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Colloquium in Honor of José Manuel González-Páramo European Central Bank

16 May 2012

Session II: Private and Public Debt, Deficits and Monetary Policy: exploring the interaction

Introductory Presentation

by

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1. Changing role of monetary policy:
blurring of the line between monetary and fiscal policy
implications for central bank independence

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- 2. The euro area's "missing institutions"

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I concentrate on the passing of the "hot potato" of sovereign debt.

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- 2. The euro area's "missing institutions" passing the "hot potato"
- 3. Lessons from the Fiscal Theory of the Price Level (FTPL)

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- 6. Robust monetary policy in a time of fiscal turbulence and uncertainty.

War in the 1980's & 1990's: inflation and inflation credibility

Solution: CB independence & policies that follow Taylor Principle

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CB staff and academic policy models followed Woodford paradigm Implicitly assumed financial sector is sound:

financial frictions, but no possibility of bankruptcy

Explicitly assumed fully credible monetary and fiscal policies no possibility of sovereign bankruptcy, or risk premia on debt

This decade's war:

fragile financial sector, recovery from Great Recession sovereign debt crises and risk premia on debt policy models in Woodford paradigm don't seem up to the task

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FED response:

conventional policy: R_{policy} → essentially 0

tried to monetize more debt – but banks reserves stay at FED

"quantitative easing"; flirts with idea of a government bailout

tried to monetize MBSs, credit card debt, student loans, etc.

lending usually associated with fiscal policy, not central bank

combined with Treasury to save/sell large banks

lender of last resort or a bailout usually associated with fiscal policy

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lend to banks with short term liquidity problems

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Is this a trillion euro fiscal transfer by another name?

In summary:

Change in central bank role may well be appropriate for the times

But, it is blurring the line between central bank and treasury functions

Danger it will it lead to:

politicization of central bank actions

backlash on central bank independence in the U.S. and in Europe

As González-Páramo (2012) notes, political integration comes slowly; must push ahead more quickly on economic issues.

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Need to specify the rights and responsibilities of different fiscal entities?

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European Financial Stability Facility, with ability to issue bonds Proposed Euro Bonds? Issued and guaranteed by all member states?

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These proposals still passing the "hot potato"; who guarantees the debt?

More progress made on "responsibilities" side: The Fiscal Compact What does it guarantee?

Lessons from FTPL: legal independence \Rightarrow functional independence

(original proponents: Woodford, Leeper, Sims)

Start with FED and one fiscal policy –

PVBC can be written as:

$$\frac{M_{-1} + B_{-1}}{P_0 Y_0} = E_0 \sum_{t=0}^{\infty} D_t \left[\frac{Primary Surplus_t}{P_t Y_t} \right]$$

where discount factor D_t depends on GDP growth and real interest rates

Woodford's Ricardian Fiscal Policy: CB free to control nominal income.

Woodford's non-Ricardian FP: Fiscal policy determines nominal income.

CB can't be held responsible for P stability.

Extension to a monetary union, with countries A and B:

References: Woodford (1996), Bergin (2000),

Canzoneri, Cumby and Diba (2001b)

If neither country is willing to buy/guarantee the other's debt:

Get separate equations (for A & B) similar to above, same P_tY_t in both.

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If A is willing to buy/guarantee B's debt, get a combined PVBC like above. B's bonds are perfect substitutes for A's bonds.

CB can control P_tY_t , can be held responsible for price stability.

But, if B goes on a spending spree A has to pay for it.

Unlikely that A wants to finance B and guarantee its debt.

Next Question: What kind of fiscal discipline is needed to guarantee B's fiscal policy is Ricardian?

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Answer: The constraints written into the GSP and the Fiscal Compact.

Deficit constraint: Canzoneri, Cumby and Diba (2001a)

Debt constraint: Woodford (1996)

Government Spending Multipliers for Fiscal Retrenchments:

How will government spending cuts in Greece and elsewhere affect future output and tax revenue?

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Standard estimates of output multipliers are only 1 or even less; suggests big cut backs should have significant, but rather limited, effects on GDP.

Multipliers are much larger in recessions than in expansions -

Auerbach and Gorodnichenko (2012a)

Baum, Poplawski-Ribeiro, and Weber (2012)

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obvious economic implication: do retrenchment in good times, not bad no political incentive in good times?

financial markets will not wait?

passes to private debt

- Multipliers are much larger in recessions than in expansions –
 Auerbach and Gorodnichenko (2012a)
 Baum, Poplawski-Ribeiro, and Weber (2012)
- 2. Multiplier are smaller for high debt countries –
 Perotti (1999); Auerbach and Gorodnichenko (2012b)
 Why?
 risk premium on sovereign debt falls as coming out of recession

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- 3. Multipliers are larger when in the liquidity trap Erceg and Linde (2010); Christiano, Eichenbaum and Rebelo (2011) Why?

R does not rise, chocking off demand

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- 4. Multipliers are smaller in countries with larger automatic stabilizers Coenen et al (2012); automatic stabilizers are smaller in Europe

So, what are the prospects for, say, Greece? Will output and tax revenue loss due to fiscal retrenchment be great?

Data limitations make it impossible to condition multiplier estimates on all four new factors.

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What are official estimates from the IMF and the EC?

Fiscal Monitor, April 2012.

EC, "The Second Economic Adjustment Programme for Greece," Occasional Papers 94, March 2012.

Actual base line projections	Actual
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	2010	2011	2012	2013	2014	2015	2020	2030
gdp growth	-3.5	-6.9	-4.7	0.0	2.5	3.1	2.3	1.5

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T-surplus	-10.6	-9.3	-7.3	-4.7	-2.2	-0.8	-0.5	-1.2

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T-surplus	-10.6	-9.3	-7.3	-4.7	-2.2	-0.8	-0.5	-1.2
Debt	145	165	161	165	162	153	117	88

Caveats:

Current policies are not sufficient to bring the public accounts to these targets.

Similarly, need more labor and product market reforms to meet growth projections.

The baseline projections assume Greece would be able to return to the medium- and long-term financing market in 2015.

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Would a slower fiscal adjustment actually have been more credible?

Monetary Policy in Turbulent Fiscal Times –

For when banking crisis eases, we are out of the zero-bound trap, and price stability becomes an issue again.

Orphanides and Williams (2002):

"One can only say that if the bank policy succeeds in stabilizing prices, the bank rate must have been brought in line with the natural rate."

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Orphanides and Williams (2002):

"One can only say that if the bank policy succeeds in stabilizing prices, the bank rate must have been brought in line with the natural rate."

Natural rate of interest is the rate that would prevail if there were no price or wage stickiness. Not directly observable.

Essentially, the intercept term in the Taylor rule should track the natural rate closely. See: Orphanides and Williams (2002), CCD (2011).

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- 2. Particularly true if government bonds have liquidity value.

See:

Friedman and Kuttner (1998), Greenwood and Vayanos (2010), Krishnamurthy and Vissing-Jorgensen (2010), Bohn (2010), Pflueger and Viceira ((2011).

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3. Natural rate is not observed directly and tracking/measuring the natural rate is notoriously difficult. See Laubach and Williams (2002).

- 1. Large and persistent fiscal shocks ⇒ aggregate demand and savings ⇒ large and persistent movements in the natural rate of interest.
- 2. Particularly true if government bonds have liquidity value.
- 3. Natural rate is not observed directly and tracking/measuring the natural rate is notoriously difficult. See Laubach and Williams (2002).
- 4. Highly persistent policy rules do well in this situation, and in face of uncertainty in general.
 - Should not be tempted to change policy quickly as events unfold.
 - See: Orphanides and Williams (2002), Laxton and Pesenti (2003), Levin, Wieland and Williams, and Canzoneri, Cumby and Diba (2011).

References:

Auerbach, Alan, and Yuriy Gorodnichenko, 2012a, "Measuring the Output Responses to Fiscal Policy," *American Economic Journal – Economic Policy*, 4(2): 1–27

______, 2012b, "Fiscal Multipliers in Recessions in Recession and Expansion," mimeo. 17447.

Bachmann, Ruediger, and Eric Sims, 2011, "Confidence and the Transmission of Government Spending Shocks, manuscript.

Baum, A., M. Poplawski-Ribeiro, and A. Weber, 2012, "Fiscal Multipliers and the State of the Economy," IMF Working Paper (forthcoming; Washington: International Monetary Fund).

Bergin, Paul, (2000), "Fiscal Solvency and Price Level Determination in a Monetary Union," *Journal of Monetary Economics*, Vol. 45, No. 1 (February), p. 37 - 55.

Bohn, Henning, 2010, "The Economic Consequences of U.S. Government Debt," mimeo.

Canzoneri, Dellas, Collard, Diba, "Fiscal Multipliers in Recessions,", 2011, mimeo.

Canzoneri, Cumby and Diba, "Is the Price Level Determined by the Needs of Fiscal Solvency," <u>American Economic Review</u>, Vol. 91, No. 5, 2001a, pg.1221 - 1238.

Canzoneri, Cumby and Diba, "Fiscal Discipline and Exchange Rate Regimes," <u>The Economic Journal</u>, 111, No. 474, October, 2001b, p. 667 - 690.

- Canzoneri, Cumby and Diba, "The Interaction Between Monetary and Fiscal Policy" in <u>Handbook of Monetary Economics</u>, Vol. 3, 2011, Benjamin Friedman and Michael Woodford editors, Elsevier.
- Canzoneri, Cumby and Diba, "Monetary Policy and the Natural Rate of Interest," September 29, 2011, mimeo.
- Coenen, Günter, Christopher J. Erceg, Charles Freedman, Davide Furceri, Michael Kumhof, Ren Lalonde, Douglas Laxton, et al. (2012). "Effects of Fiscal Stimulus in Structural Models," American Economic Journal: Macroeconomics, vol. 4, no. 1, pp. 22-68.
- Corsetti, Giancarlo, Vox, Research-based policy analysis and commentary from leading economists "Has austerity gone too far?," 2 April, 2012.
- Christiano, L., M. Eichenbaum, and S. Rebelo, 2011, "When Is the Government Spending Multiplier Large?" <u>Journal of Political Economy</u>, Vol. 119, No. 1, pp. 78–121.
- Erceg, Christopher J., and Jesper Linde (2010). "Is there a Fiscal Free Lunch in a Liquidity Trap?" International Finance Discussion Papers 1003. Board of Governors of the Federal Reserve System (U.S.).
- Friedman, Benjamin and Kenneth N. Kuttner, 1998. "Indicator Properties Of The Paper-Bill Spread: Lessons From Recent Experience," The Review of Economics and Statistics, MIT Press, vol. 80(1), pages 34-44, February.
- Greenwood, Robin, and Dimitri Vayanos, 2010, .Bond Supply and Excess Bond Returns,.NBER Working Paper Series
- Krishnamurthy, Arvind, and Annette Vissing-Jorgensen, 2010, .The Aggregate Demand for Treasury Debt., mimeo.
- Laxton, Douglas, and Paolo Pesenti, 2003, Monetary Policy Rules for Small, Open, Emerging Economies, Journal of Monetary Economics, Vol. 50 (July), pp. 1109-1146.

- Laubach, Thomas and John C. Williams, 2003, "Measuring the Natural Rate of Interest," Review of Economics and Statistics, 85(4), November, 1063-1070.
- Orphanides, Athanasios and John C. Williams, 2002, .Robust Monetary Policy Rules with Unknown Natural Rates..Brookings Papers on Economic Activity, 2:2002, 63-118.
- Perotti, Roberto, "Fiscal Policy in Good Times and Bad," Quarterly Journal of Economics, November 1999.
- Plfueger, Carolin and Luis Viceira, 2011, "An Empirical Decomposition of Risk and Liquidity in Nominal and Inflation Indexed Government Bonds," NBER Working Paper #16892, March.
- Shoag, Daniel, 2010, "The Impact of Gevernemtn Spending Shocks: Evidence on the Multiplier from State Pension Plan Returns, manuscript.
- Woodford, Michael (1996), "Control of the Public Debt: An Requirement for Price Stability?", NBER Working Paper #5684, February.