State Tax Revenue Performance over the Business Cycle

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What Does Tax Revenue Performance Look Like Over the Business Cycle – Has this Changed?

• Motivation
  – 2001 Recession as a watershed event – a mild business cycle contraction led to a major crisis in state government finances.
  – Why? What changed?
  – What does this imply for the more severe recession that we are experiencing.

• Data
  – Quarterly Summary of State and Local Government Tax Revenue
    • Collected (more or less) continuously since 1962
    • Released in a timely fashion (90 days after the quarter ends)
    • Quarterly frequency a big plus
Total Quarterly State Tax Revenues (Smoothed)
Per Capita State Tax Revenues (Smoothed)
Tax Revenue as a Fraction of Economic Activity

![Graph showing tax revenue as a fraction of economic activity over time, highlighting periods of recession and economic activity]

Revenue as a Fraction of Economic Activity

- Revenue/Gross State Product
- Revenue/State Personal Income
- Recession
Tax Revenue Shares

Individual Income Tax Share
Corporate Income Tax Share
General Sales Tax Share
Motor Vehicle Tax Share
Motor Fuel Tax Share
Recession
Revenue Responsiveness to Economic Conditions

- Define state business cycle conditions using the state coincident index developed by the FRB Philadelphia
  - Average state down 2.2% over a year ago (2008:Q4 vs 2007:Q4)
    - Mean 1980-2008 2.9% St. Dev 3.7%
- Pre-1998
  - 1% Change in Coincident Indicator
    - 0.72% Change in Total Per Capita Revenue
    - 0.83% Change in Per Capita Sales Tax Revenue
    - 0.69% Change in Per Capita Income Tax Revenue
- 1998 and After
  - 1% Change in Coincident Indicator
    - 1.09% Change in Total Per Capita Revenue
    - 0.64% Change in Per Capita Sales Tax Revenue
    - 1.94% Change in Per Capita Income Tax Revenue
Looking at Case of Illinois
Revenue Variability – Illinois Income Tax

Smoothed Income Tax Revenue, Illinois

Revenue Trend

Recession
Revenue Variability – Illinois Sales

Smoothed Sales Tax Revenue, Illinois
Revenue Trend
Recession
What Happened?

- Not so much a long term switch from a stable source (sales) to a volatile source (income)
- Instead a change within the income tax where revenues have become more sensitive to economic conditions.
Explanations

– Who we’re taxing:
  • Increasing income dispersion. Progressivity?
  • Progressive states versus less progressive states.
    – Increase in business cycle sensitivity has occurred to a similar degree in states with low and high maximum marginal tax rates.
    – Illinois example

– How we’re taxing
  • Policy Responses to economic conditions
  • Did we used to increase tax rates when times were bad to stabilize revenues?

– What we’re taxing
  • Capital Gains became a more important share of Adjusted Gross Income
  • Timing is right
  • Both increasing importance and increasing sensitivity
    – Intersection between capital gains taxes (and rate decreases in 1997 and 2003) and financial market performance
Capital Gains as a Share of Adjusted Gross Income
2009 and Beyond

• Obviously not shaping up well.
  – U.S. coincident index -2.3% in Q1 (Year over Year)
• Income Tax Revenues are falling
  – Federal Tax revenues
    • Withholding -6.8% (YTD May 5th)
    • Refunds +15.8% (YTD April 30th)
    • Final Payments -29.8% (YTD May 5th)
      – Usually by this time of year 2/3 paid in

Withholding, 2008
Ind. Income Tax Refunds, 2008
Inc. & Emp. Taxes Not Withheld, 2008
Withholding, 2009
Ind. Income Tax Refunds, 2009
Inc. & Emp. Taxes Not Withheld, 2009
Policy Options: A Menu

• Change revenue structure towards something more stable
  • Decreasing reliance on corporate income tax may partly be due to volatility
  • Corporate income tax is substantially more volatile than individual (about 2.5x)

• Work to smooth revenues more aggressively
  – Rainy day funds. These may need to be larger than is politically feasible
  – Sell off assets when times are bad (and perhaps buy assets when times are good? )
    • Buy high and sell low?
  – Raise tax rates during bad times

• Run Deficits
  – Maybe the states should be more like the federal government rather than visa versa

• Accept that expenditures will need to be procyclical
  – Make hay while the sun shines

• Ask the Federal Government for help when times are bad
  – 2001 recession and now.