

Policy Delegation: Political Business Cycles and Central Bank Independence

Macroeconomics 2: Monetary Policy

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Introduction

- Previous Lecture: Established a rationale for Central Bank Independence:
 - Reduces the problem of ‘Inflation Bias’ (predicted in the Barro-Gordon model)
- Evidence – Alesina and Summer (1993)
 - Lower inflation with increased CBI
 - No output volatility cost – in contrast to the B-G model.

Introduction

Another rationale for increased CBI

Which potentially explains the lack of increased real economic volatility.)

Reduced Politically-Induced
macroeconomic volatility.

Political Business Cycles

‘Opportunistic Political Business Cycles’

‘Pre-electoral booms’

1. Do they exist? (Actually surprisingly little systematic evidence.)
2. Do voters respond to the economy? Yes – but in a qualified way.
 - E.g. see Maloney and Pickering (2015). *Voting and the Economic Cycle*, *Public Choice*.

Political Business Cycles

‘Partisan Political Business Cycles’

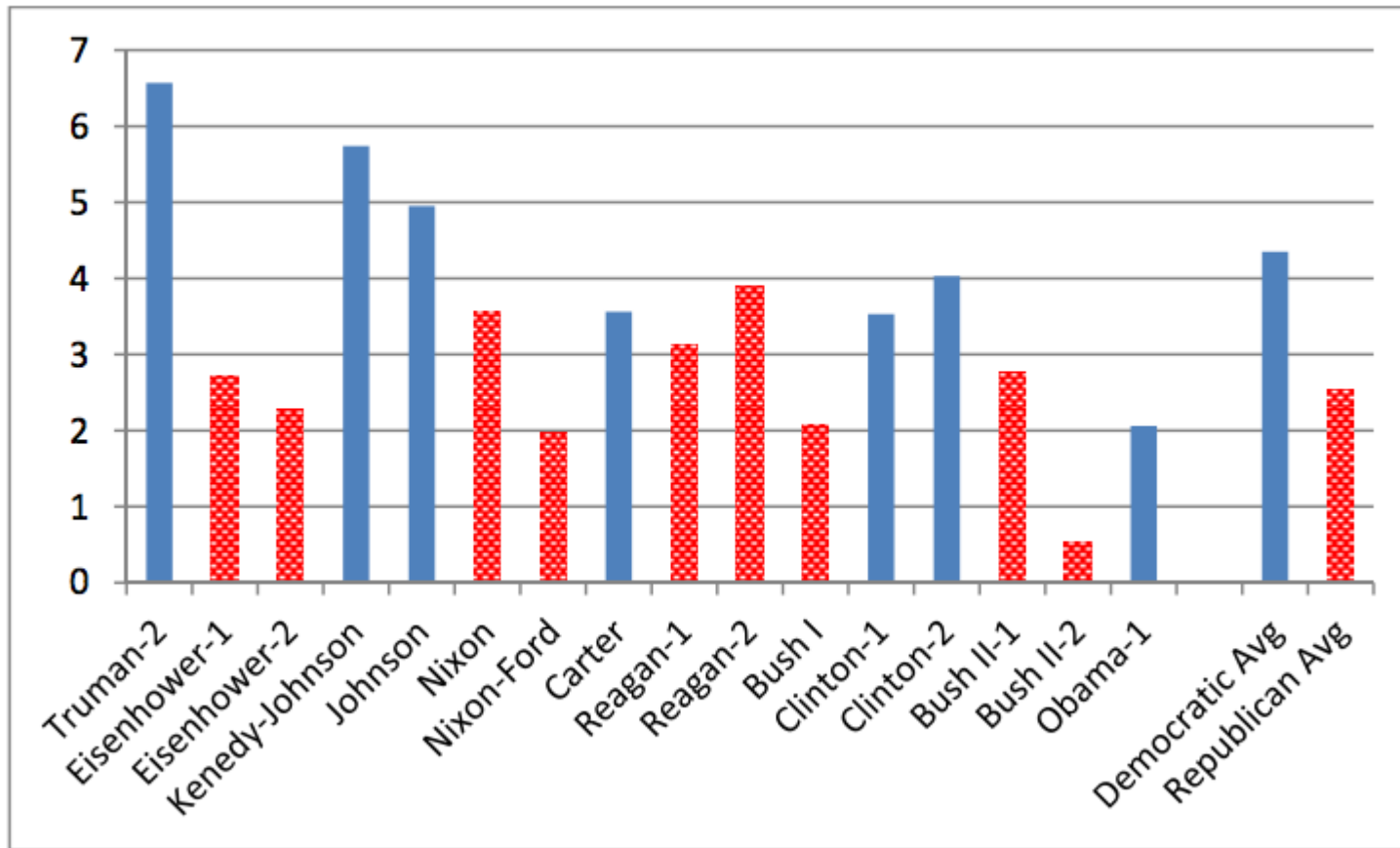
Idea that macroeconomic outcomes depend on the party of office:

e.g. see <http://www.vox.com/2014/7/29/5945583/the-us-economy-grows-faster-under-democratic-presidents-is-that-just>

(Though note that differences of these magnitude are likely to be due to other factors)

Political Business Cycles

A. Average annualized GDP growth, by term



Political Business Cycles

‘Rational Partisan Political Business Cycles’

- Post-Electoral Fluctuations
- Pre-Electoral Fluctuations

Fluctuations depend on

- Wage contracts overlapping elections
- Uncertainty and expectations of election results

Political Business Cycles

(This discussion follows Maloney, Pickering and Hadri, 2003)

The government's objective (loss) function:

where:

$$L_s^i = 0.5\alpha(\pi_s - \pi^i)^2 + 0.5y_s^2$$

α is the relative importance of inflation over output;

π_s is the inflation rate;

π^i is the partisan preferred inflation rate;

$i = L, R$ (hence Left- or Right-wing);

y_s is the deviation in output from the natural rate.

Political Business Cycles

The aggregate supply (Phillips Curve) constraint:

$$y_t = \rho y_{t-1} + \theta(\pi_t - \hat{w}_t) + z_t$$

where

$0 < \rho < 1$ captures persistence;

z_t is a supply shock with expected value zero;

\hat{w}_t is average nominal wage growth at time t .

Political Business Cycles

Outcomes

Medium-run: output gap = 0, higher inflation under the left-wing regime.

Short-run: for given \hat{w}_t and z_t , inflation and output both higher under the left-wing regime.

Political Business Cycles

Source of Political Volatility:

Overlapping wage contracts of N-period duration.
Means that nominal wage growth in any period t depends on expectations of government preferences:

$$\hat{w}_t = (1 - M_t)\pi^R + M_t\pi^L$$

Where M_t depends on the perceived probability the Left will be in power.

Political Business Cycles

Outcome:

$$y_t = b_0 + b_1 y_{t-1} + b_2 \pi_{t+1} + b_3 L_t + b_4 M_t + u_t$$

We expect $b_3 > 0$ and $b_4 < 0$.

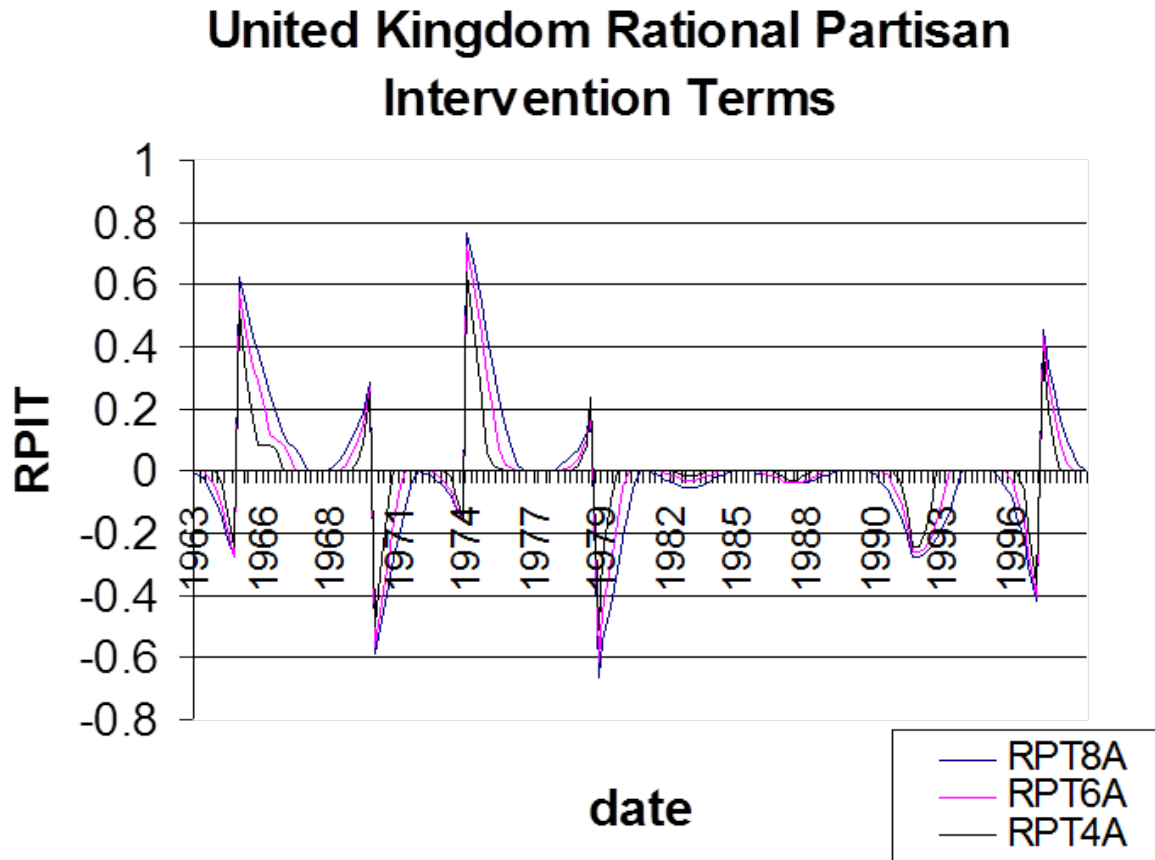
Political Business Cycles

Predictions:

Politically induced uncertainty increases volatility (when L and M differ).

Need to estimate election-win probabilities to construct M . (See MPH on this.) See next slide for L - M in the case of the UK.

Political Business Cycles



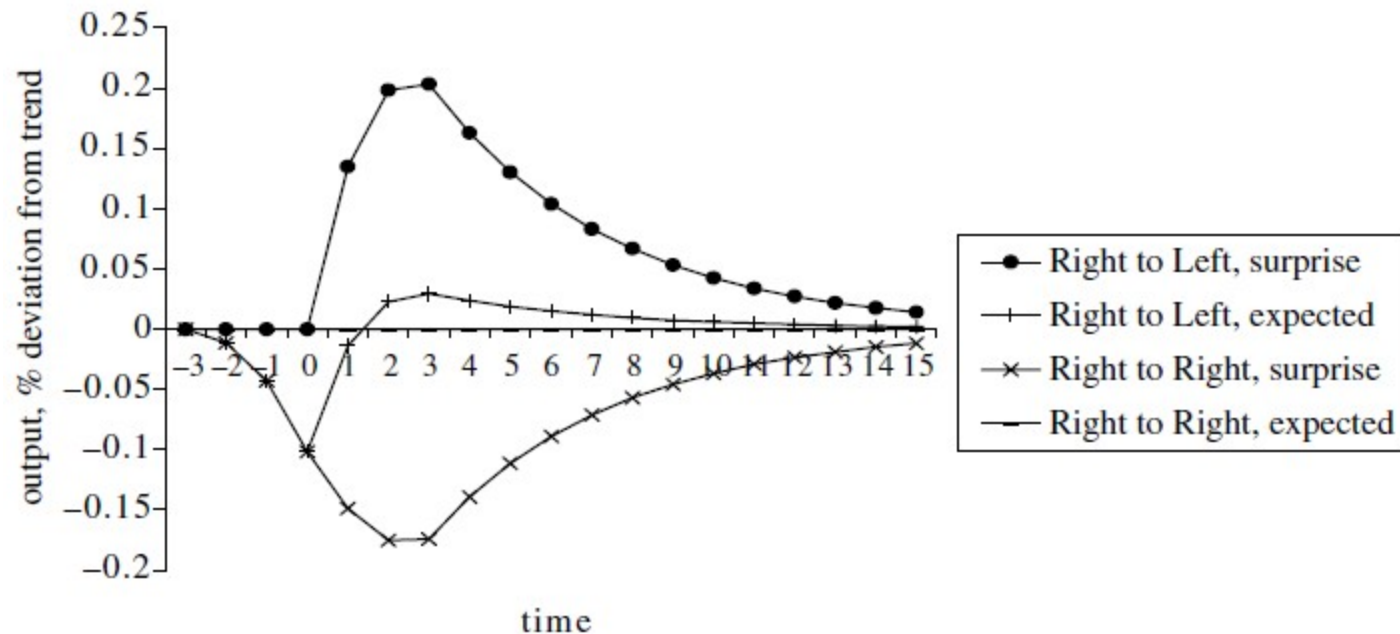
Political Business Cycles

Estimates (using a panel of 20 OECD countries, 1960-1998):

Maximum correction	Likelihood Estimation	after ARCH(1-4)	Estimate (Std Error) {p-value}		
Political Variables	L_t		= 0.0011 (0.0002) {0.000}		
	M_t		= -0.0018 (0.0003) {0.000}		

Political Business Cycles

Average political volatility
implications.



Does Central Bank Independence Reduce the PBC?

- Measures of Central Bank Independence:
 - Cukierman (1992) updated by Kilponen, Mayes and Vilmunen (2000).
 - Objections – Forder (1998)

LVAU – Cukierman's Legal index

PERI – Personnel Independence

POLI – Political Independence

OBJE – Objective Independence

FINI – Financial Independence

KMV – Composite Measure

Does Central Bank Independence Reduce the PBC?

Estimation:

$$y_{it} = b_{0i} + b_1 \pi_{it-1} + \sum_{k=1} b_{2k} y_{it-k} + b_3 L_{it} + b_4 M_{it} + b_5 DO_t + b_6 D90_t + b_7 CBI_{it} + b_8 DF_{it} \\ + b_9 L_{it} CBI_{it} + b_{10} M_{it} CBI_{it} + b_{11} L_{it} DF_{it} + b_{12} E_{it} DF_{it} + u_t$$

Key parameters: b_3 and b_4 (as before), but now also b_9 and b_{10} . These should have the *opposite sign* to b_3 and b_4 respectively.

Does Central Bank Independence Reduce the PBC?

CBI Measure	Regression coefficients (standard errors) [p-values]								Likelihood Function Value
	b_3	b_4	b_7	b_8	b_9	b_{10}	b_{11}	b_{12}	
<i>LVAU</i>	0.46 (0.056) [0.000]	-0.20 (0.048) [0.000]	0.33 (0.065) [0.000]	-0.025 (0.025) [0.324]	-0.97 (0.17) [0.000]	0.19 (0.18) [0.299]	-0.090 (0.074) [0.227]	0.004 (0.09) [0.966]	9895.35
<i>PERI</i>	0.27 (0.083) [0.001]	-0.13 (0.068) [0.05]	0.12 (0.09) [0.163]	-0.052 (0.031) [0.095]	-0.41 (0.16) [0.010]	0.18 (0.17) [0.290]	0.006 (0.09) [0.951]	-0.07 (0.11) [0.541]	9885.15
<i>POLI</i>	0.16 (0.05) [0.002]	-0.15 (0.05) [0.002]	0.26 (0.13) [0.040]	-0.076 (0.026) [0.4]	-1.04 (0.50) [0.039]	1.33 (0.58) [0.022]	-0.007 (0.08) [0.935]	-0.05 (0.10) [0.597]	9887.94
<i>OBJE</i>	0.40 (0.042) [0.000]	-0.24 (0.042) [0.000]	0.20 (0.033) [0.000]	0.02 (0.03) [0.356]	-0.56 (0.097) [0.000]	0.056 (0.11) [0.604]	-0.17 (0.12) [0.181]	-0.002 (0.07) [0.968]	9909.54
<i>FINI</i>	0.24 (0.05) [0.000]	-0.14 (0.054) [0.009]	0.045 (0.036) [0.216]	-0.028 (0.030) [0.361]	-0.41 (0.11) [0.000]	0.26 (0.13) [0.05]	-0.055 (0.084) [0.517]	-0.056 (0.10) [0.576]	9890.93
<i>KMV</i>	0.42 (0.052) [0.000]	-0.16 (0.046) [0.000]	0.30 (0.066) [0.000]	-0.023 (0.025) [0.365]	-0.91 (0.16) [0.000]	0.11 (0.18) [0.514]	-0.12 (0.07) [0.109]	0.004 (0.09) [0.966]	9900.45

Central Bank Independence

RPBCs depend on expectation of election result.

Evidence from the OECD supports the existence of RPBCs.

Central Bank Independence reduces Political Business Cycles – perhaps explaining why Alesina and Summers (1993) find no relationship between CBI and (overall) output volatility.