Policy Delegation: Inflation Bias and Central Bank Independence

Macroeconomics 2: Monetary Policy

Andrew Pickering

Evidence

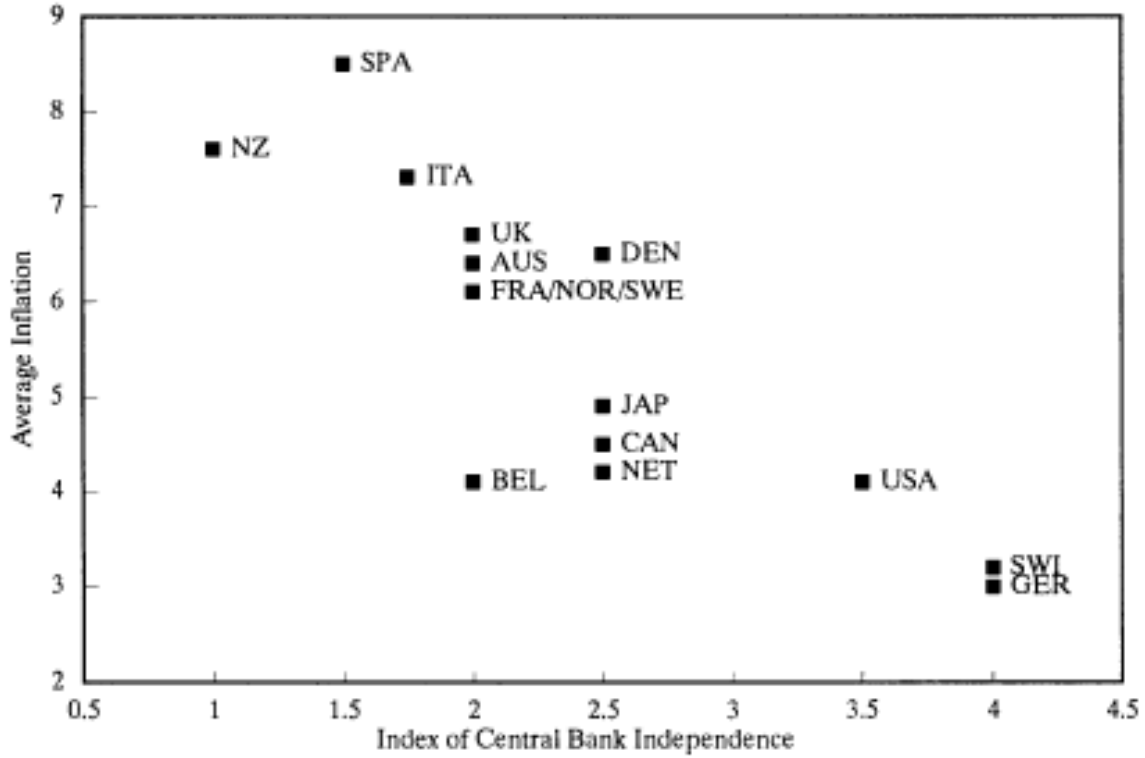


FIG. 1a. Average Inflation

Inflation average 1955-1988. Source: Alesina and Summers (1993)

How to measure central bank independence?

- Central bank independence indices combining various aspects of legal and institutional structure of monetary policy making.

- Cukierman, Webb and Neyapti (1992)
- Alesina and Summers (1993)

Table 1. *Variables for Legal Central Bank Independence*

Variable number	*Description of variable*	*Weight*	*Numerical coding*
1	Chief executive officer (CEO)	0.20	
	a. Term of office		
	Over 8 years		1.00
	6 to 8 years		0.75
	5 years		0.50
	4 years		0.25
	Under 4 years or at the discretion of appointer		0.00
	b. Who appoints CEO?		
	Board of central bank		1.00
	A council of the central bank board, executive branch, and legislative branch		0.75
	Legislature		0.50
	Executive collectively (e.g. council of ministers)		0.25
	One or two members of the executive branch		0.00
	c. Dismissal		
	No provision for dismissal		1.00
	Only for reasons not related to policy		0.83
	At the discretion of central bank board		0.67
	At legislature's discretion		0.50
	Unconditional dismissal possible by legislature		0.33
	At executive's discretion		0.17
	Unconditional dismissal possible by executive		0.00
	d. May CEO hold other offices in government?		
	No		1.00
	Only with permission of the executive branch		0.50
	No rule against CEO holding another office		0.00
2	Policy formulation	0.15	
	a. Who formulates monetary policy?		
	Bank alone		1.00
	Bank participates, but has little influence		0.67
	Bank only advises government		0.33
	Bank has no say		0.00
	b. Who has final word in resolution of conflict?*		
	The bank, on issues clearly defined in the law as its objectives		1.00
	Government, on policy issues not clearly defined as the bank's goals or in case of conflict		

Cukierman et al (1992) Index continued.

3	Objectives	0.15	
	Price stability is the major or only objective in the charter, and the central bank has the final word in case of conflict with other government objectives		1.00
	Price stability is the only objective		0.80
	Price stability is one goal, with other compatible objectives, such as a stable banking system		0.60
	Price stability is one goal, with potentially conflicting objectives, such as full employment		0.40

Further theoretical considerations

Extending the Barro-Gordon framework to include uncertainty.

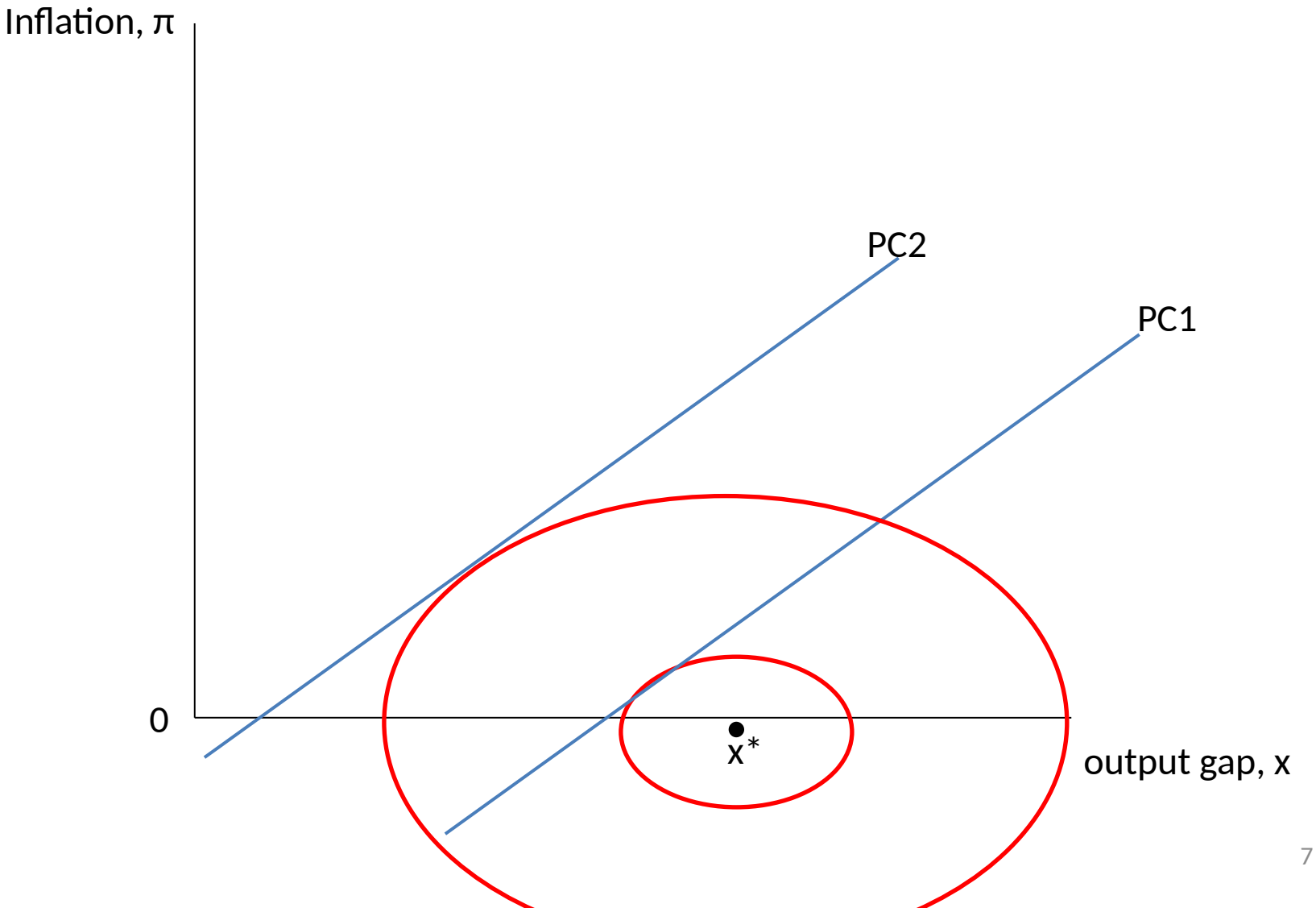
Suppose shocks to the Phillips Curve. (Technically: ‘cost-push’ shocks.)

Then inflation volatility also will be lower under CBI.

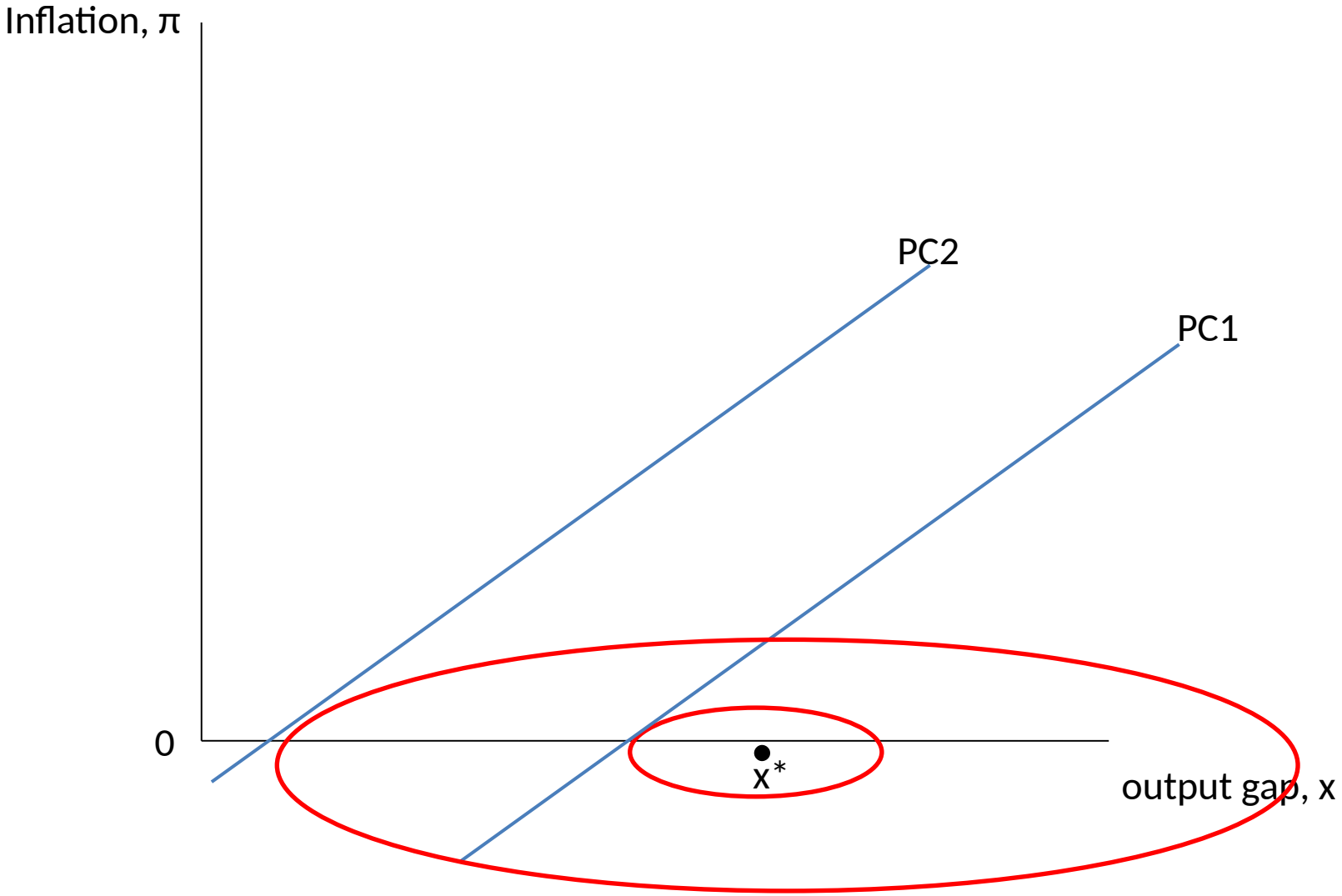
But *output is predicted to be more volatile* under independent central banks. (This is the ‘price’ of inflation stability.)

Evidence?

The Barro-Gordon model with Phillips Curve shocks



The Barro-Gordon model with Phillips Curve shocks



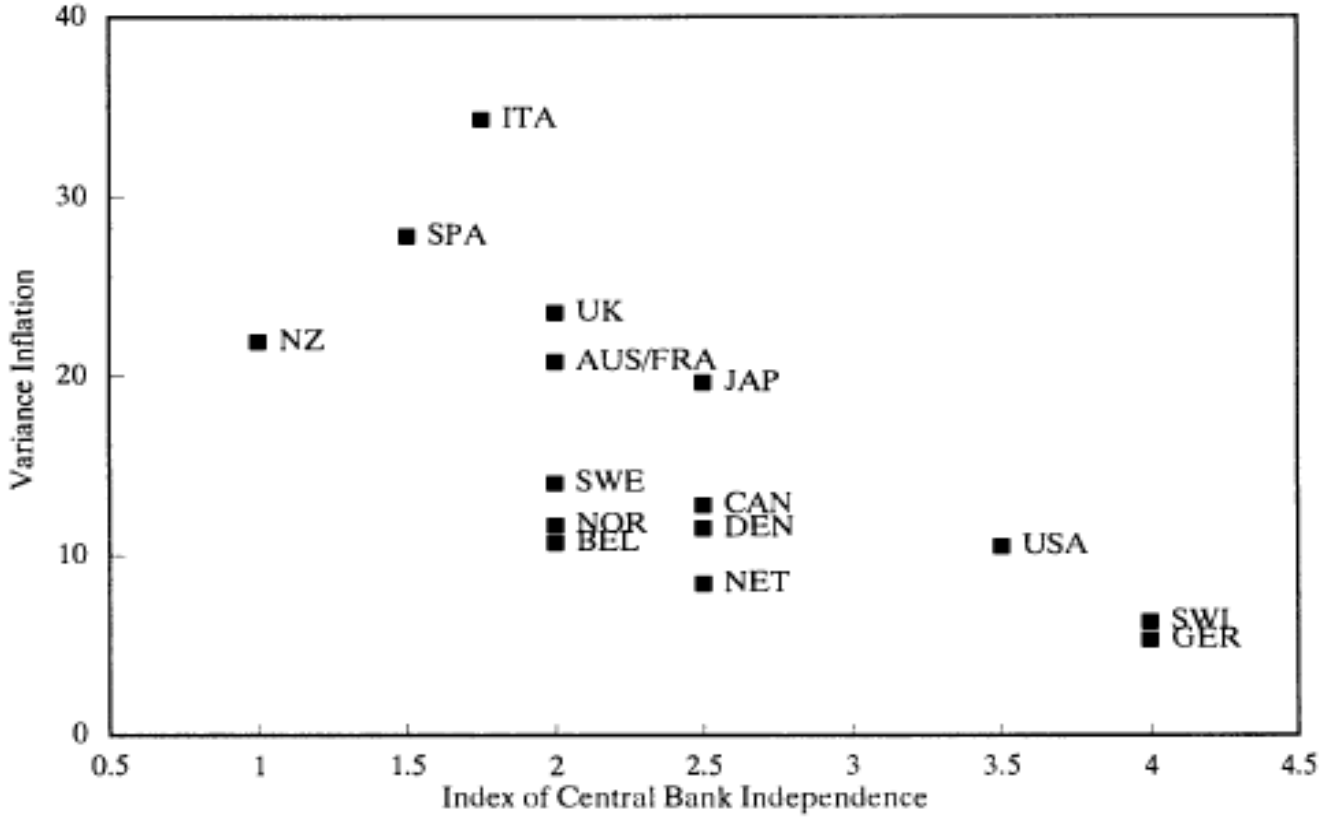


FIG. 1b. Variance Inflation

Lower inflation volatility.

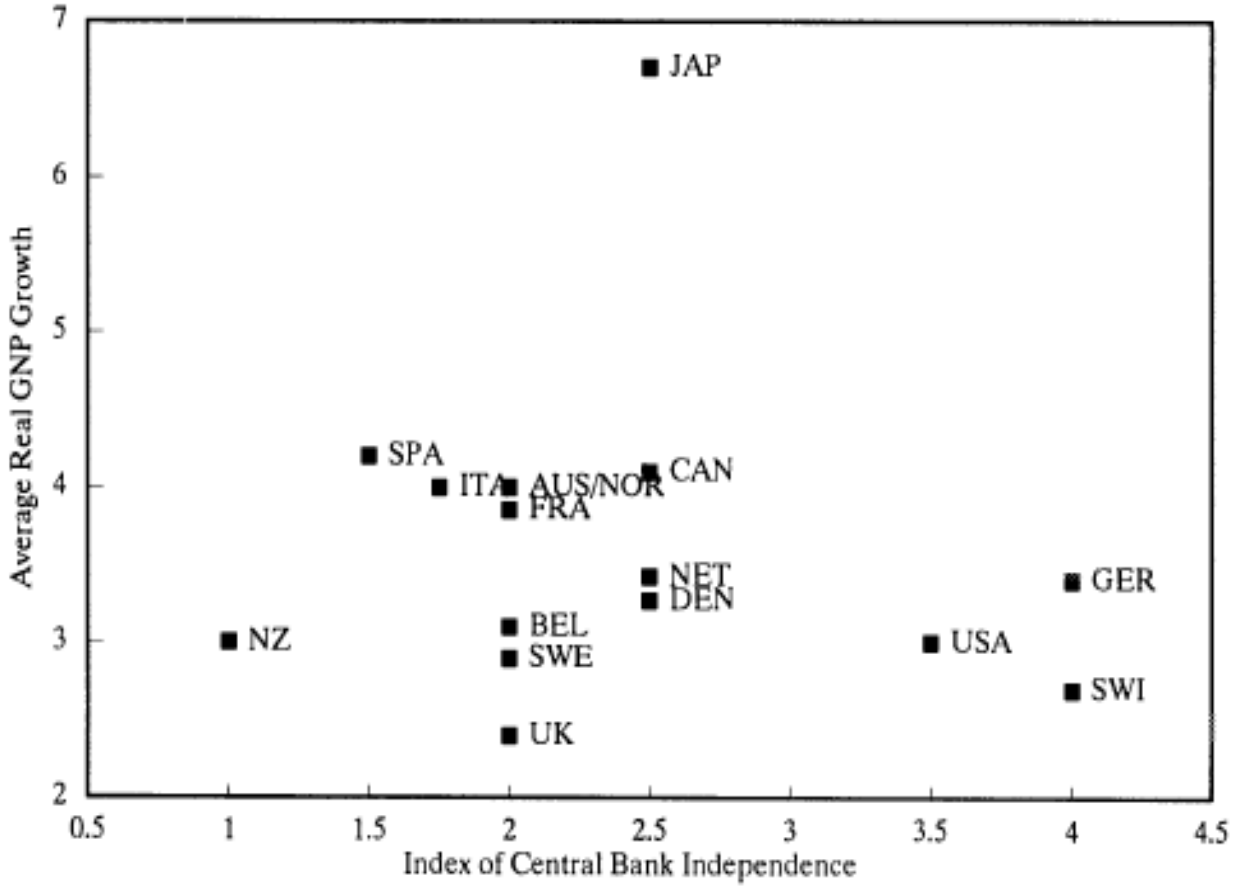


FIG. 2a. Average Real GNP Growth

No average *growth* effect.

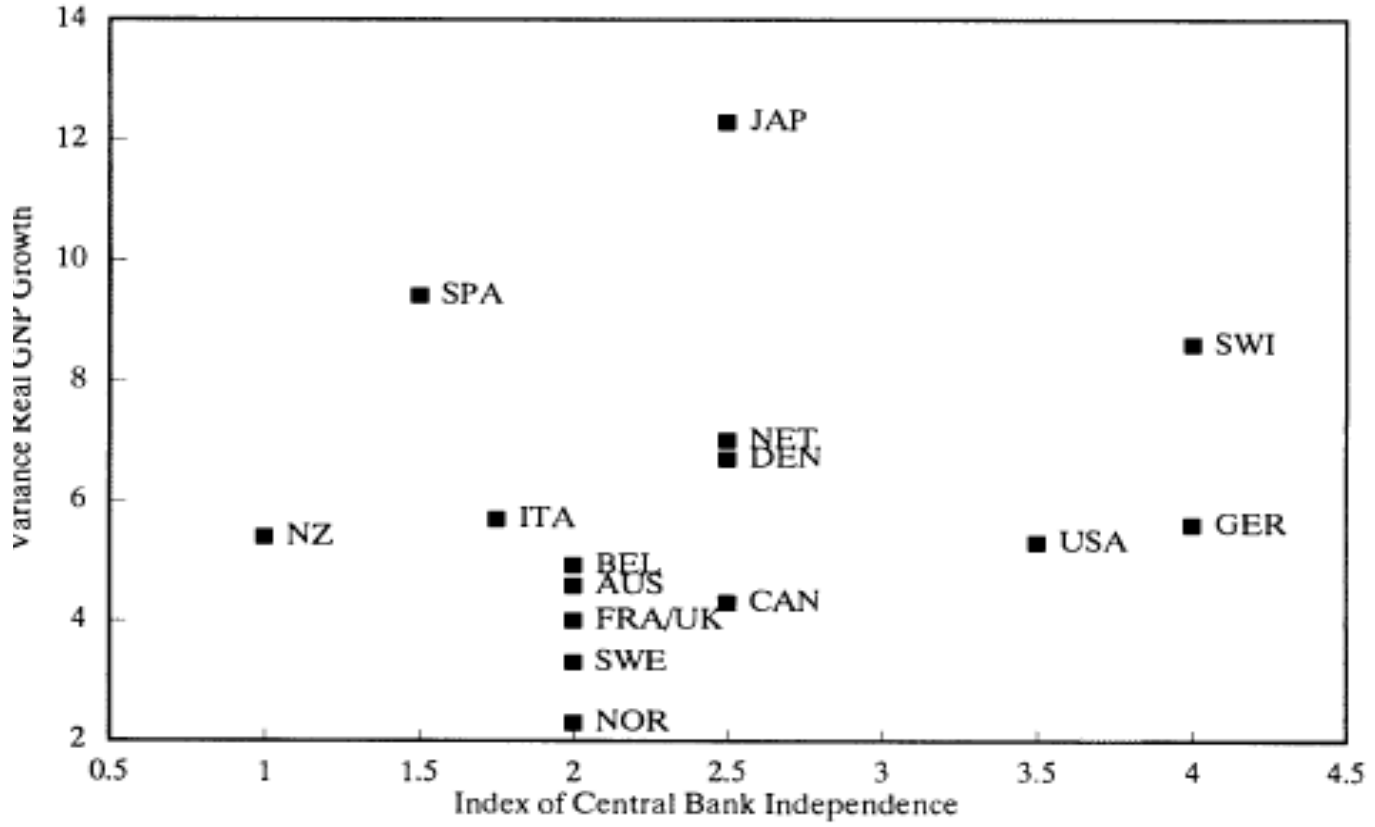


FIG. 2b. Variance Real GNP Growth

<u>But also no apparent volatility cost either</u>. (Is this a 'competence' benefit?)

Conclusion- CBI reduces inflation at no apparent real cost. Free lunch?

Summary of existing empirical evidence

- CBI appears to reduce inflation in high income countries almost irrespective of the CBI measure used.

- In less developed countries, the evidence is mixed. In most cases, empirical studies find no statistically significant relationship between CBI and equilibrium inflation. (e.g. see Campillo and Miron, 1997).

Evidence from Campillo and Miron (1997)

Table 3d

Dependent Variable = Avg. Inflation rate, 1973-1994

	Whole Sample	High Income	Other Countries	$\pi \leq 100$	$\pi \leq 50$
Constant	6.40	35.98	-35.45	33.22	33.21
	(0.20)	(1.31)	(-0.94)	(2.03)	(2.43)
Central bank independence	9.96	-6.76	37.79	14.80	6.66
	(0.37)	(-2.12)	(0.75)	(1.18)	(0.69)
Political Instability	62.51	-1.53	59.12	10.53	-0.66
	(2.34)	(-0.17)	(2.37)	(0.74)	(-0.06)
Log. Income per cap., 1980	0.33	-2.87	5.10	-3.01	-2.70
	(0.09)	(-0.96)	(0.98)	(-1.73)	(-1.86)
R^2	0.18	0.05	0.14	0.09	0.05
N	62	18	44	58	56

White (1980) t-statistics in parentheses.