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Fiscal Policy to the Rescue: Old Keynesians versus New Keynesians

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Boneheads and Neanderthals

Paul Krugman, Dec 12, 2008, NYT:

… we're rapidly heading toward a world in which monetary policy has little or no traction, …, *Fiscal policy is all that's left*.

… if Germany prevents an effective European response, this adds significantly to the severity of the global downturn.

… in short, there's a huge multiplier effect at work; unfortunately, what it's doing is multiplying the impact of the current *German government's boneheadedness*.

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Boneheads and Neanderthals

Martin Wolf, Feb 17, 2009, FT,

> The bad news is that the debate over fiscal policy in the US seems even more ***neanderthal*** than in Japan:

> it cannot be stressed too strongly that in a balance-sheet deflation, with zero official interest rates, ***fiscal policy is all we have***.

➔ *OK, may be age is an issue, let's come back to that.*

Ongoing Fiscal Rescue Efforts: *Theaters of Operations*

1. Fiscal authorities rescuing institutions in the financial sector.
2. Central banks providing quasi-fiscal support measures to financial institutions/markets.
3. Fiscal authorities rescuing the whole economy with fiscal stimulus packages.

Fiscal Authorities Rescuing Banks

❒ Guarantees for interbank loans

❒ Capital injections into troubled banks

❒ Nationalization (or threat thereoff, HRE)

❒ Toxic waste removal – bad bank/good bank

➔ Significant effort needed though regrettable.

➔Careful assessment and design needed so that tax payer's money is used sensibly and participates in upside potential.

➔For the future, how does one reduce the resulting moral hazard.

(not main focus today)

Central banks' quasi-fiscal measures

in the context of

❒ Liquidity provision: a wide variety of collateral/ subsidey to weak banks?

❒ Credit easing: new facilities for clogged markets. Pricing?

❒ Quantitative easing: what to buy and hold?

➔Much needed (though some economies still have room for policy rate reductions)

➔Liquidity provision alone did not resolve the crisis, more hope for credit and quantitative easing. How to do it, what measures can serve as targets?

(not main focus today)

Today's Focus: Fiscal Stimulus

U.S.A.:

❏ 2008: tax rebates, 2009: ARRA

➔ The American Recovery and Reinvestment Act, $ 787 billion

Europe:

❏ 2008/9: EERP

➔ The European Economic Recovery Plan

➔ National plans: Germany, Konjunkturpaket 1 und 2

Quantitative Assessment and Advice

❏ Romer and Bernstein, The Job Impact of the American Recovery and Reinvestment Plan, January 8, 2009.

„A package in the range that the President-Elect has discussed (slighly over $775 billion) is likely to create between three and four million jobs by the end of 2010"

❏ Approach:

stimulus x multiplier = Δgrowth = Δ x 1 mil jobs

Leading Actor: The Multiplier

❑ Multiplier: numerical estimate of the impact of an increase in government spending on GDP in the United States.

❑ Romer/Bernstein:

„We use multipliers that we feel represent a consensus of a broad range of economists and professional forecasters."

Robustness!

❑ Because of modelling uncertainty policy evaluations have to be robust to alternative assumptions. This is the purpose of:

„New Keynesian versus Old Keynesian Government Spending Multipliers"
by John Cogan, Tobias Cwik, John B. Taylor and Volker Wieland.

❑ Makes use of a model archive that offers a new platform for a comparative approach to model-based policy analysis.

Earlier Model Comparison Projects

❏ Brookings Institution
  ➔ Bryant, Currie, Frenkel, Masson, Portes, (eds.) (1989)
  ➔ Bryant, Hooper, Mann (eds) (1993) (Taylor rule)
❏ NBER
  ➔ Taylor (ed.) (1999)
❏ Earlier comparison projects involved teams of researchers, each team working with its own model.
❏ We aim to create a platform that puts the whole range of models in the hands of individual researchers at large, and create a self-sustaining process for adding models to the database.

Plan

❏ Publish modelbase along with paper and applications,
❏ Make platform widely available via website for download.
❏ Create self-sustaining protocol for inclusion of new models by model authors.

Simple Test

❑ Romer and Bernstein average the impact generated by two models, one from the Federal Reserve one from an un-named private sector firm.

❑ As a check consider Taylor (1993):

➔ (i) estimated on G 7 economnies;
(ii) forward-looking behavior of households and firms (Lucas critique);
(iii) wage and price rigidities (new Keynesian).

Effect of Permanent 1% Increase in Government Spending on GDP
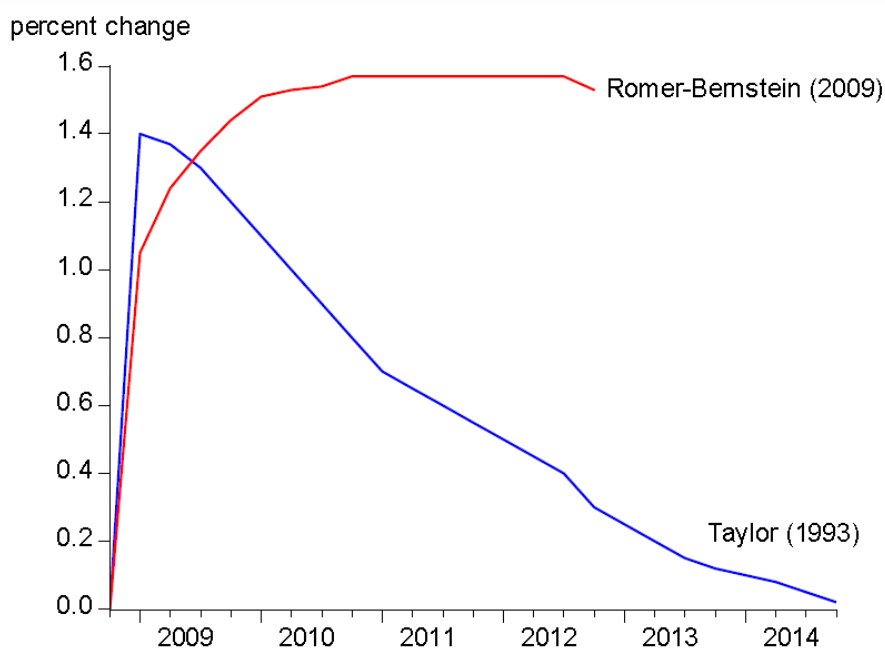
Lack of robustness! Consider alternative models and assumptions.

Smets and Wouters (AER 2007)

❐ One of the best known empirically estimated „new Keynesian" models,

❐ According to Smets and Wouters „largely based on" another well-known model of Christiano, Eichenbaum and Evans (JPE 2005).

❐ Highlighted by Woodford (2009) as one of the leading models in his review of current consensus in macroeconomics.

New versus Old Keynesian

❐ New Keynesian: model have forward- or rational expectations and some form of price rigidity.

❐ Old Keynesian: models with backward-looking, adaptive expectations formation.

➔ New Keynesian models taught in graduate school,

➔ viewed as better for policy evaluation because they try to capture how people's expectations and behavior change over time in response to policy interventions.

Effect of fiscal stimulus depends on monetary policy response

❒ RB assume an interest peg ➔ the Fed has to keep the interest rate constant forever.

➔ In New Keynesian models an interest peg is prohibited. It leads to instability and non-uniqueness in forward-looking models (Sargent-Wallace 1975).

➔ Inflation expectations become unanchored and the price level may explode or plummet in a downward spiral.

Effect of fiscal stimulus depends on monetary policy response

❒ Intuition:

➔ Normally higher gov spending eventually increases real interest rate, which reduces other spending (c,i,nx) to make room for increased gov spending.

➔ Nominal rate fixed, higher inflation leads to lower real rate that drives inflation up further.

➔ Need to allow the Fed to raise rates eventually.

❒ CCTW allow Fed to raise rate above zero in 2011:Q1 (or alternatively in 2010:Q1).

Impact of Increase in Gov. Spending on GDP
(1 percent of GDP, permanent)

Percentage increase in real GDP					
	2009Q1	2009Q4	2010Q4	2011Q4	2012Q4
Romer/Bernstein	1.05	1.44	1.57	1.57	1.55
Smets/Wouters	1.03	0.89	0.61	0.44	0.40

2 years of constant interest rates (2009 and 2010), anticipated.

Impact of Increase in Gov. Spending on GDP
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	2009Q1	2009Q4	2010Q4	2011Q4	2012Q4
Romer/Bernstein	1.05	1.44	1.57	1.57	1.55
Smets/Wouters	0.96	0.67	0.48	0.41	0.40

1 years of constant interest rates (2009), anticipated.

Smets/Wouters Estimate of Multiplier in 2010:Q4 is 1/3 of Romer/Bernstein

❒ Reasons:
- ➜ increase in GDP quickly produces a permanent contraction in private sector saving and/or consumption.
- ➜ Households anticipated that government debt incurred needs to be paid off with interest by raising taxes in the future. (Smets and Wouters assume lump-sum/ non-distortionary taxes)
- ➜ Interest rates are anticipated to increase in 2011.

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Permanent Increase in Government Spending is Unrealistic

❒ Instead model the fiscal spending package of $ 787 billion enacted and signed into law on Feb 17, 2009.

❒ In new Keynesian models with forward-looking consumers and firms timing and anticipation effects matter a lot for the effects of government policies.

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ARRA 2009

Table 3. Increased Deficit, Federal Government Purchases, and Transfers to State and Local Governments for Purchases of Goods and Services in the February 2009 Stimulus Legislation (billions of dollars)

Fiscal Year	Increase in Federal Purchases	Increase in Transfers to States, Localities	Increase in Federal Deficit*
2009	21	48	184
2010	47	107	400
2011	46	47	134
2012	36	8	36
2013	25	4	27
1014	27	0	22
2015	11	0	5
2016	-2	0	-8
2017	-3	0	-7
2018	*-2*	*0*	*-6*

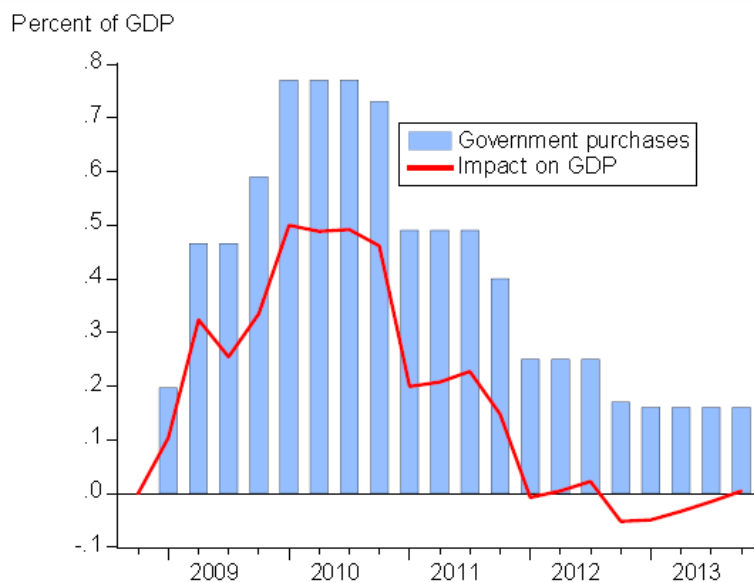# Effect of ARRA on GDP in Smets/Wouters

Figure 2. Estimated Output Effects of Government Purchases in the February 2009 Stimulus Legislation. (Government purchases equal federal purchases plus 60 percent of transfers to state and local governments for purchases of goods and services)

Little stimulus when stimulus is needed most

❑ Why the very small effect in the first year?

➔ Partly due to timing, small initial increase followed by step rise in second year. Households anticipate 2nd year increase in 1st year, but also that eventually taxes have to increase. Timing effect and negative wealth effect on private consumption of higher anticipated taxes reduce the positive impact of stimulus.

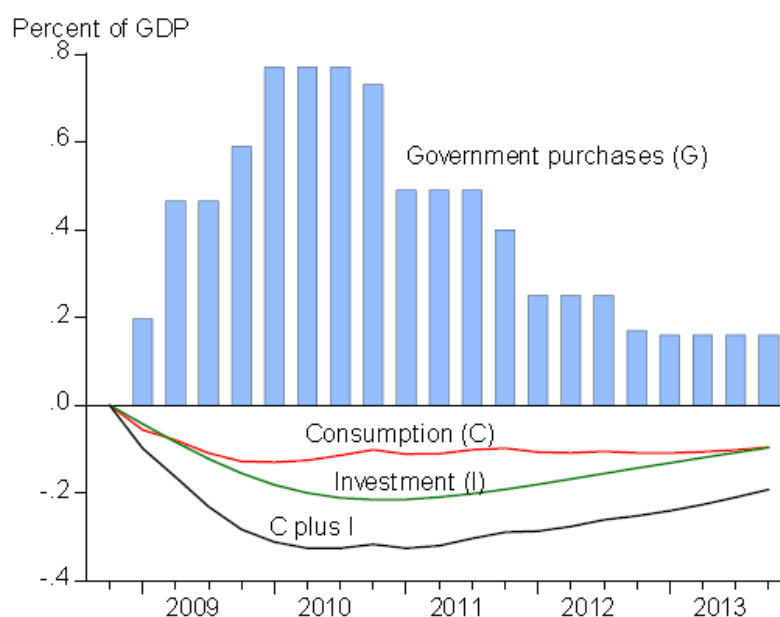➔ Also there is strong crowding out of investment.

Effect on Private Spending

Figure 3. Crowding Out of Consumption and Investment in the February 2009 Stimulus Legislation (Government purchases are as in Figure 2)

Possible Criticisms

❒ Not Keynesian enough!

➔ Need to assume some households follow rules of thumb like original Keynesian consumption function, or be constrained to consume current income (Gali, Lopez-Salido, Valles (2007)).

➔ But others show that the estimated share of such households is small and their effect overwhelmed by the large negative wealth effect (see Coenen and Straub (2005)).

➔ Also Smets and Wouters models fits the data quite well.

Possible Criticisms

❒ Too Keynesian!

➔ Assumes not only sticky prices, but also backward indexation, in a „mechanical way" according to Chari, Kehoe and McGrattan (2009) and thereby amplifies Keynesian aggregate demand effects.

Impact of an Entire Package

❒ What about tax rebates and one-time transfer payments to individuals?

❒ Focus on 2010Q4

$\Delta G=0.73$ and $\Delta Y=0.46$ ➔ multiplier = 0.63

➔ From Table 3, see deficit increases by more than government purchases, most of the difference consists of temp tax rebates, entitlement benefits for unemployment insurance, medicaid, health insurance subsidies, cash welfare payments.

Impact of an Entire Package

➔ In fiscal year 2011 deficit minus purchases is $ 41bil in 2010 $ 246bil,

to estimate impact of broader package take average, $144 bil. (1 percent of GDP)

➔ Literature review suggest 0.3 as an estimate for the marginal propensity to consume for such tax and transfer payments.

➔ 1 x 0.3 x 0.63 = 0.19 additional increase

Impact in 2010 Q4

+ .46 percent of GDP (due to G)

+ .19 percent of GDP (due to T&T)

= .65 percent of GDP

i.e. closer to ½ rather than 3 ½ million additional jobs as estimated by Romer/Bernstein.

Conclusion

❐ The robustness analysis raises serious doubts about the robustness of the models and approach used for practical fiscal policy evaluation.