Council on Tax Reform and Fairness for Georgians

8.25.10

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HOW CHANGES IN THE ECONOMY IMPACTS PERFORMANCE OF TAX SYSTEM

The Changing Economy:
# The Effect on Tax Collections and Tax Systems

- Decline of goods-producing sectors relative to size of the economy

- Increasing proportion of service in consumption pattern

- Rise of internet-based production and consumption ("e-commerce")

- Rising cost of provision of government services relative to tax collections.

- Structure of the tax system and the variability of tax collections.
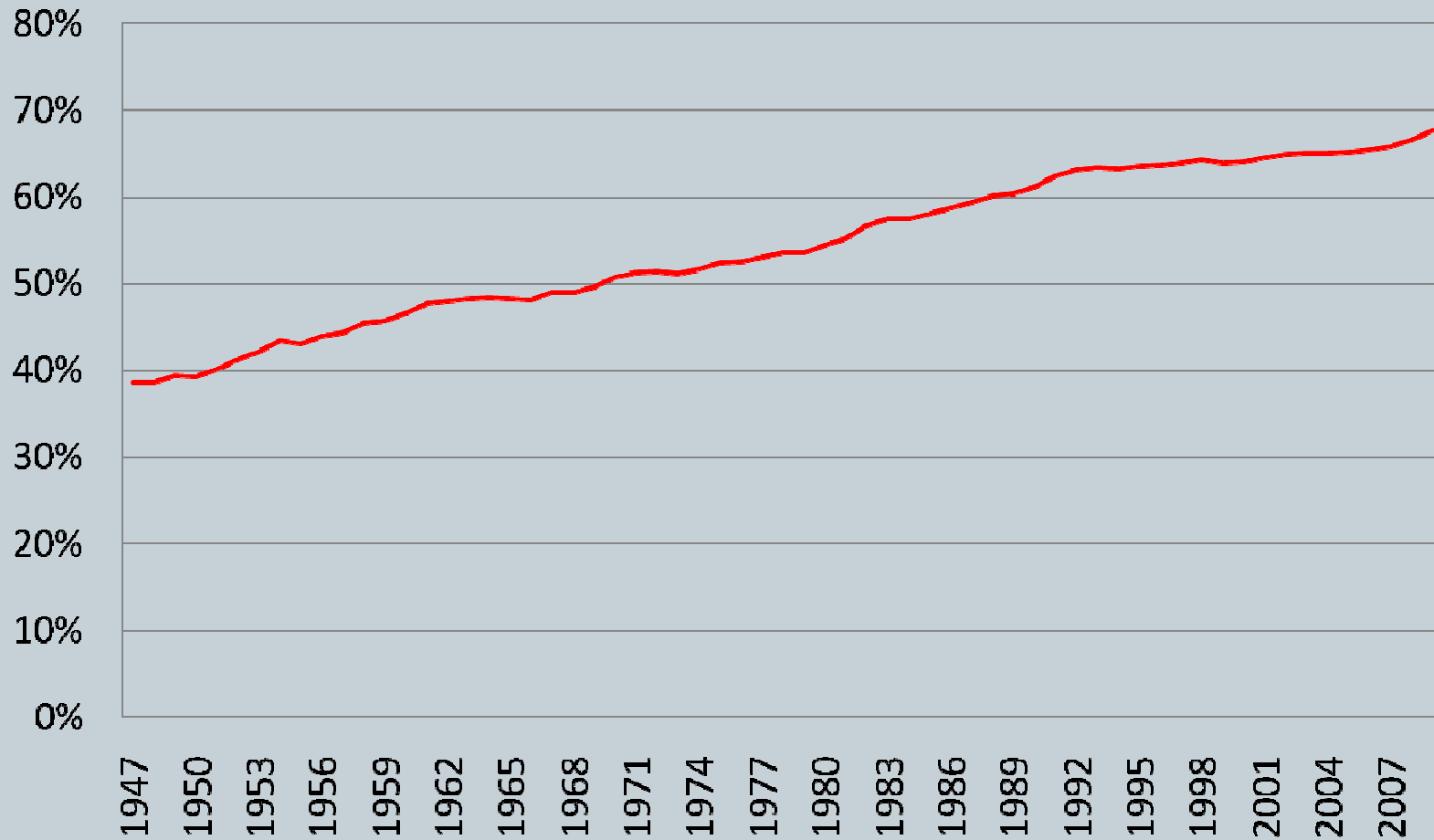
Goods-Producing Sectors as % of Georgia GSP
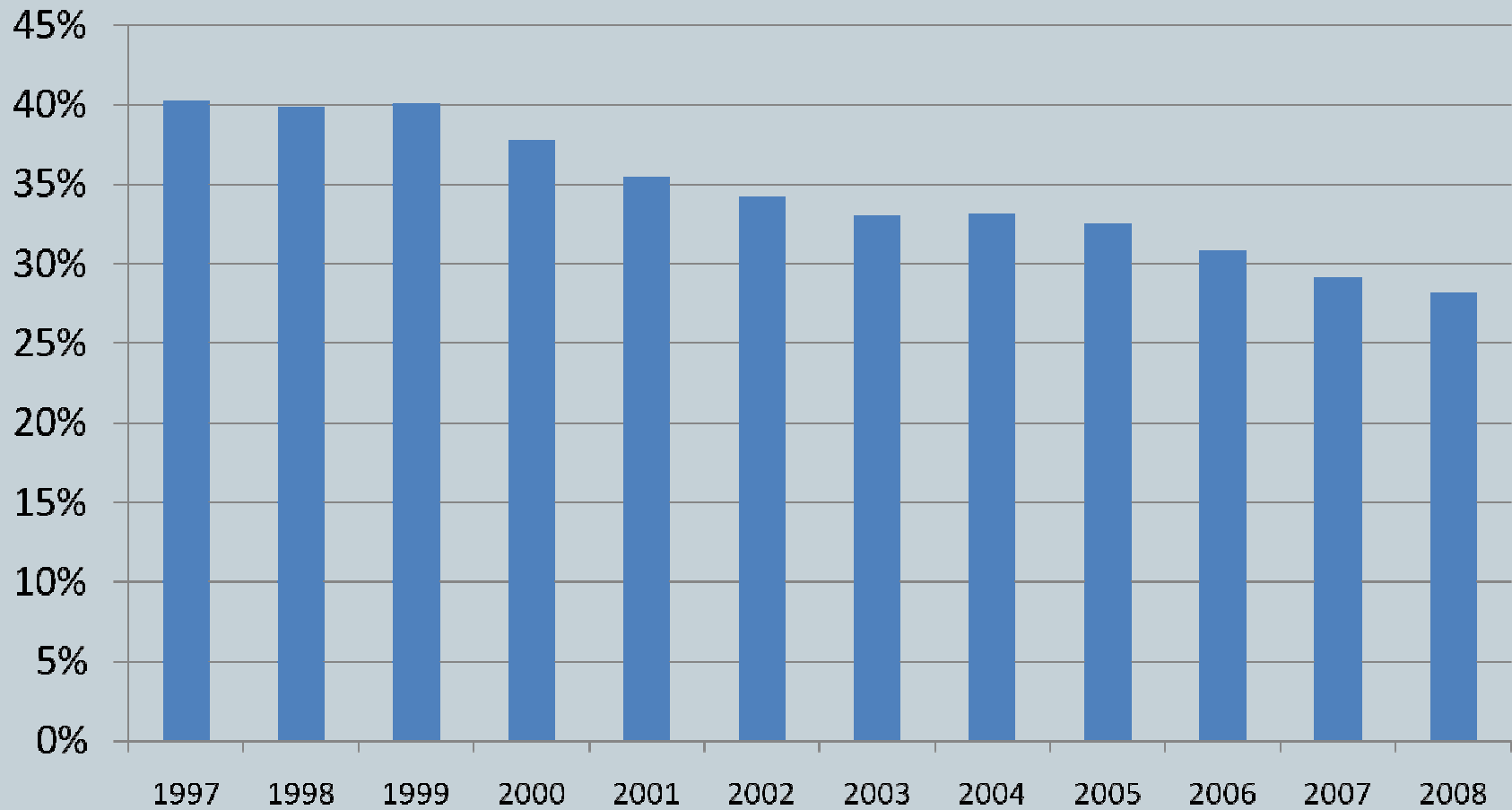
Employment in Goods-Producing Sectors in Georgia
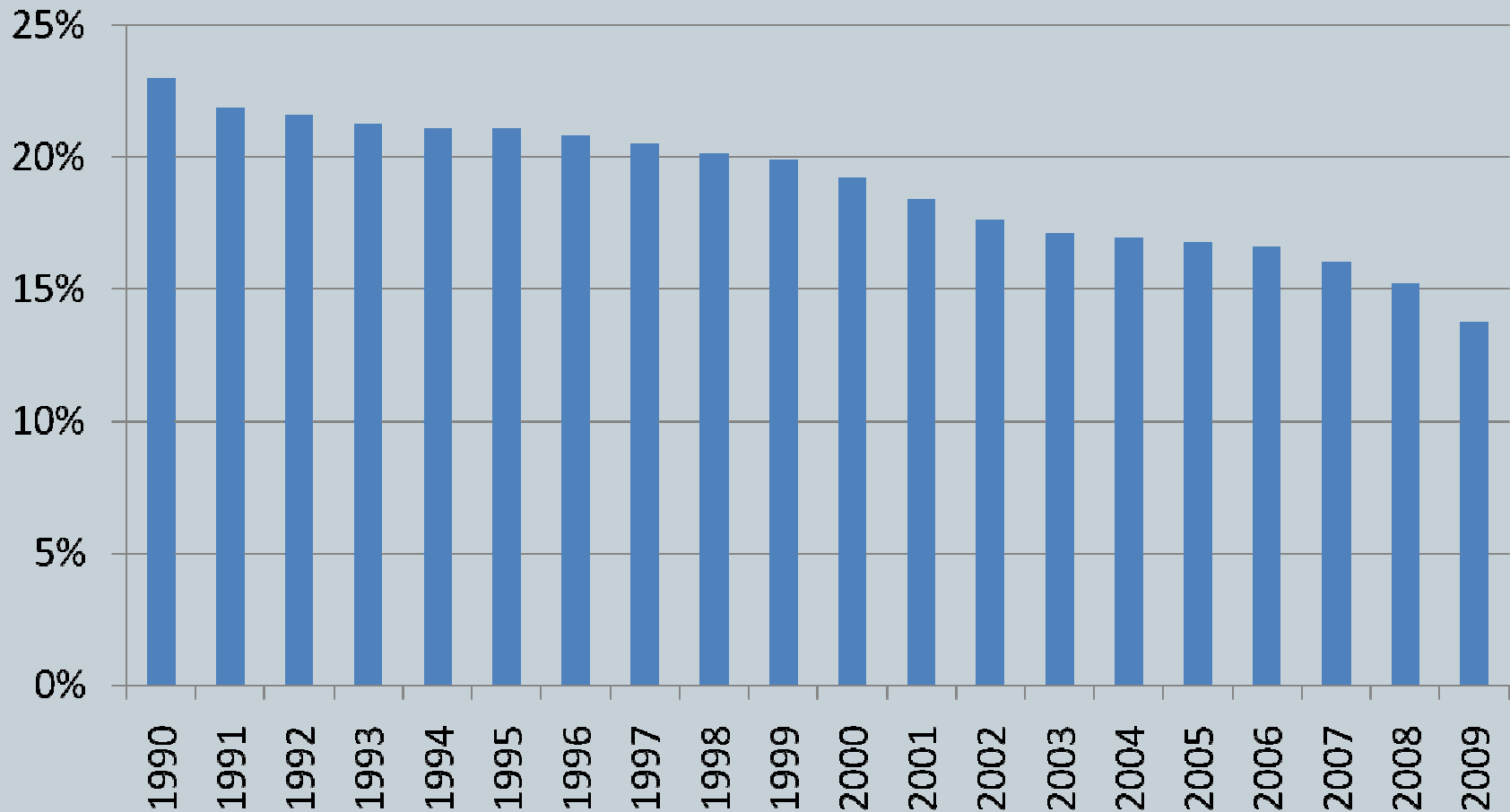
The Rise of Services in Consumption Pattern:
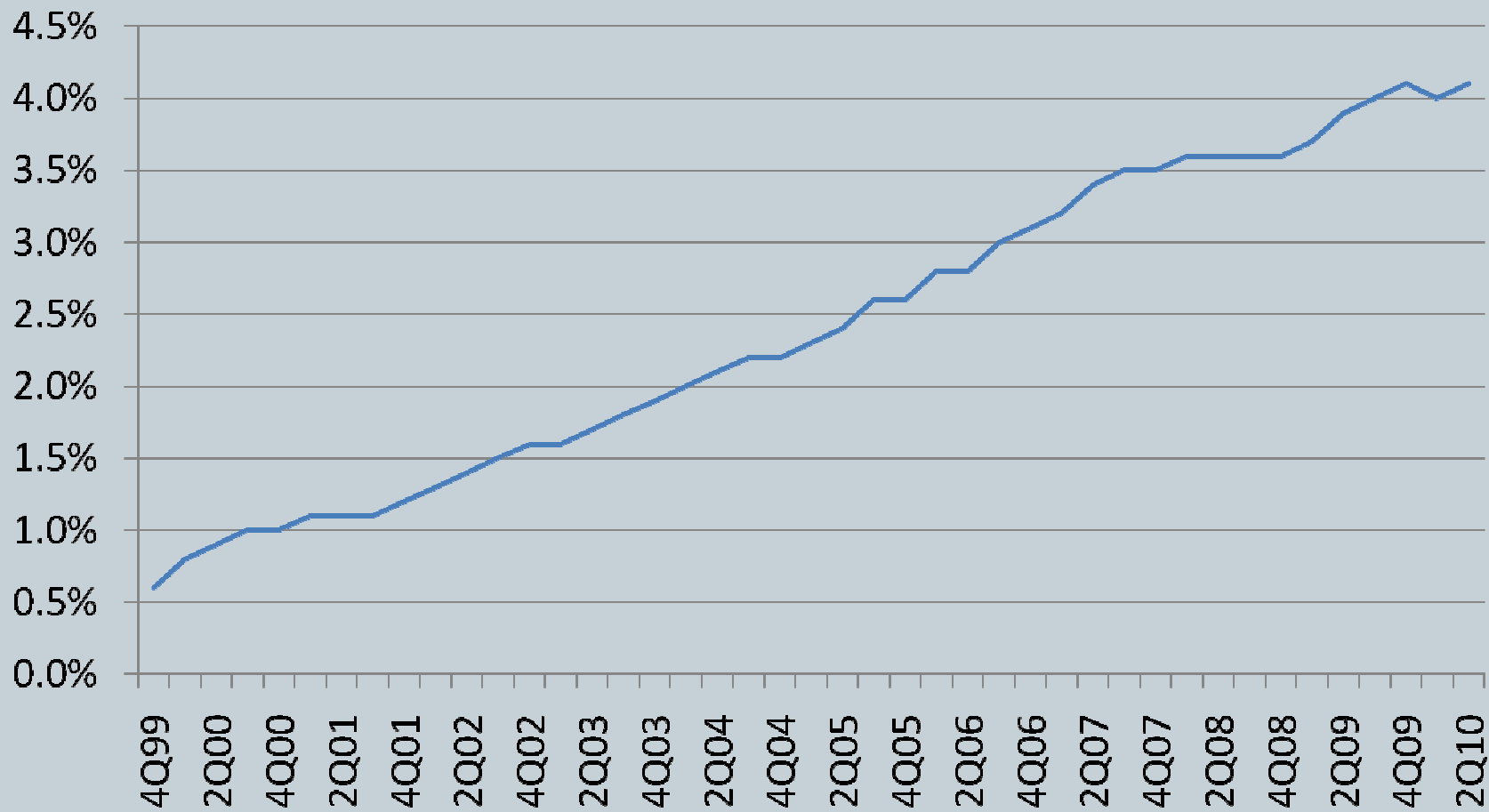Services as Percentage of Private Consumption Expenditures in National GDP

The Rise of Services in Consumption Pattern

- As consumption of services rose, Georgia sales tax revenues lagged relative to consumer transactions.
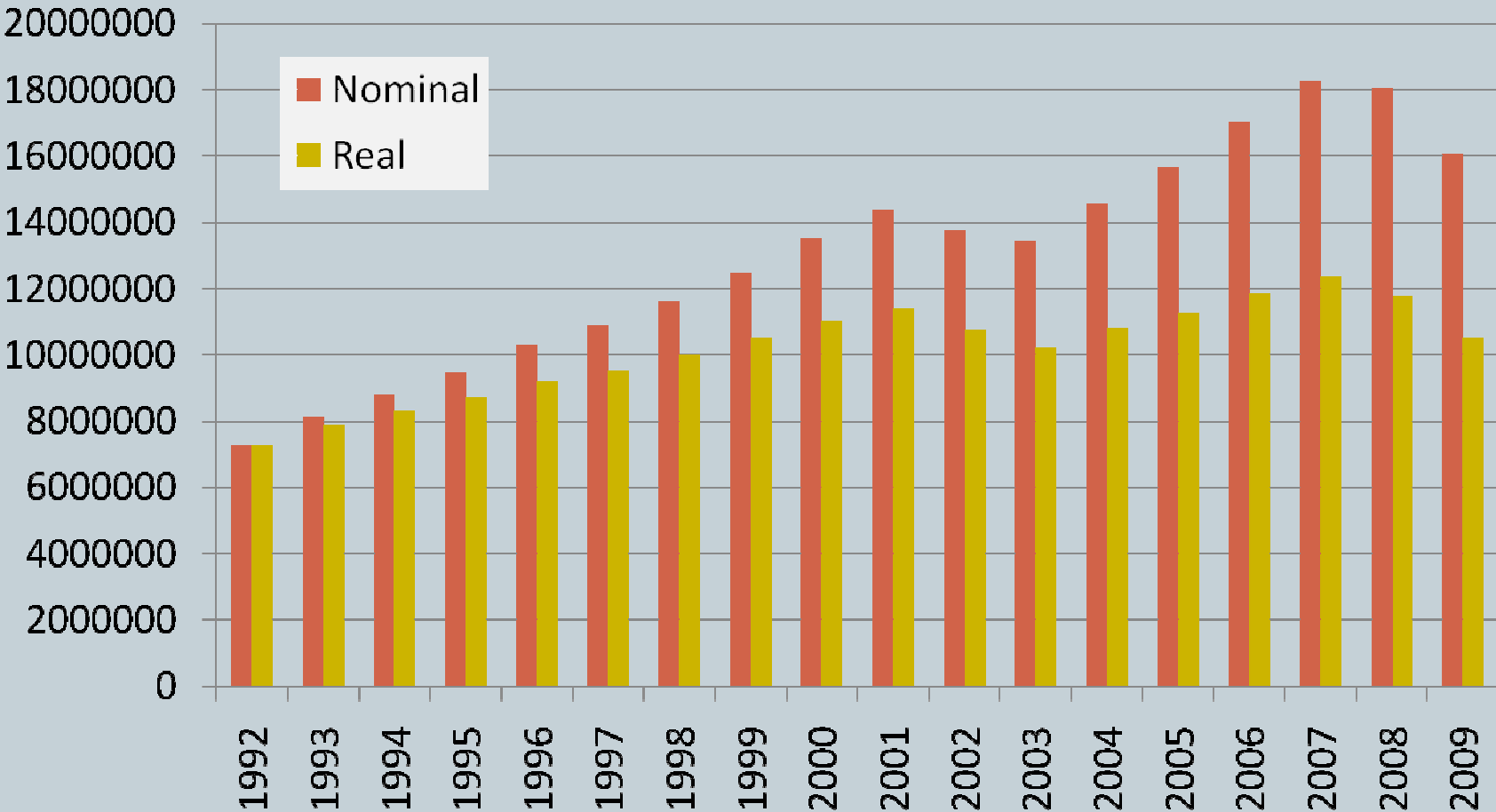
E-Commerce as % of National Retail Sales

Implications of Rise of Internet and "e-commerce"

- Are "e-commerce sales" captured in current tax sales tax?
- "B to B" versus "B to C" transactions
- Production of professional & personal services become global

Nominal versus "Real" Tax Revenues

Overall Inflation Relative to "Budget-Intensive Sectors"
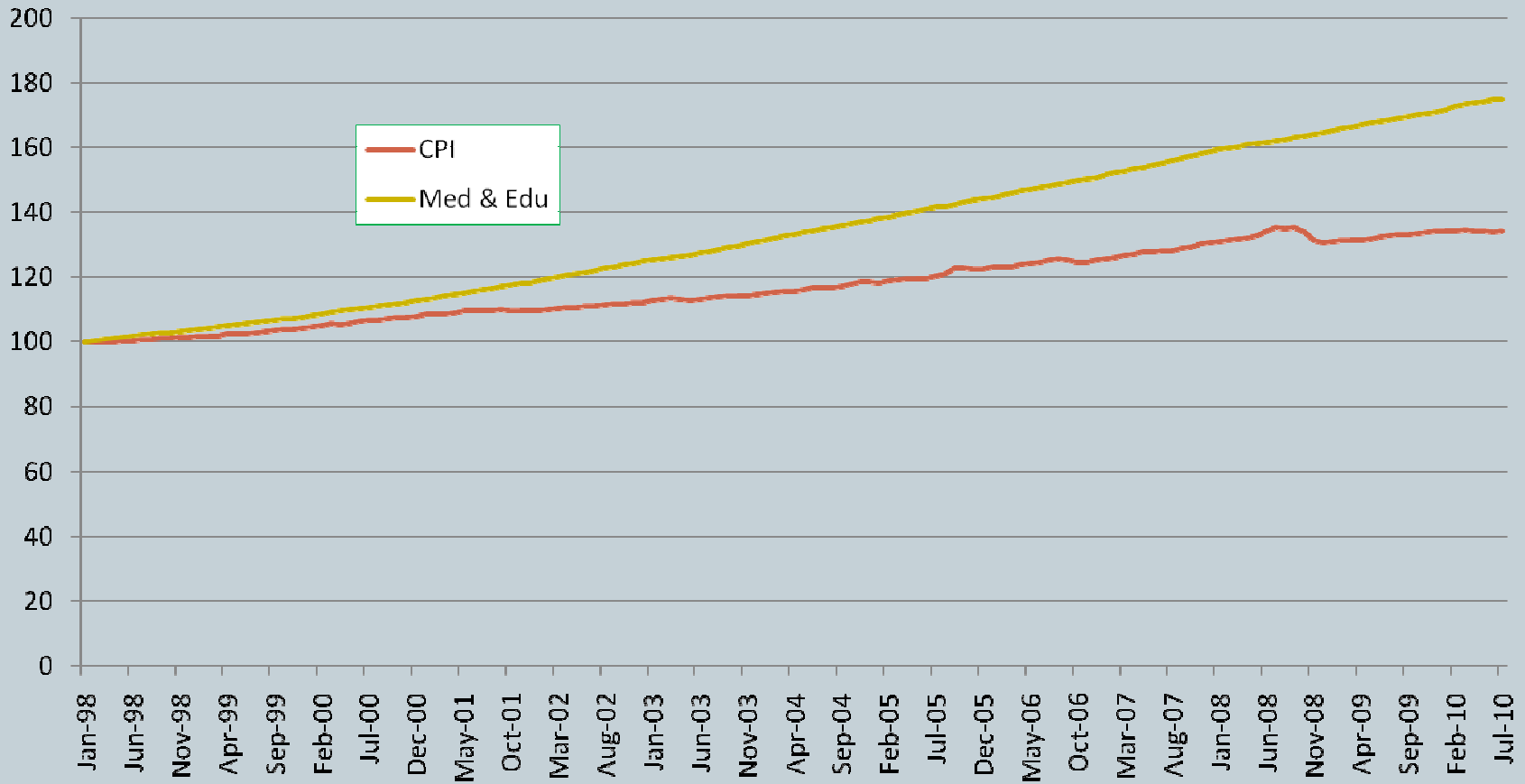
Inflation and Fiscal Performance

- Sales taxes current follows "goods" inflation
- Income tax follow (i) employment and wage growth and (ii) asset appreciation
- Expenditures follows a mixture

Variation Of Tax Base Over the Business Cycle

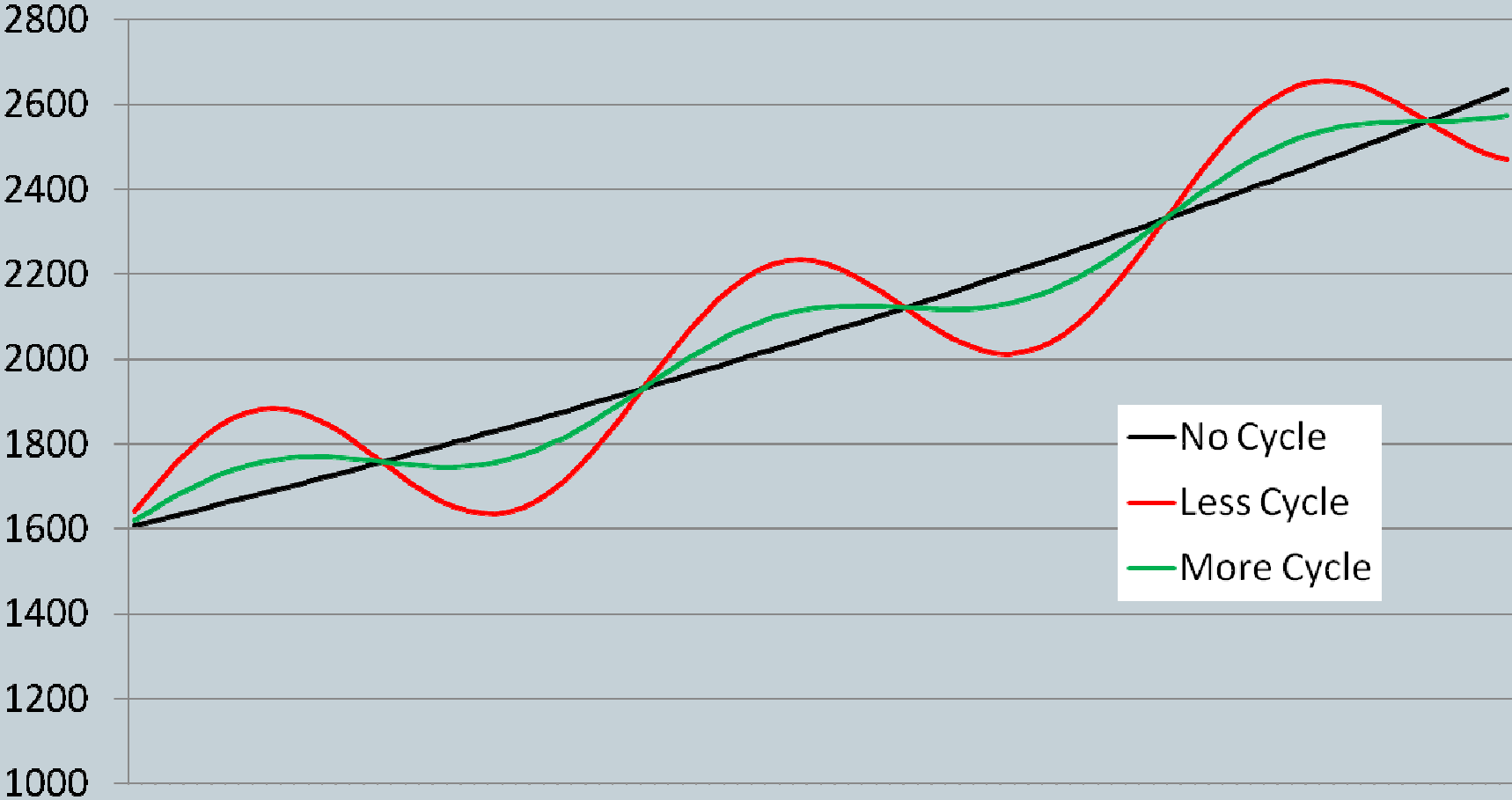# Variation Of Tax Base Over the Business Cycle

- During periods of expansion and contraction, the performance of tax bases, and those collection of tax revenues, is not uniform.
  - Differential elasticities → sales tax collections
  - Variation in asset values → income tax collection via capital gains
  - Variation in employment → personal income tax
  - Operating leverage → corporate income tax

Variation Of Tax Base Over the Business Cycle

TAX BASE ELASTICITY ESTIMATES

| Variable | Estimates of Long-Run Elasticity | | | | Estimates of Short-Run Elasticity | | | |
| | Levels — OLS | | Levels — DOLS with Newey–West Correction | | Regular Change Model | | Error Correction Model | |
	β	R^2	β	R^2	β	R^2	β	R^2
Personal Taxable Income (*PINC*)	1.235 (0.018)	0.992	1.215 (0.014)	0.997	1.195 (0.171)	0.569	1.164 (0.161)	0.629
Adjusted Gross Income (*AGI*)	0.977 (0.009)	0.997	0.945 (0.007)	0.998	1.015 (0.098)	0.740	0.970 (0.100)	0.757
Corporate Taxable Income (*CINC*)	0.691 (0.110)	0.586	0.670 (0.094)	0.635	3.562 (0.655)	0.523	3.369 (0.685)	0.539
Retail Sales (*SALES*)	0.691 (0.008)	0.995	0.660 (0.008)	0.997	1.084 (0.096)	0.772	1.039 (0.094)	0.796
Nonfood Retail Sales (*NFSALES*)	0.732 (0.012)	0.990	0.701 (0.015)	0.994	1.431 (0.114)	0.804	1.377 (0.108)	0.836
Motor Fuel Usage (*FUEL*)	1.098 (0.036)	0.960	0.996 (0.044)	0.969	0.731 (0.182)	0.303	0.729 (0.175)	0.373
Liquor Store Sales (*LIQUOR*)	0.259 (0.051)	0.399	0.254 (0.043)	0.752	–0.024 (0.216)	0.001	–0.011 (0.219)	0.008

Note: Standard errors of elasticity estimates are given in parentheses.

Source: Holcomb & Sobel (1995) "Measuring the Growth and Variability of Tax Bases Over the Business Cycle", National Tax Journal (49), pages 535-52

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HOW CHANGES IN THE TAX SYSTEM IMPACTS THE ECONOMY

Behavioral Responses to Tax Changes

- Sales Taxes
  - Favors savings over consumption
  - Favors consumption of services over consumption of goods
  - Influences consumption of gasoline, tobacco & alcohol
  - Geographic shifting of consumption due to tax differentials
  - Geographic shifting of production due to tax differentials
- Individual Income Taxes
  - Favors leisure over work
  - Geographic shifting of location due to tax differentials
    - Active versus passive income
    - Relative treatment between state and national capital gains
- Corporate Income Taxes
  - Shifting between "C-corp" and "S-corp"
  - Geographic shifting with regard to location of sales

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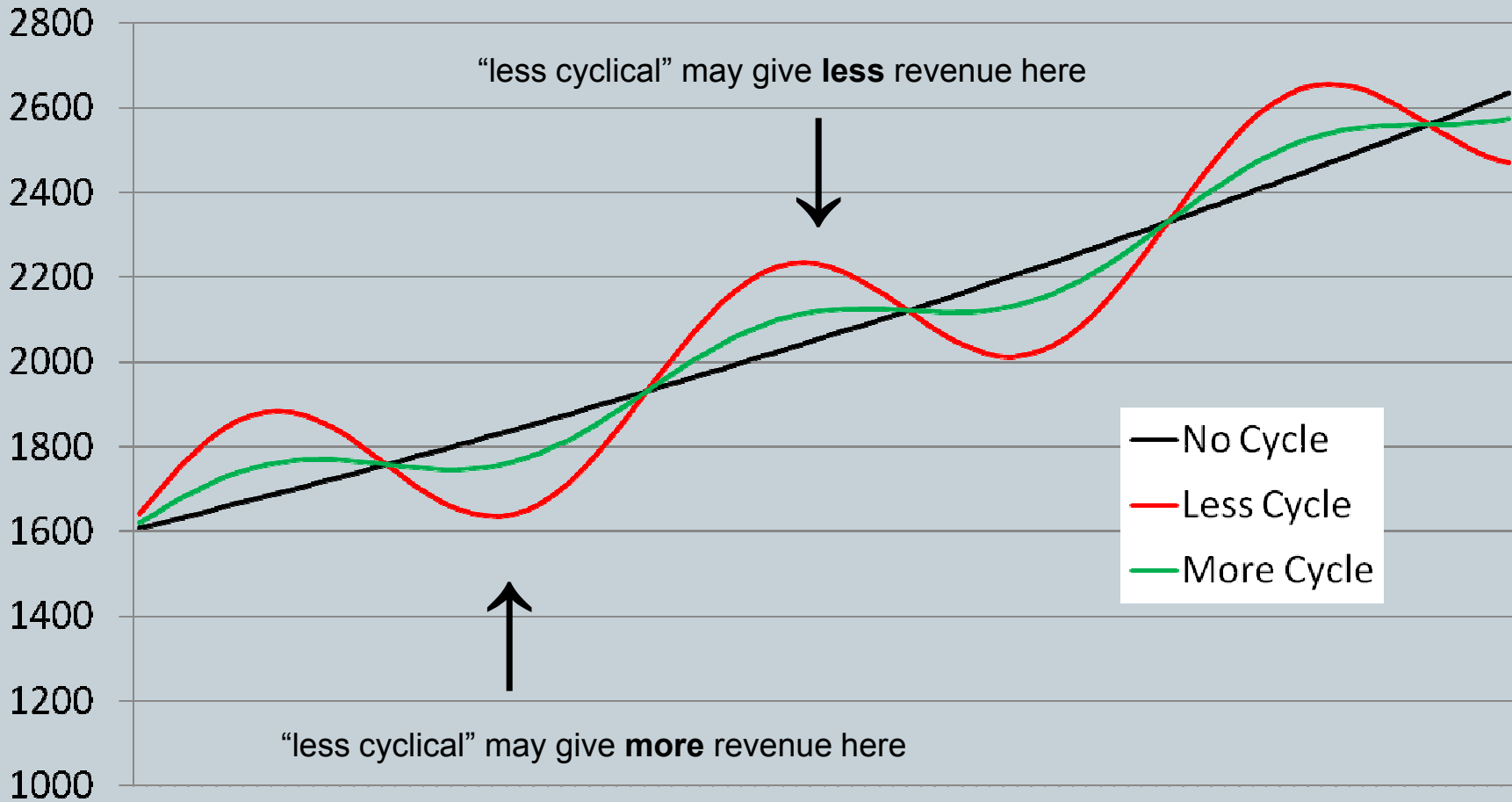
HOW WE QUANTIFY THE IMPACTS

Estimating Revenue Impacts

- Neutrality of tax system changes defined relative to "normal" economic environment.

- Neutrality "over time" versus "in current period"

Estimating Revenue Impacts

- **Static vs. Dynamic "scoring"**
  - Fully Static: Does not consider any behavioral responses
    - Example: Cut excise tax by 5%, tax revenue falls by 5%
  - Micro-Dynamic, Macro-Static: Considers microeconomic behavior responses, but not macroeconomic effects
    - Example: Cut excise tax by 5%, tax revenue falls by less than 5%; due to offset from increase in revenue from purchase of additional product. Precision of estimate of elasticities is important.
  - Fully Dynamic: Considers microeconomic and macroeconomic effects
    - Example: Cut excise tax by 5%, tax revenue falls by 5%; due to offset from by increase in revenue from purchase of additional product and simulative effect on other economic activity. Precision of estimate of elasticities is important.
- **Relationship between federal and state rate changes**
  - Behavior altered by aggregate rates, not just local

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