

Cyclical Macroeconomic Policy, Financial Regulation, and Economic Growth

12th BIS Annual Conference

“Navigating the great recession: what role for monetary policy?”

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- Debate on whether or not governments should intervene with a stimulus package during recessions?
 - Keynesians advocate government intervention to stimulate demand and short term growth and employment in downturns.
 - Conservatives advocate minimum tax and public spending to maximize firms' incentives to invest and hire.
- We advocate counter-cyclical fiscal policy to enhance innovation and growth particularly in sectors that are more credit constrained
 - Policy implication: public deficit objectives should be corrected for the business cycle.

Introduction

Second debate

- Debate on how monetary policy should or should not adapt to the business cycle
 - Some advocate an exclusive focus of the (independent) CB on price stability.
 - Others advocate a more pro-growth/pro-employment mandate of the CB
- We argue counter-cyclical monetary policy to enhance innovation and growth in sectors that face either tighter credit/liquidity constraints
 - Policy implication: cutting policy rates in recessions, and engaging in quantitative easing if the former reaches a limit, may yield significant growth benefits.

- Debate on optimal financial regulation
 - Higher capital ratios for financial institutions as a cornerstone of the new regulation framework (Admati and Hellwig (2013)).
- While largely justified in order to achieve greater financial stability, higher capital adequacy ratios have secondary effects:
 - Inhibit growth in low tangibility sectors, i.e the most innovative.
 - Reduce the growth-enhancing effects of counter-cyclical monetary policy.
- However, introducing counter-cyclical capital buffers to reduce the pro-cyclicality of credit can mitigate these secondary effects.

- While higher bank capital ratios are needed to ensure financial stability, achieving higher sustainable growth requires:
 - More counter-cyclical macroeconomic policies (fiscal and monetary)
 - More countercyclically in financial regulation (counter-cyclical capital buffers)

Part I: Fiscal Policy

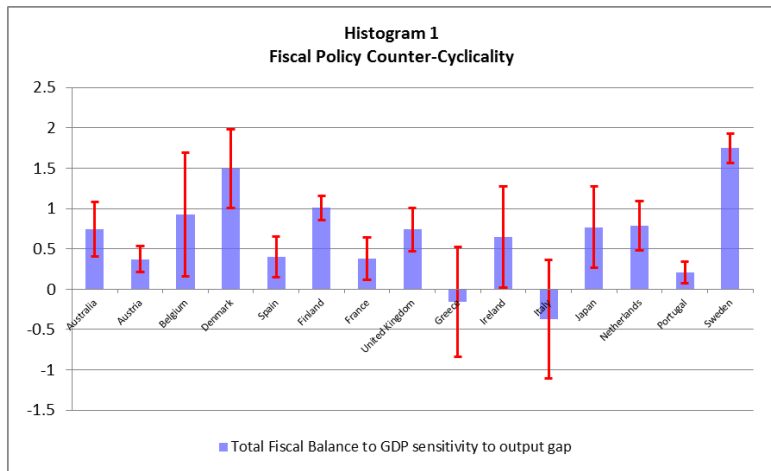
The empirical investigation

- We run the following estimation

$$Growth = F(\text{fiscal countercyclicality} \times \text{credit constraints})$$

- We measure growth at the industry level over 1980-2005.
- Fiscal countercyclicality is the extent to which the government has run surpluses in good times and deficits in bad times
- Credit constraints are measured by level of asset tangibility for corresponding sector in the US.

Fiscal balance cyclicity across countries



Fiscal cyclicality and growth

Dependent variable: Labor Productivity Growth				
	(i)	(ii)	(iii)	(iv)
Log of Initial Relative Labor Productivity	-2.512*** (0.503)	-2.510*** (0.503)	-2.505*** (0.533)	-2.502*** (0.533)
Interaction (Asset Tangibility and Total Fiscal Balance to GDP Counter-Cyclicalit)	-13.03*** (4.011)			
Interaction (Asset Tangibility and Total Fiscal Balance to pot. GDP Counter-Cyclicalit)		-12.81*** (3.971)		
Interaction (Asset Tangibility and Primary Fiscal Balance to GDP Counter-Cyclicalit)			-8.118*** (2.656)	
Interaction (Asset Tangibility and Primary Fiscal Balance to pot. GDP Counter-Cyclicalit)				-8.220*** (2.642)
Observations	523	523	523	523
R-squared	0.538	0.538	0.535	0.535

Part II: Monetary Policy

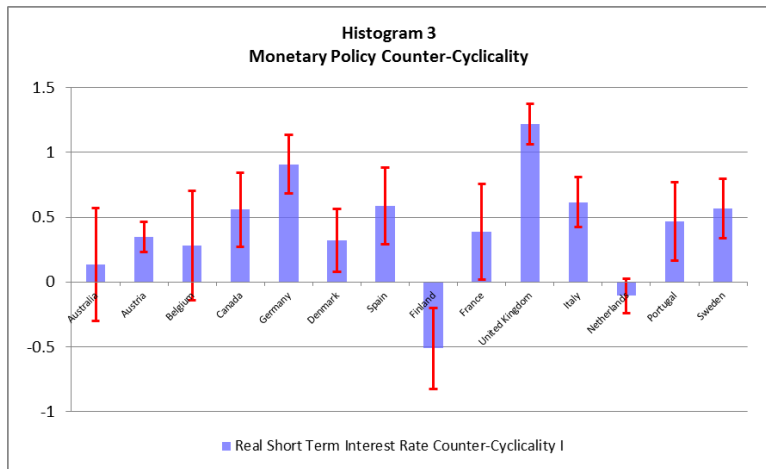
The empirical investigation

- We run the following estimation

$$\text{Growth} = F(\text{monetary countercyclicality} \times \text{financial constraints})$$

- We measure growth at the industry level over 1999-2005.
- Monetary policy countercyclicality is the extent to which the real short term interest rate is high in good times and low in bad times.
- Financial constraints are:
 - 1 credit constraints, measured by level of asset tangibility for corresponding US sector
 - 2 liquidity dependence, measured by labor costs to sales ratio for corresponding US sector

Real interest rate cyclicality across countries



Monetary cyclicality and growth

Dependent variable: Labor Productivity Growth				
	(i)	(ii)	(iii)	(iv)
Log of Initial Relative Labor Productivity	-1.085 (1.319)	-1.122 (1.294)	-1.226 (1.273)	-1.158 (1.243)
Interaction (Asset Tangibility and Real Short term Interest Rate Counter-Cyclicality I)	-17.89* (9.47)			
Interaction (Asset Tangibility and Real Short term Interest Rate Counter-Cyclicality II)		-15.65** (6.93)		
Interaction (Labor Costs to Sales and Real Short term Interest Rate Counter-Cyclicality I)			22.64** (8.66)	
Interaction (Labor Costs to Sales and Real Short term Interest Rate Counter-Cyclicality II)				16.82** (6.83)
Observations	550	550	550	550
R-squared	0.248	0.251	0.249	0.249

Part III: Financial Regulation

The empirical investigation

- We run the following estimation

$$\text{Growth} = F(\text{fs characteristics} \times \text{financial constraints})$$

- We measure growth at the industry level over 1999-2005.
- Financial sector characteristics we consider:
 - ① average bank capital to asset ratio
 - ② cyclical of credit to non financial firms.
- Financial constraints are either credit constraints (asset tangibility) or liquidity constraints (labor costs to sales ratio) for corresponding sector in the US.

Bank capital, monetary cyclicality and growth

Dependent variable: Labor Productivity Growth						
	Above median	(i)	(ii)	(iii)	(iv)	(v)
Log of Initial Relative Productivity		-0.867 (1.241)	-0.880 (1.394)	-0.929 (1.347)	-1.033 (1.402)	-1.014 (1.336)
Interaction (Asset Tangibility and Average Bank Equity to Asset Ratio)		1.840* (0.972)	2.103** (0.983)	1.965* (0.982)	1.722* (1.009)	1.804* (0.999)
Interaction (Asset Tangibility and Real Short term Interest Rate Counter-Cyclicality I)			-21.31** (9.547)		-31.27** (14.08)	
Interaction (Asset Tangibility and Real Short term Interest Rate Counter-Cyclicality II)				-16.74** (6.978)		-23.18** (9.375)
Interaction (Asset Tangibility and Real Short term Interest Rate Counter-Cyclicality I)	Average Bank Capital to Asset Ratio				19.22* (11.03)	
Interaction (Asset Tangibility and Real Short term Interest Rate Counter-Cyclicality II)						14.04 (8.768)
Observations		550	550	550	550	550
R-squared		0.251	0.261	0.263	0.265	0.265

Credit cyclical, monetary cyclical and growth

Dependent variable: Labor Productivity Growth						
	Above median	(i)	(ii)	(iii)	(iv)	(v)
Log of Initial Relative Productivity		-0.984 (1.235)	-1.152 (1.295)	-1.089 (1.262)	-1.203 (1.321)	-1.113 (1.286)
Interaction (Labor Costs to Sales and Private Credit to NFC cyclical)		-6.773** (3.062)	-6.125* (3.101)	-5.529* (2.911)	-7.297** (2.967)	-5.566* (2.879)
Interaction (Labor Costs to Sales and Real Short term Interest Rate Counter-Cyclical I)			21.02** (8.524)		16.85* (8.732)	
Interaction (Labor Costs to Sales and Real Short term Interest Rate Counter-Cyclical II)				14.65** (6.433)		13.61* (6.964)
Interaction (Labor Costs to Sales and Real Short term Interest Rate Counter-Cyclical I)	Private Credit to NFC cyclical				12.48 (12.60)	
Interaction (Labor Costs to Sales and Real Short term Interest Rate Counter-Cyclical II)						6.055 (15.14)
Observations		550	550	550	550	550
R-squared		0.247	0.254	0.253	0.255	0.253

Conclusions

Macroeconomic policy and growth

- Two dominant views:
 - Keynesian view (non-discriminatory public spending)
 - Conservative view (tax and spending cuts)
- Our view: countercyclical fiscal and monetary policy to help financially constrained firms maintain their growth-enhancing investments over the cycle.

Conclusions

Financial regulation and macroeconomic policy

- Higher bank capital to asset ratios are required but:
 - raise growth disproportionately less in industries with lower asset tangibility
 - reduce the growth-enhancing effect of counter-cyclical monetary policy
- More counter-cyclical credit
 - raises growth disproportionately more in industries with larger labor costs to sales ratios

- Overall:
 - Higher capital adequacy ratios are needed to ensure financial stability, yet this medicine has secondary effects
 - Introducing counter-cyclical capital buffers can help mitigate these secondary effects
 - This opens up the issue of how to jointly design financial regulations and fiscal/monetary policy to reconcile financial stability and growth.