

DIVERGENT PATHS? STATE & LOCAL REVENUE RESPONSE TO NATIONAL RECESSIONS

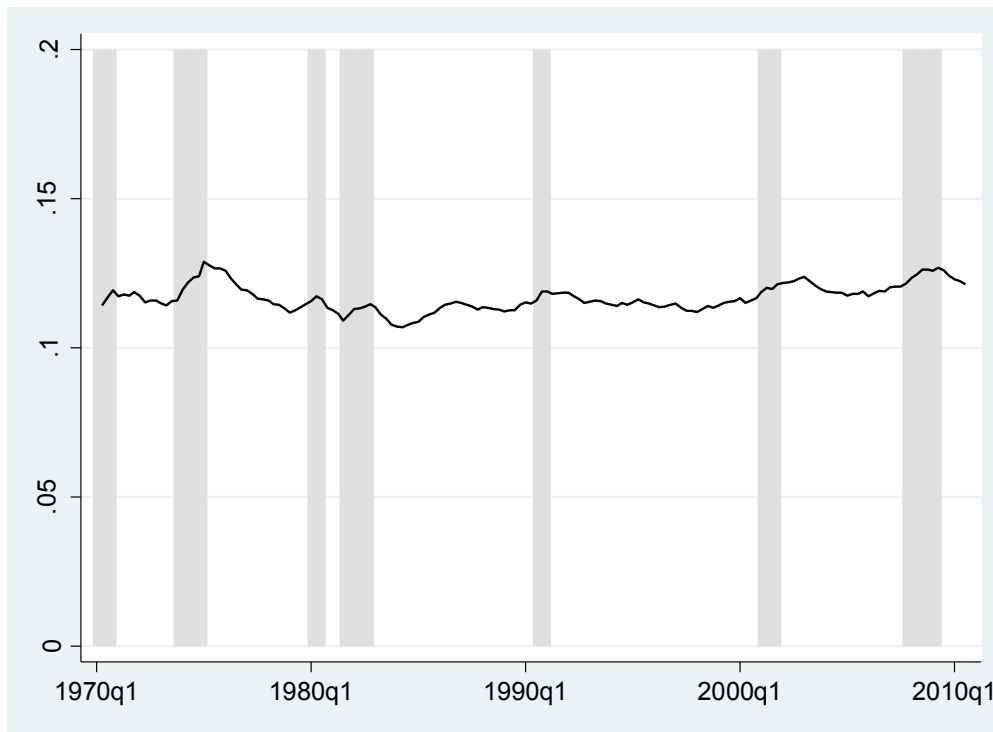
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OUTLINE

- **How have state and local revenue patterns responded to national recessions?**
- **Expenditures—composition has changed but behavior still seems to be reliably counter-cyclical**
- **Revenues—last two recessions suggest less predictability, more volatility driven by changing behavior of personal income tax receipts**
- **Locals were a bit of a surprise—for a real estate recession, they tended to hold their own**
- **Role for policy**

EXPENDITURES

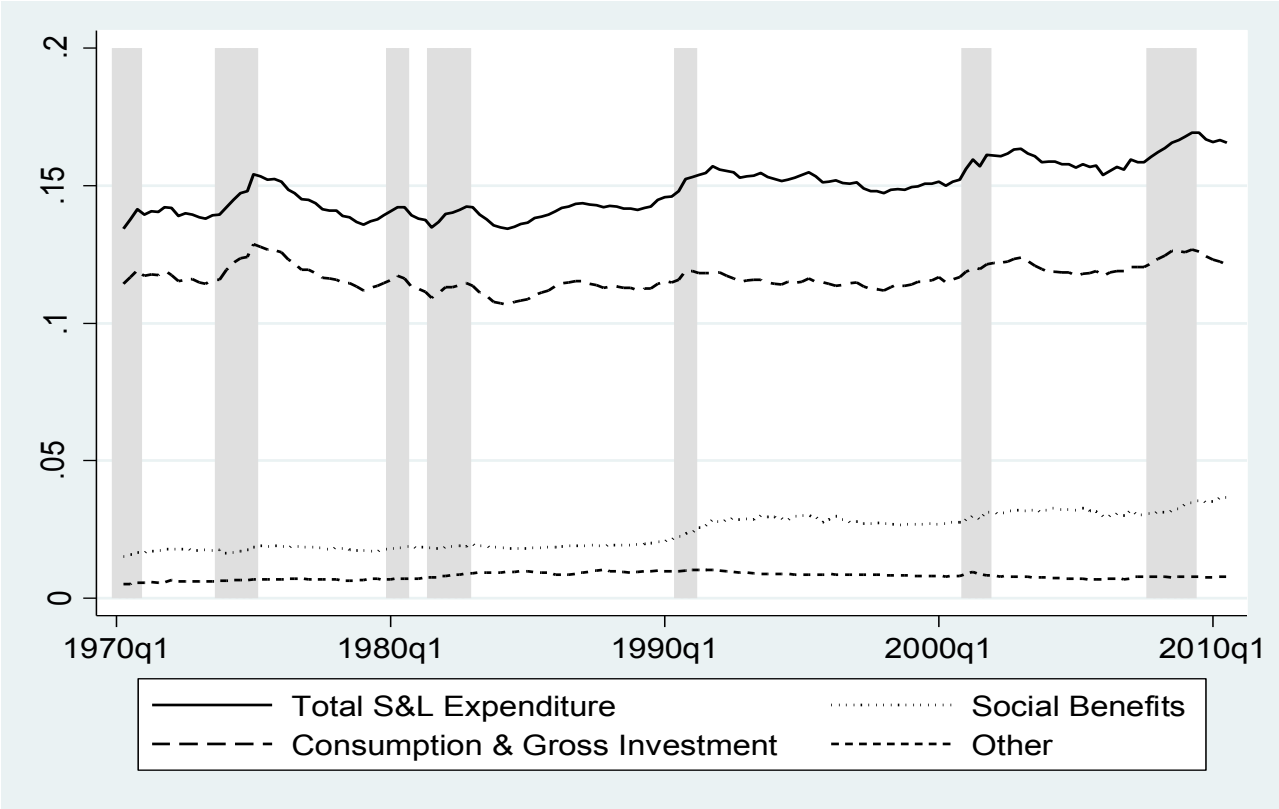
Figure 1: State and Local Government Consumption and Gross Investment: Share of GDP



Source: Bureau of the Census, Bureau of Economic Analysis, authors calculations

EXPENDITURES + SOCIAL BENEFITS

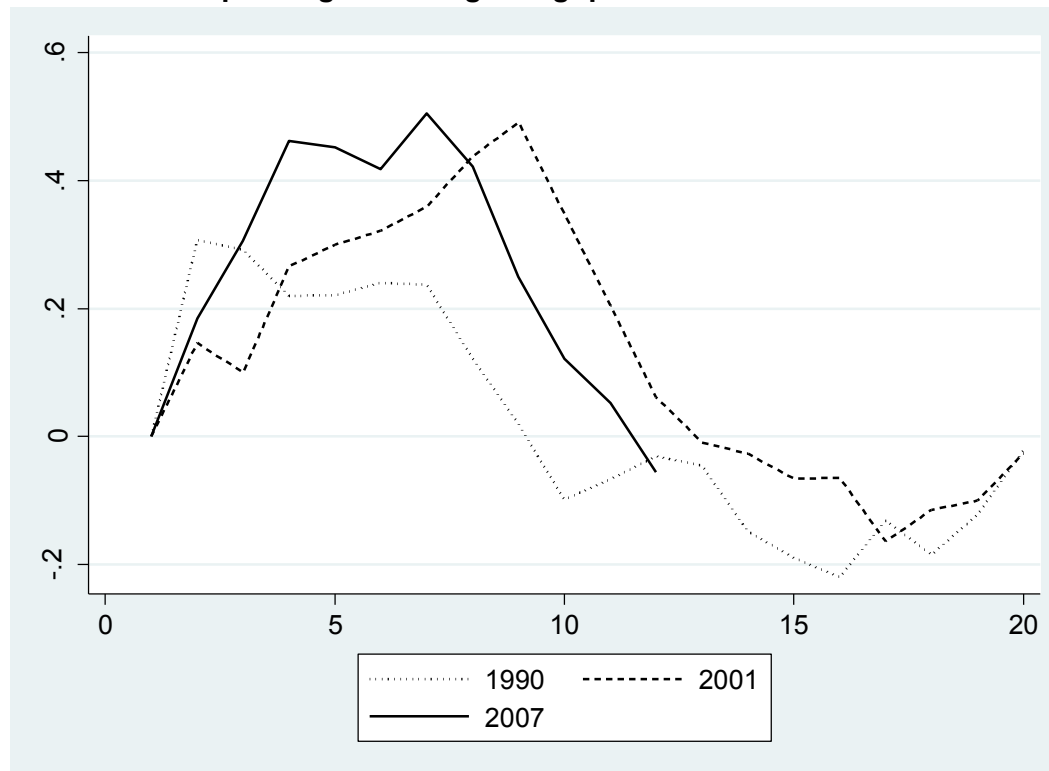
Figure 2: State and Local Current Expenditure Plus Gross Investment: Share of GDP



Source: Bureau of the Census, Bureau of Economic Analysis, authors calculations

HAS EXPENDITURE BEHAVIOR CHANGED OVER THE LAST 3 RECESSIONS? (ISOLATING CYCLICAL FACTORS)

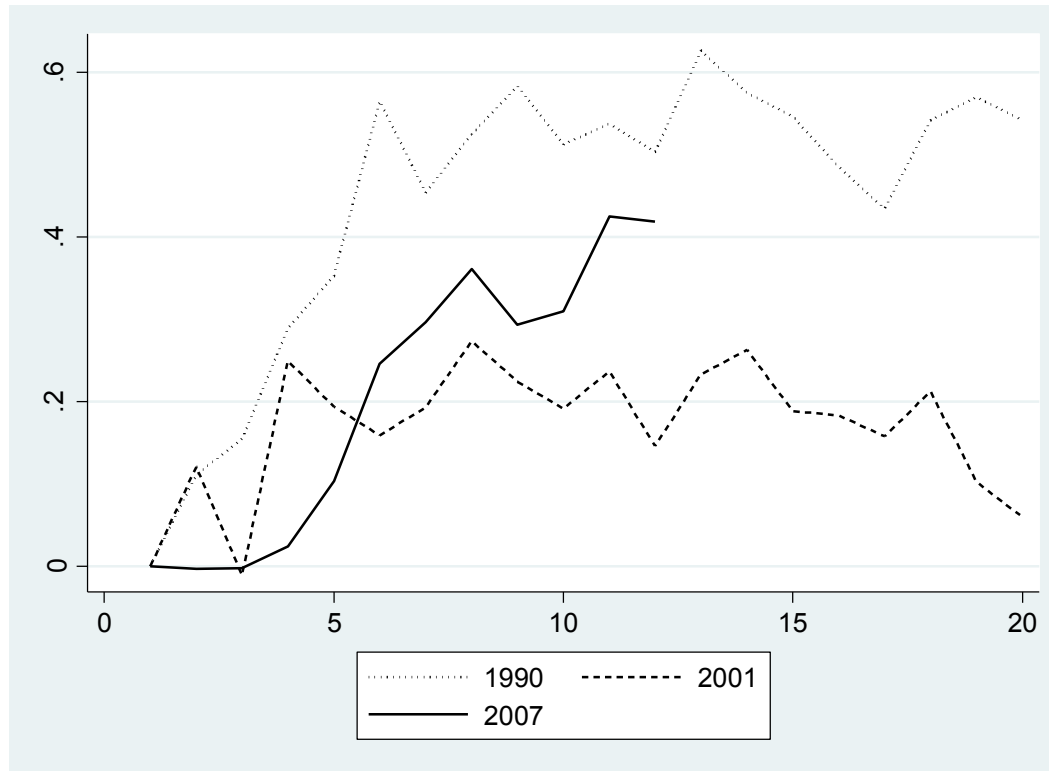
Figure 4: Spider Graph of Consumption and Gross Investment (De-trended)
Horizontal axis—quarters since start of recession
Vertical axis—% of GDP relative to spending at the beginning quarter of the recession



Source: Bureau of the Census, Bureau of Economic Analysis, authors calculations

WHAT DRIVES EXPENDITURES? SOCIAL BENEFITS (MEDICAID)

Figure 5: Spider Graph of Social Benefits (De-trended)



Source: Bureau of the Census, Bureau of Economic Analysis, authors calculations

CHANGING EXPENDITURE SHARES-- STATE

Table 1: Shares of **State** Government Expenditures by Function

	<u>1972</u>	<u>1990</u>	<u>2008</u>
Transportation Including Highways	21%	10%	7%
Public Safety and Corrections	4%	6%	5%
Education and Libraries	10%	19%	19%
Public Welfare Excluding Medicaid	23%	17%	14%
Medicaid Vendor Payments	9%	14%	23%
Employee Retirement	5%	7%	12%
UI/Workers Comp	9%	6%	4%
Other	19%	21%	16%

Source: Bureau of the Census, author's calculations

CHANGING EXPENDITURE SHARES-- LOCAL

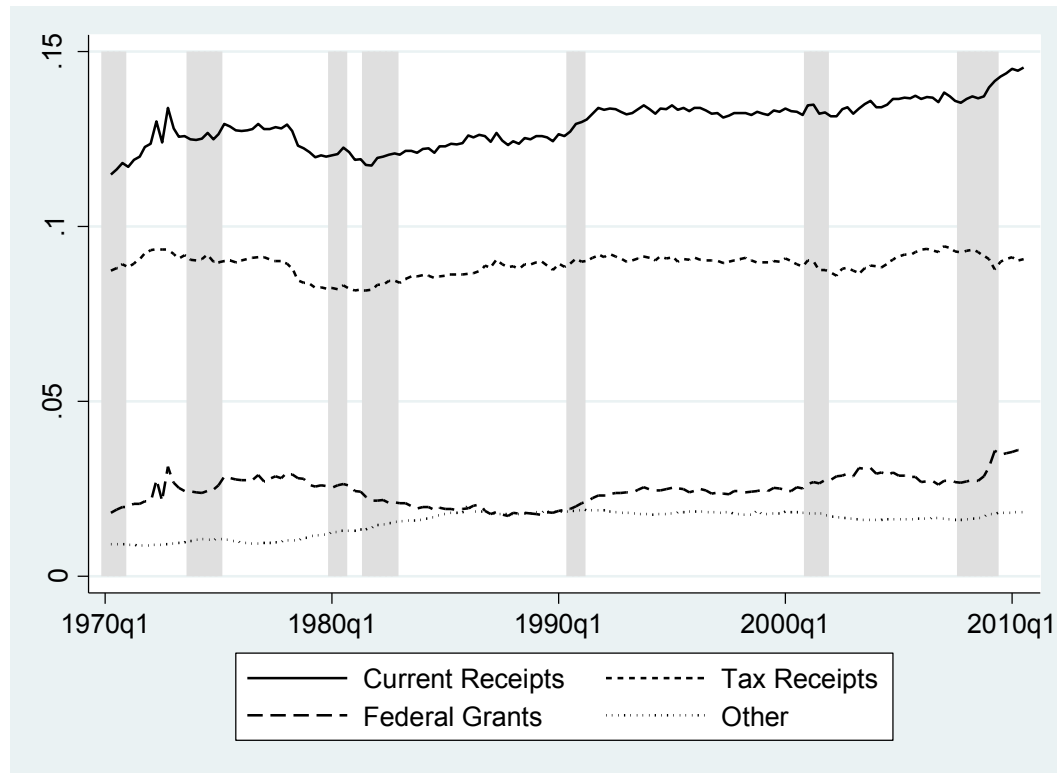
Table 2: Shares of **Local** Government Expenditures by Function

	<u>1972</u>	<u>1990</u>	<u>2008</u>
Transportation Including Highways	7%	6%	6%
Public Safety and Corrections	7%	9%	9%
Education and Libraries	42%	38%	39%
Public Welfare Excluding Medicaid	15%	13%	13%
Medicaid Vendor Payments	1%	0%	0%
Employee Retirement	1%	2%	2%
Other	27%	33%	31%

Source: Bureau of the Census, author's calculations

TURNING TO REVENUES —SOMETHING DIFFERENT GOING ON?

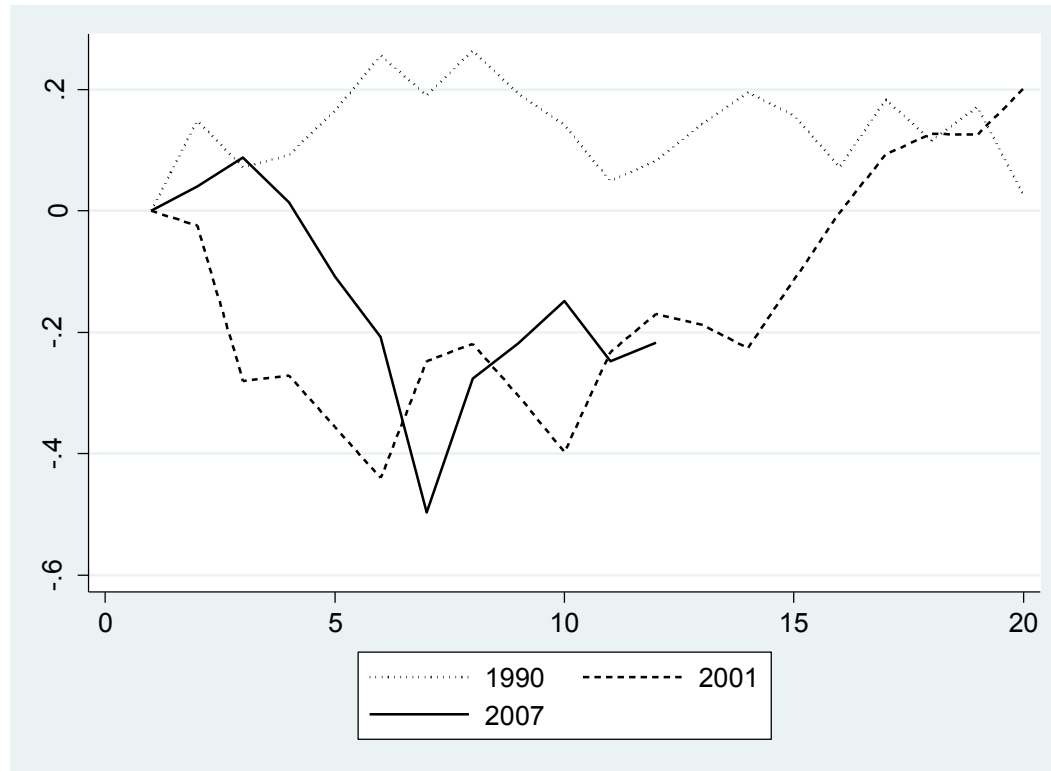
Figure 8: State and Local Receipts and Components of Receipts: Share of GDP



Source: Bureau of the Census, author's calculations

WHAT MIGHT BE CAUSING THIS CHANGE IN REVENUE BEHAVIOR?

Figure 10: Spider Graphs of State and Local Tax Receipts (De-trended)



Source: Bureau of the Census, Bureau of Economic Analysis, authors calculations

RISE OF THE PERSONAL INCOME TAX

Table 6: State Government Tax Composition

	<u>1972</u>	<u>1990</u>	<u>2008</u>
Property	2%	2%	2%
General Sales	29%	33%	31%
Selective Sales	26%	16%	15%
License	9%	6%	6%
Personal Income	22%	32%	36%
Corporate Income	7%	7%	6%
Other	4%	4%	4%

Source: Bureau of the Census, author's calculations

THIS RESPONSIVENESS HAS INCREASED OVER TIME

McGranahan and Mattoon, “Revenue Cyclicity and Changes in Income and Policy” Public Budgeting and Finance, Winter 2012.

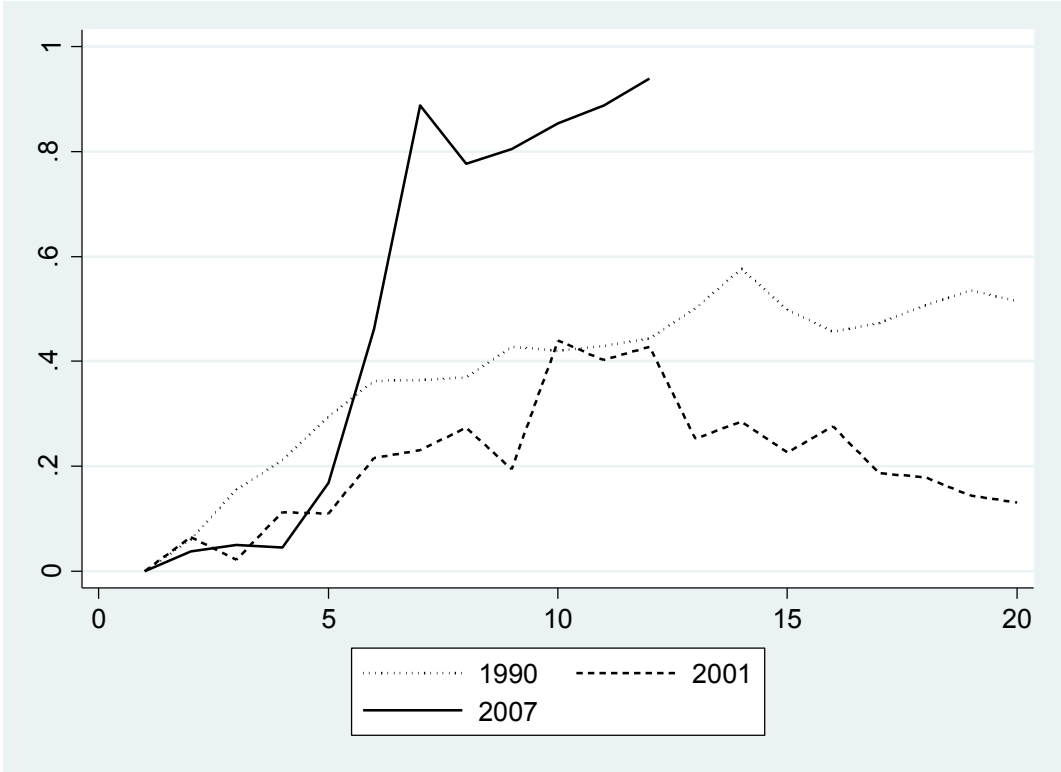
We test for a structural break and date it to 2000.

We run the following regression

- $\Delta \ln R_{i,t+4} = \alpha_1 + \alpha_2 break + \beta_1 \Delta \ln EC_{i,t+4} + \beta_2 [break \times \Delta \ln EC_{i,t+4}] + \varepsilon_{i,t+4}$
- We find
 - Total tax revenue: Pre-2000 0.7 Post-2000 1.3
 - Sales tax revenue: Pre-2000 0.8 Post-2000 0.9
 - **Individual Income: Pre-2000 0.6 Post-2000 2.1**
 - Corporate Income: Pre-2000 1.9 Post-2000 3.8
- Not a switch from sales to income tax

WHAT ELSE WAS DIFFERENT IN 2007?

Figure 11: Spider Graphs of Federal Grants (De-trended)



Source: Bureau of the Census, Bureau of Economic Analysis, authors calculations

ROLE FOR POLICY

- **Expenditures appear to be continuing on a predictable counter-cyclical path—national recessions increase demands for state spending particularly Medicaid and other expenditures stay constant through a recession**
- **Revenues however are less predictable than in the past**
 - Particularly personal income taxes due to non-wage (investment income)
 - This volatility is subject to both structural changes in how income is earned and policy changes (impact of income tax revenues in response to the fiscal cliff)
 - Is volatility a bad thing?

MIDWEST EXAMPLE OF DISCONNECT BETWEEN INCOME TAX REVENUES AND SALES TAX REVENUES

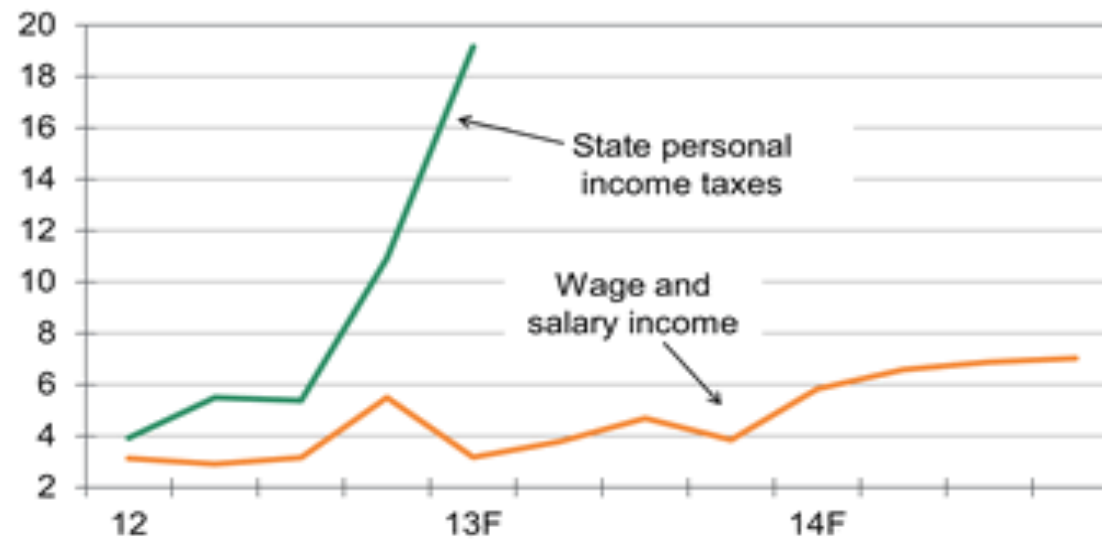
Personal Income tax receipts (the April Surprise) vs. April Sales Tax receipts (\$ in millions)

	Change in personal income tax collections over April 2012	% change in personal income tax collections	Change in sales tax collections over April 2012	% change in Sales tax collections
Illinois	\$781.0	33.0	\$-8.0	-1.3
Indiana	\$95.9	11.0	\$1.8	0.3
Iowa	\$93.5	24.5	\$-2.8	-1.9
Michigan	\$226.0	38.0	\$19.3	3.3
Wisconsin	\$160.6	14.7	\$10.7	3.0

SUSTAINABLE?

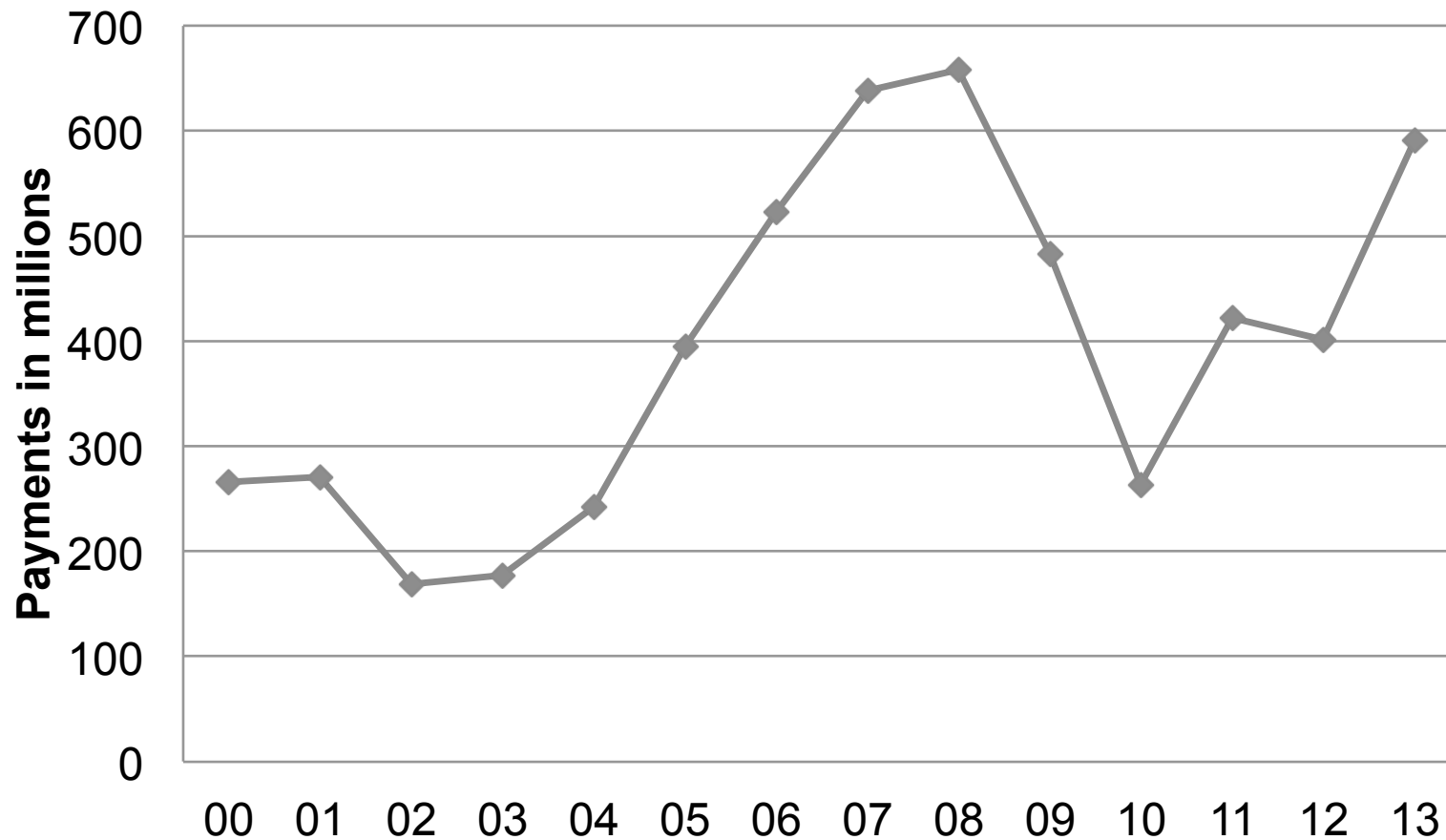
Federal Tax Changes Inflating PIT Growth

% change yr ago, calendar yr



Sources: BEA, Census Bureau, Moody's Analytics

EVEN ABSENT FEDERAL ACTION VOLATILITY EXISTS—EX. VIRGINIA REVENUE FROM INDIVIDUAL PAYMENTS OVER \$100,000 BY FY



POLICY OPTIONS FOR DEALING WITH VOLATILITY/ CYCLICALITY

- **Smooth own-source revenues by either raising major tax source rates (income, sales) during bad times or restructuring tax bases to mitigate volatility (broaden base to cover less cyclically sensitive forms of income and sales)**
- **Embrace the volatility of non-wage income but treat it differently for budgeting purposes**
- **Better calibrate Rainy Day Funds to reflect revenue structure**
- **Aggressively adjust expenditures to meet revenues (not likely given the continued counter-cyclical behavior of expenditures)**
- **Let states run explicit budget deficits**
- **Ask the Feds for help/create a more predictable mechanism for Federal aid to states and localities when recessions occur—key issue is making the Federal response predictable (need for a rule based system?—timing and targeting)**
- **Should local governments worry about increased state tax volatility?**
 - **Predictable state aid may be in jeopardy**