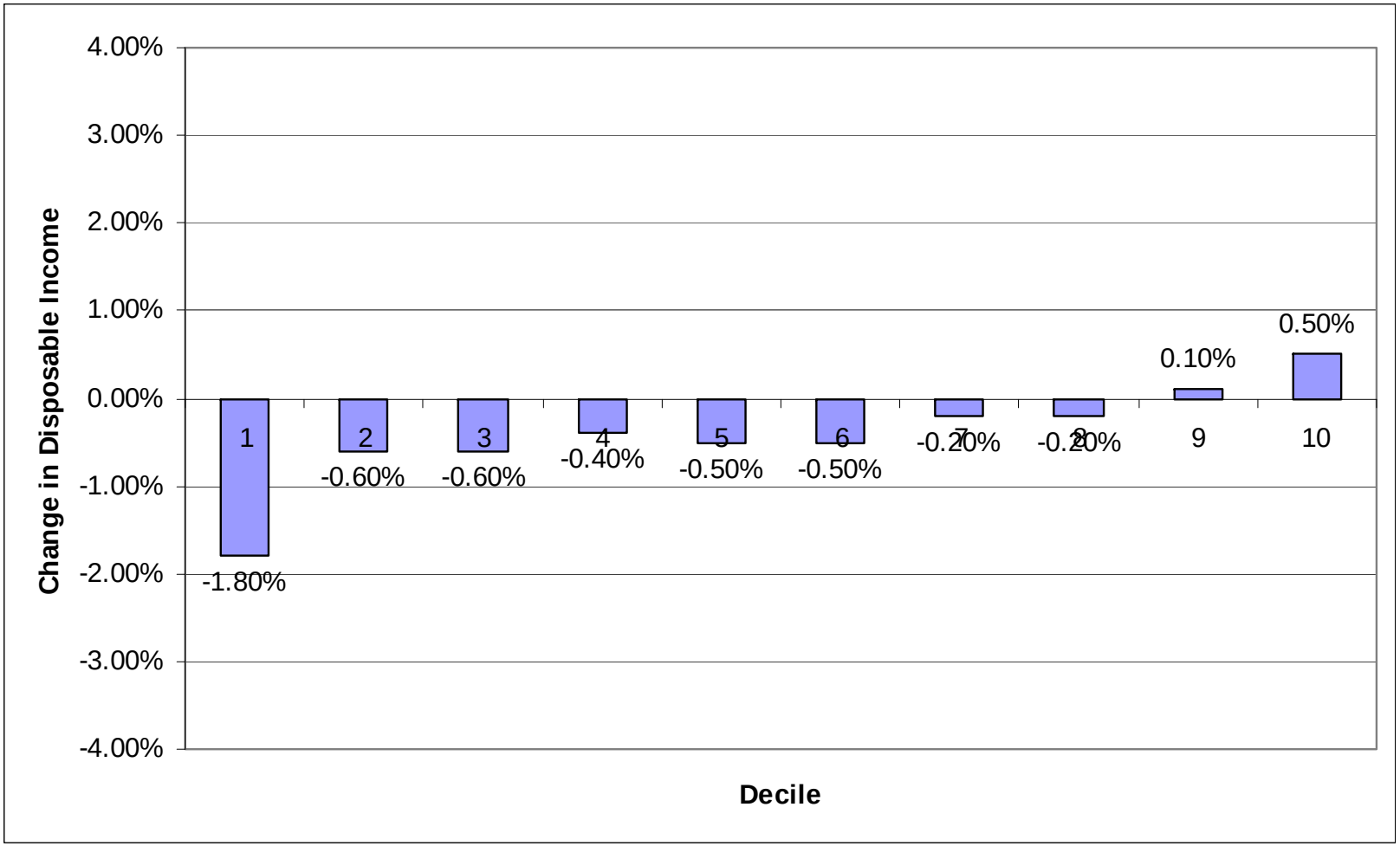
Metcalf (2007)

Alternative Rebate Options



Metcalf (2007)

Freely Allocated Cap and Trade Permits



Metcalf (2007)

A Reform Package

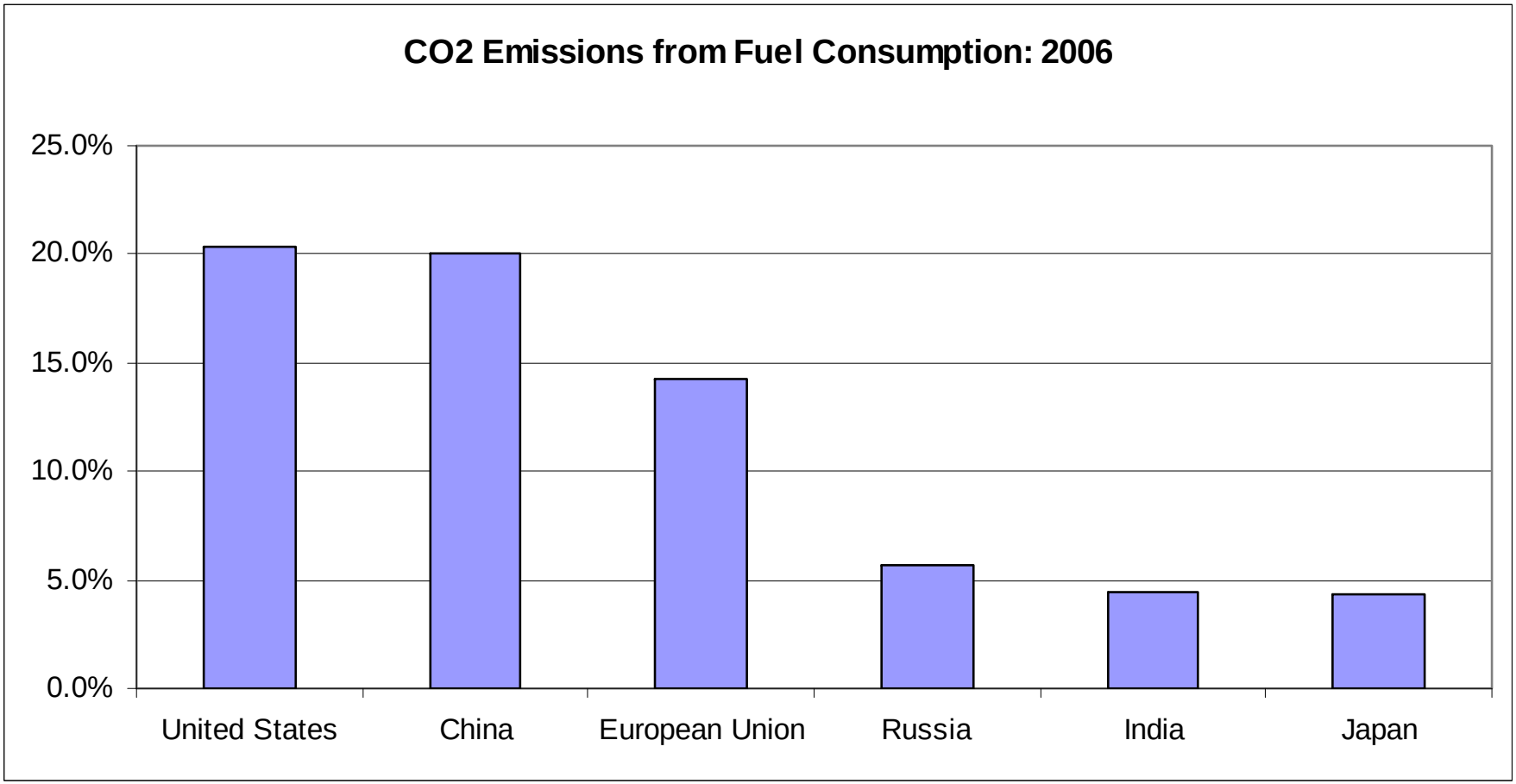
- Green tax shift
  - Tax shift away from income to environmental taxation
  - Remove subsidies to energy production and consumption
- Address distributional concerns with an environmental trust fund

Reform Benefits

- Reduces taxation on mobile sectors
- Addresses critical environmental needs
- Tension between efficiency and distribution addressed by trust fund payments

Energy Subsidies

- Obama administration has called on the G-20 nations to end fossil fuel and electric power subsidies
- G-20 nations responsible for 80 percent of fuel related carbon dioxide emissions



Mexico's Share: 1.5%

Benefits of G-20 Proposal

- Aligns market price of energy more closely to social cost of production
- Reduces capital market distortions in the choice of energy capital investment
- Analysis of U.S. data suggest capital market distortions may be large:

Marginal Effective Tax Rates on Energy Investment	
1. Petroleum	
Oil Drilling (non-integrated firms)	-13.5%
Oil Drilling (integrated firms)	15.2%
Refining	19.1%
2. Natural Gas	
Gathering Pipelines	15.4%
Other Pipelines	27.0%
3. Transmission and Distribution	
Transmission Lines	34.0%
Distribution Lines	38.5%
Source: Metcalf (2009)	

Summary

- Consumption taxes have numerous advantages over income taxes
- Globalization and environmental concerns also suggest a shift toward consumption and energy taxes
- This raises important distributional considerations
- Regressivity can be addressed through thoughtful reform construction
- Essential to link reform elements to assure political acceptance