

Economics 390
Topics in Macroeconomics
(9/18/13)

Instructor: Prof. Menzie Chinn
UW Madison
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Outline

- Multipliers
- Fiscal consolidation

Multipliers

Impact multiplier

$$dY_t/dZ_t$$

Cumulative multiplier

$$\frac{\sum_{j=0}^n dY_{t+j}}{\sum_{j=0}^n dZ_{t+j}}$$

Sustained 1% of GDP increase in Public Expenditures

Percentage deviations from baseline

	Years after shock				
	Year 1	Year 2	Year 3	Year 4	Year 5
UNITED STATES					
GDP level	0.9	1.0	0.6	0.0	-0.5
Inflation	0.1	0.3	0.9	0.7	0.1
Interest rates (basis points)	60	95	155	95	-10
Government net lending (% GDP)	-0.8	-0.6	-0.6	-0.8	-0.8
Current Account (% GDP)	-0.2	-0.1	0.1	0.2	0.3

Herve, et al. (2010), "The OECD's New Global Model," WP #768.

Goods/Svcs Spending, Transfers, and Tax Multipliers for the US

Assumes monetary policy
accommodative
Source: CBO (2012)

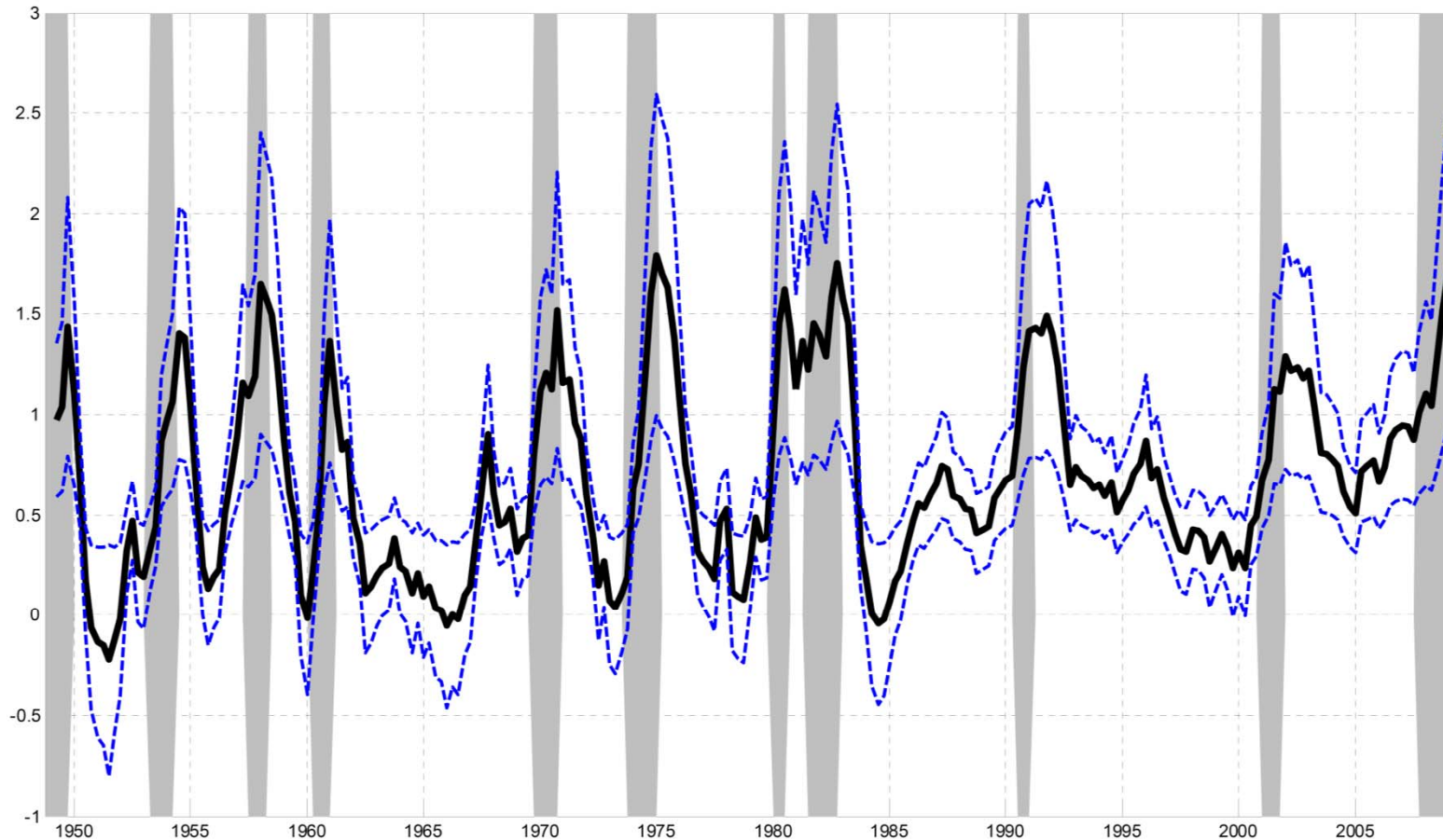
Type of Activity	Estimated Output Multipliers ^a	
	Low Estimate	High Estimate
Purchases of Goods and Services by the Federal Government	0.5	2.5
Transfer Payments to State and Local Governments for Infrastructure	0.4	2.2
Transfer Payments to State and Local Governments for Other Purposes	0.4	1.8
Transfer Payments to Individuals	0.4	2.1
One-Time Payments to Retirees	0.2	1.0
Two-Year Tax Cuts for Lower- and Middle-Income People	0.3	1.5
One-Year Tax Cut for Higher-Income People	0.1	0.6

When might multipliers differ?

- If the economy is open to international trade
- If the economy is open to capital flows, and the exchange rate is floating (so the dollar moves as interest rates go up or down)
- If the exchange rate is fixed
- If the aggregate supply curve is vertical (i.e., there is no slack in the economy)
- If the monetary policy is accommodative or not

If There Is Economic Slack

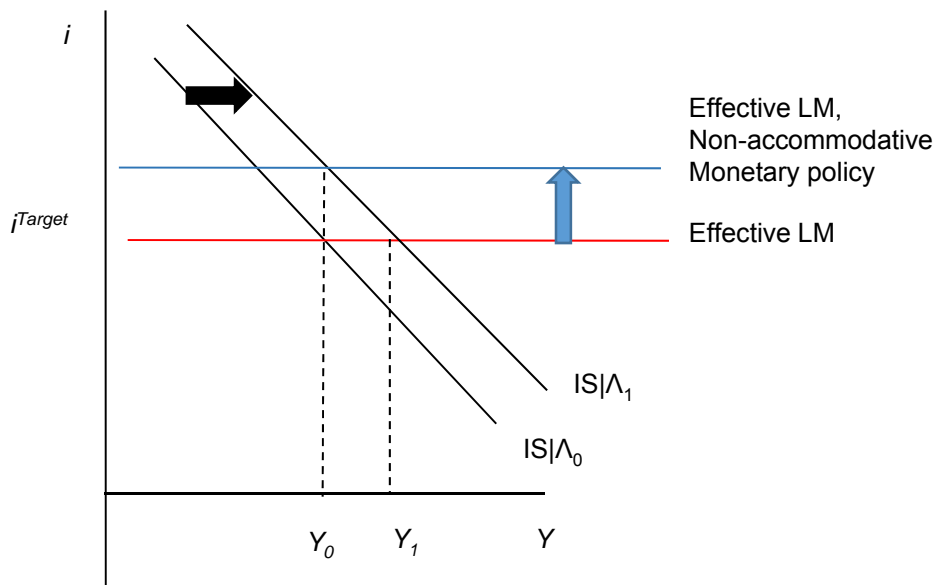
Figure 5. Historical multiplier for total government spending



Notes: shaded regions are recessions defined by the NBER. The solid black line is the cumulative multiplier computed as $\sum_{h=1}^{20} Y_h / \sum_{h=1}^{20} G_h$, where time index h is in quarters. Blue dashed lines are 90% confidence interval. The multiplier incorporates the feedback from G shock to the business cycle indicator z . In each instance, the shock is one percent increase in government spending.

Source: Auerbach and Gorodnichenko (2012)

Accommodative and Non-accommodative Monetary Policy



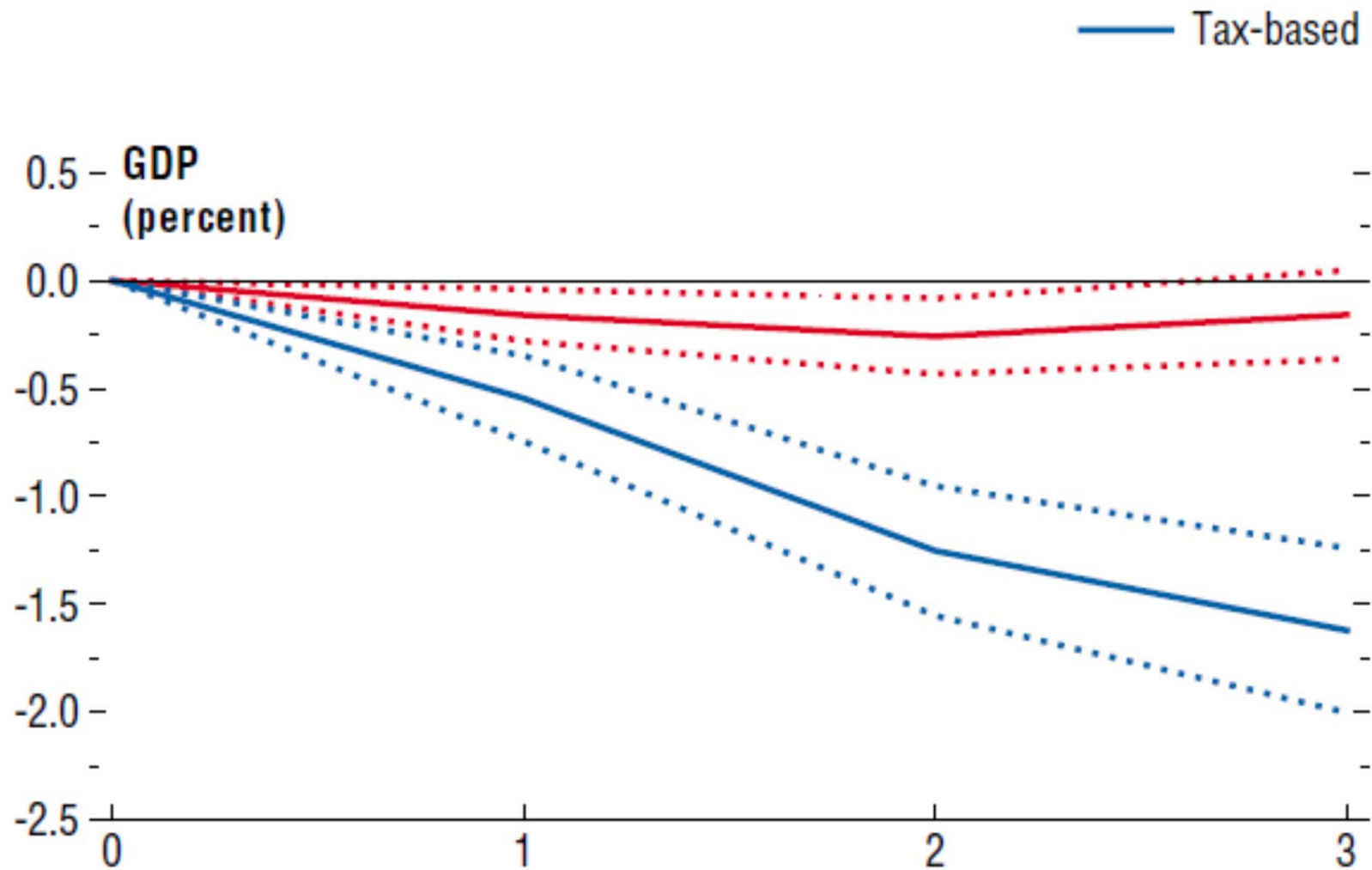
$$\hat{\gamma} \equiv 0$$

$$\hat{\gamma} \equiv \frac{1}{1 - c_1(1 - t_1) - b_1 + \frac{b_2}{h}}$$

Fiscal Consolidation

- Alesina and Perroti (1995) conclude that contractionary fiscal policy can be expansionary
- They use changes in the structural budget balance to examine a sample of episodes
- The results are driven by a few of observations, so that small changes in definition cause big changes in results
- IMF (2010) uses a narrative approach for empirics
- Augments with model simulations

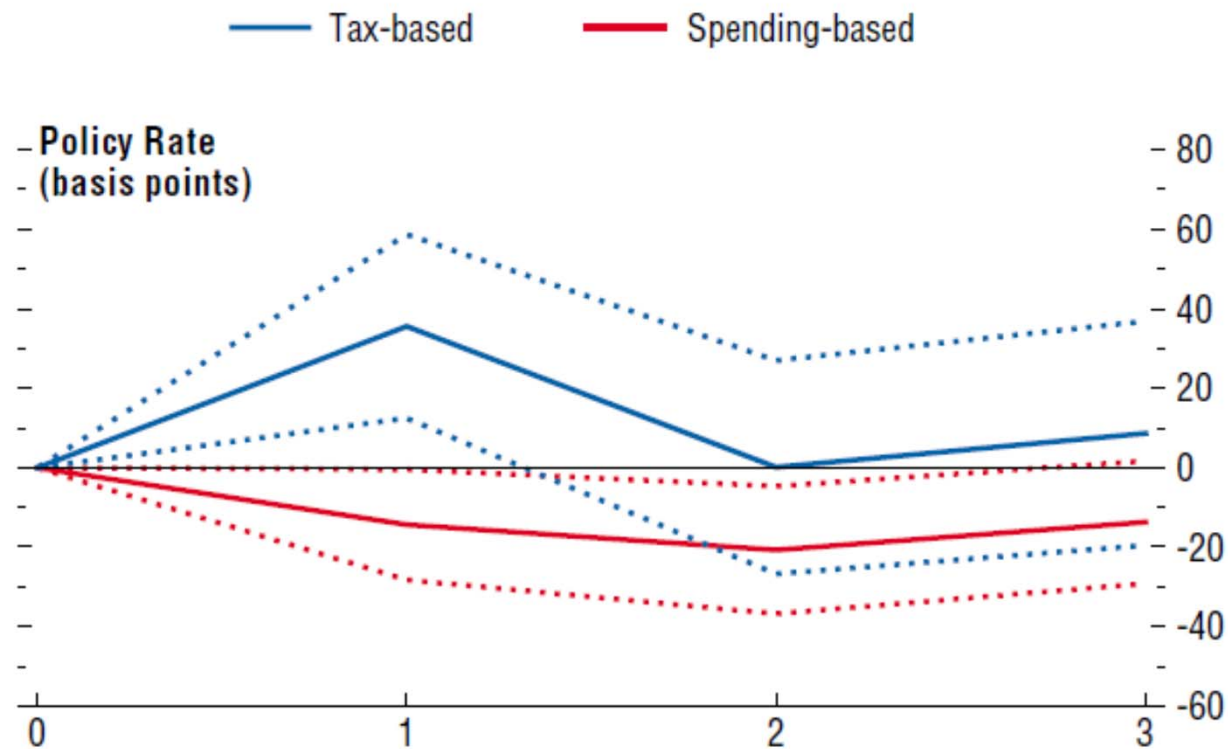
1% Fiscal Consolidation



The Importance of Monetary Policy

**Figure 3.6. Composition and Monetary Conditions:
Impact of a 1 Percent of GDP Fiscal Consolidation**

Why are spending-based consolidations less contractionary? Partly because they benefit from monetary stimulus, whereas tax-based adjustments feature monetary tightening.

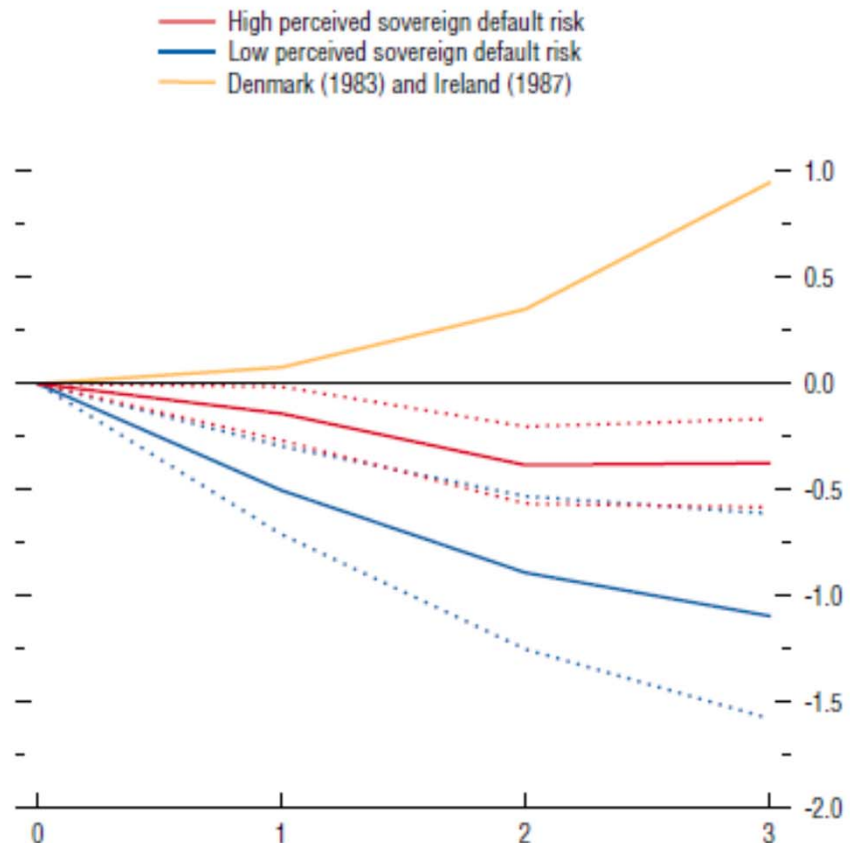


When is Contractionary Fiscal Policy Expansionary?

Answer: *Possibly*
when sovereign risk
is high

Figure 3.9. Estimated Impact on GDP of a 1 Percent of GDP Fiscal Consolidation
(Percent)

Fiscal consolidation preceded by high perceived sovereign risk is less contractionary than when preceded by low perceived default risk. But even for the group with high perceived risk, fiscal retrenchment rarely triggers faster growth. Exceptions include Denmark (1983) and Ireland (1987)—two cases of fiscal consolidation studied by Giavazzi and Pagano (1990)—which were expansionary.



Source: IMF staff calculations.
Note: $t = 1$ denotes the year of consolidation. Dotted lines equal one standard error bands.

What about at Zero Lower Bound?

Answer: Since data does not span a period of ZLB, have to rely on simulation

Figure 3.11. Impact of a 1 Percent of GDP Fiscal Consolidation: GIMF Simulations¹

