Policy Outcomes

Marta Kozakiewicz, Thomas Neuber, and Gašper Ploj

Bonn GSE

January 28, 2015

Overview

Topic Overview

Is there evidence of politicians deliberately inducing cycles in economic variables to improve their electoral success?

- ⇒ Akhmedov and Zhuravskaya (2004), "Opportunistic Political Cycles. Test in a Young Democracy Setting"
- ⇒ Brender and Drazen (2005), "Political budget cycles in new versus established democracies"

Is political partisanship as found by Lee, Moretti, and Butler (2004) relevant for economic outcomes?

- ⇒ Pettersson-Lidbom (2008), "Do Parties Matter for Economic Outcomes? A Regression–Discontinuity Approach"
- ⇒ Ferreira and Gyourko (2009), "Do Political Parties Matter? Evidence from U.S. Cities"

Opportunistic Political Cycles

Test in a Young Democracy Setting

Research question

Is there evidence of politicians deliberately inducing cycles in economic variables to improve their electoral success?

- plenty of theoretical work predicting such cycles
- empirical work has provided only weak evidence for developed countries / mature democracies
- how can this discrepancy be explained?

Motivation and Contribution

Why do political cycles matter?

- inefficient allocation of government resources
- could prevent people from consumption smoothing
- deliberate deception of voters
- no level playing field for political competition

What is new in the paper?

- high-frequency data from Russia (08/1995–12/2003)
- disaggregated fiscal information
- institutional controls

Identification

- panel data
- dynamic panel model, i.e. lags are included
  - $\Rightarrow$ potential small-sample bias
  - $\Rightarrow$ 80-month time horizon ensures it is not too large
- identifying variation: election dates
- non-parametric modeling of effect over time (dummies)
- exogeneity assumption: election dates are not set endogenously
- region- and time-fixed effects
- controls for institutions

Key Results

1. fluctuations take place within a short time span
   $\Rightarrow$ high-frequency data!
2. better quality of institutions reduces magnitude
3. cycles help incumbents being reelected

Other predictions:

- Nordhaus (1975):
  growth–inflation trade-off along the Phillips Curve
  $\Rightarrow$ **not confirmed**
- Shift to most visible kinds of expenditure (Rogoff 1990)
  $\Rightarrow$ **confirmed**

Evaluation

+ new and unique data
+ straight-forward identification idea

– rather loose connect between theory and empirics
– data not suited for identification of growth–inflation trade-off
– results do not generalize to other, more mature democracies

Data

- Regional governor elections
  - August 1995 – December 2003
  - 194 electoral events in 86 regions
  - Chechnya and Ingushetia excluded from analysis.
  - Source: Central Elections Committee of the Russian Federation
- Fiscal instruments and outcomes
  - available for 159 elections (09/1996–07/2003)
  - high-frequency data (monthly)
  - disaggregated data: social programs, education, culture, health care, mass media, and industrial subsidies
  - Sources: State Committee for Statistics, Ministry of Finance of the Russian Federation
- Controls:

  urbanization and education, freedom of media in regions, transparency of regional government, scope of regional democracy

Results

Test for Opportunistic Cycles

Policy instruments and outcomes:

- **budgetary expenditures** (total spending as well as shares of expenditures spend on social programs, education, culture, health care, mass media, industrial subsidies)
- **budget revenues and deficit** (total as revenues, tax revenues, deficit and federal transfers)
- **outcomes** (growth, inflation, regional budgetary wage arrears, wage level and income)

Main assumption: To test for political cycles in these variables they treat election time as exogenous.

Test for Opportunistic Cycles

$$y_{it} = \sum_{j \in \{-12,12\}} \alpha_j m_{jit} + \beta(L) y_{it-1} + \gamma_1 Term_{it} + \gamma_2 Left_{it} + \tau_t + f_{is} + \epsilon_{it}$$

- y_{it} a logarithm of instrument or outcome of regional policy
- m_{ijt} cycle dummies
  - equals 1 if t is j months away from elections (negative value of j means before elections and positive - after elections)
  - positive estimates of α_j before and negative after elections indicate opportunistic political cycles
- lag polynomial $\beta(L)y_{it-1}$ accounts for autocorrelation in y

Test for Opportunistic Cycles

$$y_{it} = \sum_{j \in \{-12,12\}} \alpha_j m_{jit} + \beta(L) y_{it-1} + \gamma_1 Term_{it} + \gamma_2 Left_{it} + \tau_t + f_{is} + \epsilon_{it}$$

- $Term_{it}$ controls for incumbent political horizon
  - it equals 0, 1, 2 or 3 depending on the term that the incumbent serves in office
- $Left_{it}$ a dummy that equal 1 if the incumbent is supported by the Communist coalition (controling for partisan cycles)

Test for Opportunistic Cycles

$$y_{it} = \sum_{j \in \{-12,12\}} \alpha_j m_{jit} + \beta(L) y_{it-1} + \gamma_1 Term_{it} + \gamma_2 Left_{it} + \tau_t + f_{is} + \epsilon_{it}$$

- τ_t time fixed effect (one for each month)
  - to control for the federal trend and macroeconomic shocks
- f_{is} fixed effects (for each month $s(t)$ in each region i)
  - to control for region-specific fixed effects and region-specific seasonality

Main results

- Very strong evidence of **political budget cycle**
- No evidence of cycles in economic growth

- The largest shifts in expenditures occur within **one or two months** prior to the election date
- Direct monetary payments to voters: repayment of wage arrears and social expenditures
- Use of quarterly data leads to **severe underestimation** of political cycles

Results

Budgetary expenditures

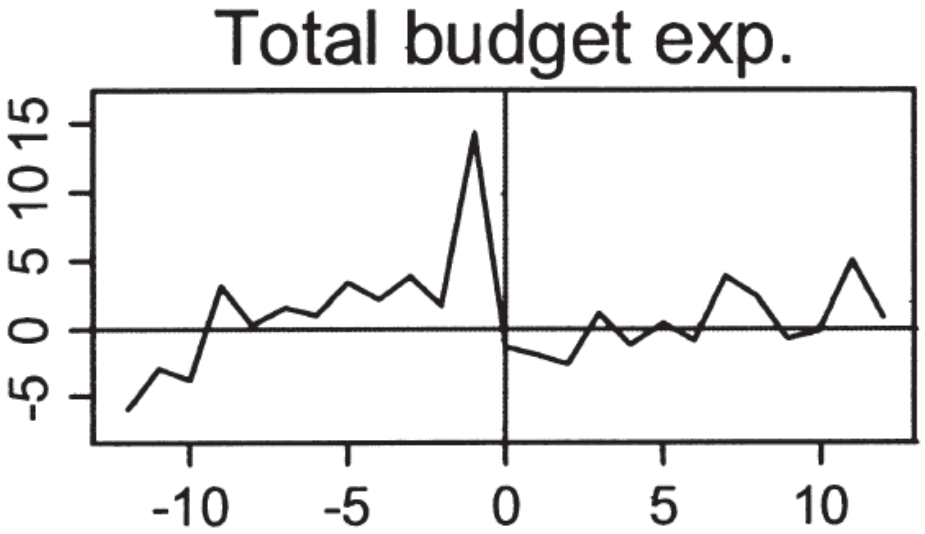
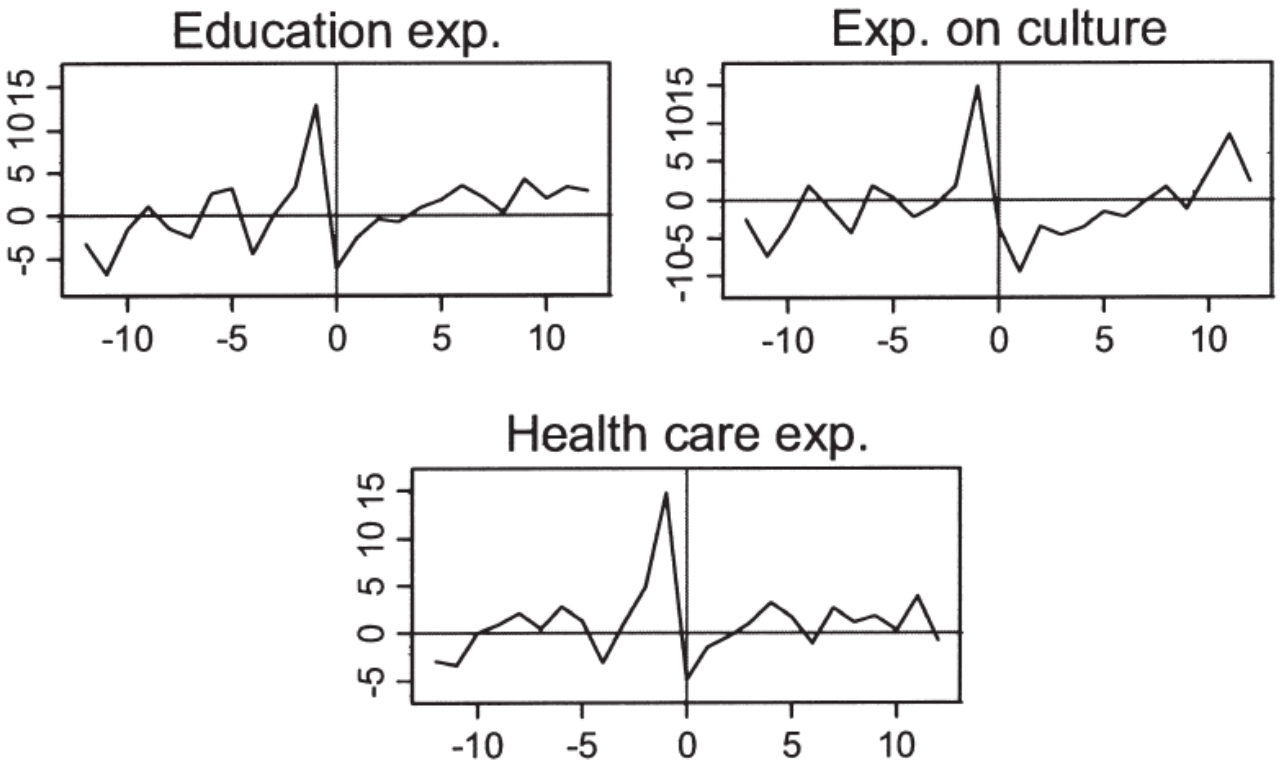


Figure: Estimated political budget cycle. Predicted political budget cycle measured in percentage deviation from trend.

- **Total budget expenditure** – around 13% increase one month before elections; significant fall 17% after election.

Results

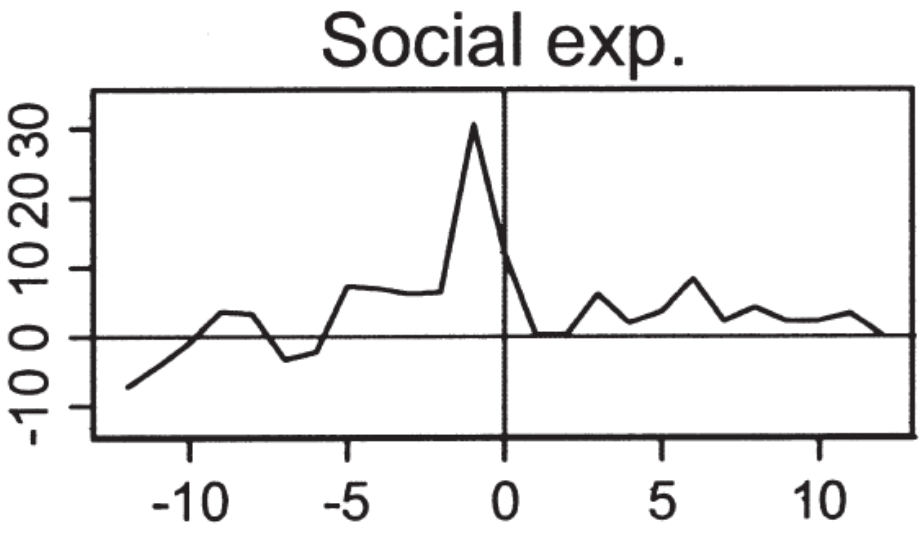
Budgetary expenditures



- **Spending on education, culture, health care** – on average 14% increase during the two months prior to election, followed by 18% fall afterward.

Results

Budgetary expenditures



- **Social expenditures** – increase by 9% five months before elections and then by 24% one month before elections reaching the level of 31% above the trend. After the elections come back to the trend level.

Results

Budgetary expenditures

Cycles in public expenditures are supported by intensive use of mass media

- **Media spending** – increases by 23% during six months preceding elections and then drops by 32%

Significant budget composition effects

- the share of **social expenditures** in total spending rises by 14% during the six months preceding elections
- the share of **media expenditures** rises by 23%

Results

Outcomes - wage arrears, growth, inflation

- **wage arrears** – delays in wage payments, rare in developed economies, widespread and persistent in Russia in private as well as in public sector.
- wage arrears drop by 32% in the three preelection months, the cumulative decline during the nine months before election amounts to 42% – strong cyclical pattern.

- fluctuations in government wage arrears and social spending **drive the dynamics of wages and income**.

  During the four months prior the elections, wages and income rise significantly (by 5% and 1% above the trend)

Results

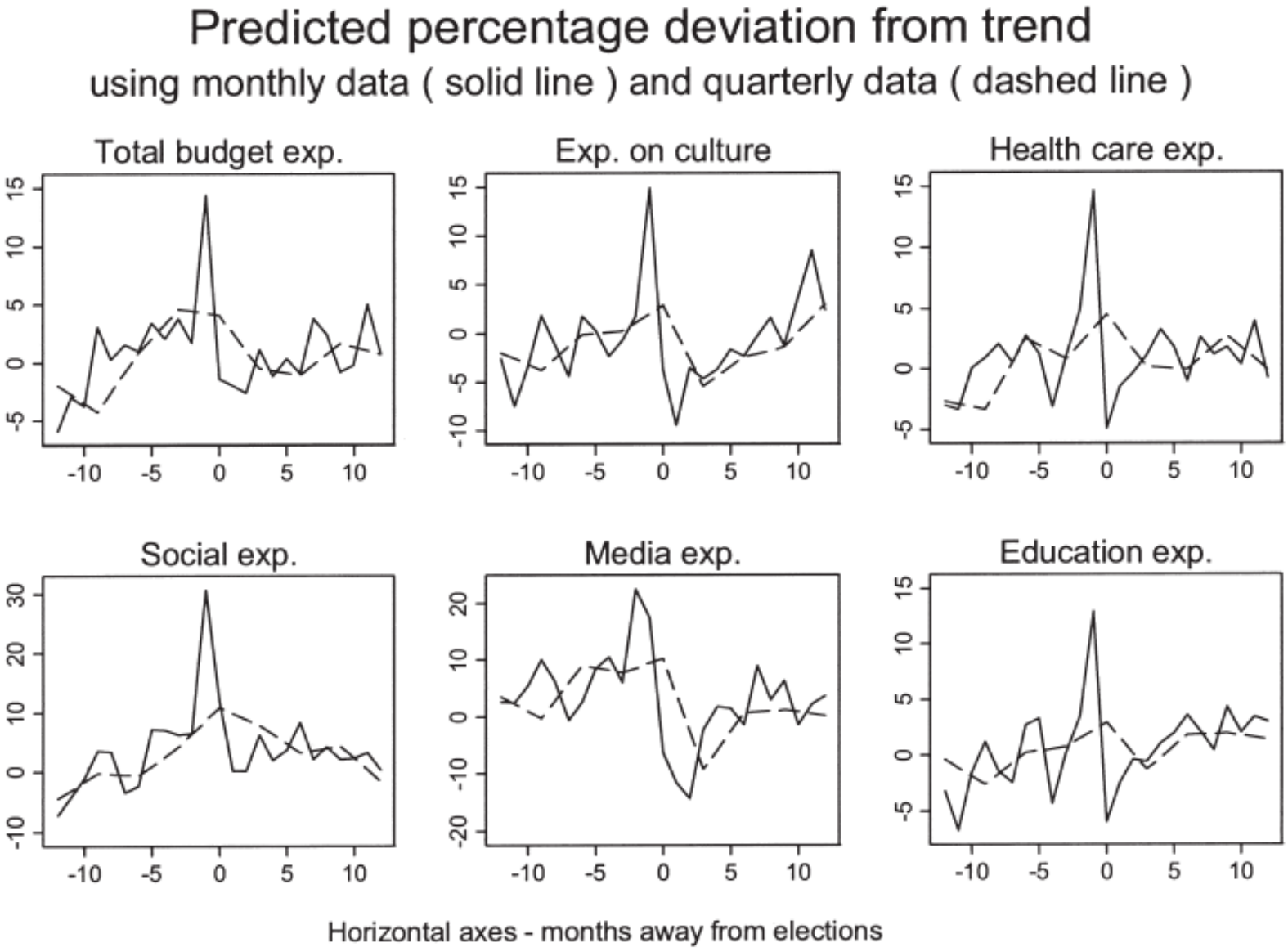
Budget revenues and deficit

Regional growth does not have a cyclical pattern, **inflation** significantly decreases six month prior to elections: politicians do not explore a growth-inflation trade-off.

The preelectional rise in public spending is financed by:

- increase in non-tax and tax revenues
- increase in the deficit
- increase in federal transfers

Monthly vs quarterly data



What are the Determinants of Opportunistic Cycles?

Methodology: extend the regressions with additional regressors - proxies for possible determinants of the cycle (R_j) and their interaction with the cycle dummies m_{jit}:

1. **level of democracy** (regional democracy index)
2. **voter awareness** (logs of regional shares of population with higher education and of urban population)
3. **transparency** (region-level indices of media freedom and government transparency)

Above measures only available as cross section.

What are the Determinants of Opportunistic Cycles?

Estimated (restricted) model:

$$y_{it} = \sum_{j \in \{-3;3\}} \alpha_j m_{jit} + \sum_{j \in \{-3;0\}} \eta_j m_{jit} R_i^D + \sum_{j \in \{-3;3\}} \xi_j m_{jit} Time_t^d$$
$$+ \xi Time_t + q\beta(L) y_{it-1} + \gamma_1 Term_{it} + \gamma_2 Left_{it} + \tau_t + f_{is} + \epsilon_{it}$$

Analysis limited to budgetary expenditures that exhibit cyclical dynamics.

Expected: negative coefficients at $m_{jit} R_i$ and $m_{jit} Time_t$

Determinants of Opportunistic Cycles - Results

All the significant coefficients have a negative sign.

Reductions in the jump of social expenditures associated with one sd increase in:

- education - 7%
- urbanization - 9%
- democracy - 10%
- government transparency - 7%
- media freedom - 8%

Determinants of Opportunistic Cycles - Results

Figure: The determinants of the budget cycle (Table III)

Dependent variable:	Social expenditures	Expenditures on culture	Social expenditures	Expenditures on culture	Social expenditures	Expenditures on culture	Social expenditures	Expenditures on culture	Social expenditures	Expenditures on culture	Social expenditures	Expenditures on culture
R stands for:	Education		Urbanization		Democracy		Transparency		Media freedom		Time	
$R * \text{Month } -3$	0.092	−0.107	0.121	0.051	−0.035	0.003	−0.048	0.004	0.002	0.000	−0.019	0.000
	(0.155)	(0.115)	(0.136)	(0.106)	(0.042)	(0.032)	(0.039)	(0.030)	(0.003)	(0.002)	(0.017)	(0.013)
$R * \text{Month } -2$	−0.263*	−0.154	−0.031	−0.086	−0.002	0.001	−0.020	−0.028	−0.006**	−0.004*	−0.025	−0.031**
	(0.160)	(0.120)	(0.145)	(0.114)	(0.043)	(0.033)	(0.040)	(0.030)	(0.003)	(0.002)	(0.017)	(0.013)
$R * \text{Month } -1$	−0.081	−0.232**	−0.312**	−0.014	−0.076*	−0.034	−0.089**	−0.014	−0.007**	−0.002	−0.063***	−0.032**
	(0.145)	(0.109)	(0.141)	(0.111)	(0.043)	(0.033)	(0.039)	(0.030)	(0.003)	(0.002)	(0.017)	(0.013)
$R * \text{Month } 0$	−0.085	−0.193*	0.060	−0.073	0.008	0.016	0.038	0.015	−0.001	−0.002	−0.003	0.012
	(0.145)	(0.108)	(0.143)	(0.106)	(0.043)	(0.033)	(0.039)	(0.030)	(0.003)	(0.002)	(0.017)	(0.013)

Determinants of Opportunistic Cycles - Robustness

Possible multicollinearity problem: since R_i does not vary across time and for two variables varies only a little across regions, m_{jit} and $m_{jit}R_i$ are correlated

Robustness check: cross-section test

Cycle amplitude: the residual corresponding to the last month before the election from estimation of the following equation:

$$y_{it} = \beta(L)y_{it-1} + \sum_{j \in 1;12} \alpha_j s_{jt} + \gamma t + \epsilon_{it}$$

s_{jt}: dummies for calendar months
t: real time

Additionally, they construct an aggregate measure of the magnitude of the political budget cycle using PCA.

Determinants of Opportunistic Cycles - Robustness

Pooled cross-sectional equation:

- $A_i = \beta_0 + \beta_1 R_i + \beta_2 Time_i + \beta_3 Budget_i + \beta_4 Duration_i + \epsilon_i$
- A_i is a measure of cycle amplitude
- $Budget_i$: regional mean per capita budget (to control for financial slack)
- $Duration_i$: dummy for regions with governor's electoral term longer than 4 years

Determinants of Opportunistic Cycles - Robustness

Results:

- all of the coefficients are negative and in 2/3 significant $\Rightarrow$ results of the panel analysis are confirmed
- as in panel analysis, time negatively affects budget cycles
  - each additional year on average decreases cycle magnitude by about 3 p.p.
  - 2 possible explanations:
    - emergence of civil society and learning by voters as democracy matures
    - increase in central control (Putin vs. Yeltsin)
    - subsample analysis points mostly to the 2nd

Do Cycles Help Winning?

Pooled cross-section of elections:

$$P_i = \gamma_0 + \gamma_1 A_i + \gamma_2 A_i^D Time_i^D + \gamma_3 Time_i + \gamma_4 Left_i + \gamma_5 Urban_i + \gamma_6 Perform_i + \gamma_7 Duration_i + \epsilon_i$$

- P_i: popularity of the incumbent - ratio of votes for the incumbent to the sum of votes for the incumbent and the most popular challenger
- *A*, *Time*, *Left* and *Duration* specified as in the previous cross-section
- *Perform*: incumbent's past performance
- *Urban*: share of urban population
- OLS and probit regression

Do Cycles Help Winning?

Endogeneity problem: preelectoral manifulation (probably) depends on the popularity of the politician

- little incentive if he/she is extremely unpopular or popular
- big incentive to manipulate if he/she is tied for the 1st spot
- OLS underestimates when incumbents are confident of winning
- OLS overestimates when incumbents are sure of losing
- no good instrument
- subsample analysis for election in which incumbent was at least as popular at the main opponent

Results: Cycles in social, health care, education and cultural spending generate significant political benefits for incumbent governors while preelectoral expansion of total spending has no effect.

Conclusion

- Clear evidence for presence of opportunistic political cycles in Russia
- Most of the effect is concentrated in 1-2 months before election
- Direct payments to voters matter a lot (wage arrears, social expenditure)
- Use of lower-frequency data leads to underestimation
- Political cycle attenuated by higher democracy, voter awareness and transparency
- Cycles in some variables seem to help incumbent governors to be reelected (no attempt at causality)

Evaluation

"Simple" and very readable paper:

- unique high-frequency data enables new insights into political budget cycles
- plausible identification based on exogenous election dates
- results go against most of the existing literature

However:

- rather theory free (not necessarily a bad thing)
- analysis of the effect of political cycles on reelection probabilities has room for improvements
- 90s in Russia a really turbulent period, so questionable external validity

Other papers

Political budget cycles in new vs established democracies

Adi Brender, Allan Drazen

Research question

Do politicians engage in pre-electional fiscal manipulations? What drives political budget cycles?

- new evidence on the existence of **political budget cycles** in a large cross-section of countries
- the results indicate the political cycle is a phenomenon of "new democracies"
- once those countries are removed from the sample the political budget cycle disappears

Motivation and Contribution

Contradictory evidence on the existence of the political budget cycles:

- Shi and Svensson (2002) effect of political budget cycles far stronger in less developed countries
- Persson and Tabellini (2003) evidence on strong political budget cycle in developed economies as well

Contradictory views of preelectoral manipulation:

- politicians are expected to engage in fiscal expansion in election years
- voters in developed countries are "fiscal conservatives" who punish fiscal manipulation

Data

- the fiscal data from 106 countries on **government balance**, **total expenditure** and **total revenue** from the IFS database
- sample period: 1960-2001 (shorter for many countries)
- only democracies (distinguished using special filter): measuring fiscal manipulation of incumbent valid only in countries where elections are competitive.
- important feature of the data: the number of countries in the sample increasing over time ("new" democracies are being added to the sample over time)
- 31 democracies in the sample in the 1960s, 44 in the 1970s, 53 in the 1980s, 59 countries in the 1990s (68 including formerly socialist economies), twice as much as in the 1960s.

Estimation

The basic regression:

$$f_{i,t} = \sum_k b_k f_{i,t-k} + \sum c' x_{i,t} + dELEC_t + \mu_i + \epsilon_{i,t} \qquad (1)$$

- $f_{i,t}$ a fiscal indicator in country i in year t
- $x_{i,t}$ a vector of control variables including: GDP per capita, the trade share, demographic variables.
- $ELEC_t$ an electoral dummy
- μ_i a country fixed effect

- **potential bias**: the initial condition $f_{i,0}$ correlated with μ_i, so that the lagged dependent variable is correlated with the error term...

Results

Table 1
The political budget cycle across countries, fixed effects estimates, 1960–2001

	All democracies			All "new democracies"			"Old democracies"		
	(1)			(2)			(4)		
Dependent variable[b]	Balance	Texp	Trg	Balance	Texp	Trg	Balance	Texp	Trg
Elect[c]	−0.352***	0.085	−0.251	−0.868***	0.747**	−0.153	−0.109	−0.131	−0.223*
	(0.123)	(0.193)	(0.171)	(0.273)	(0.292)	(0.236)	(0.135)	(0.146)	(0.118)

- significant political cycle in the **government balance**

"new" vs "old" democracies:

- no trace of political cycles in "old democracies"

Results

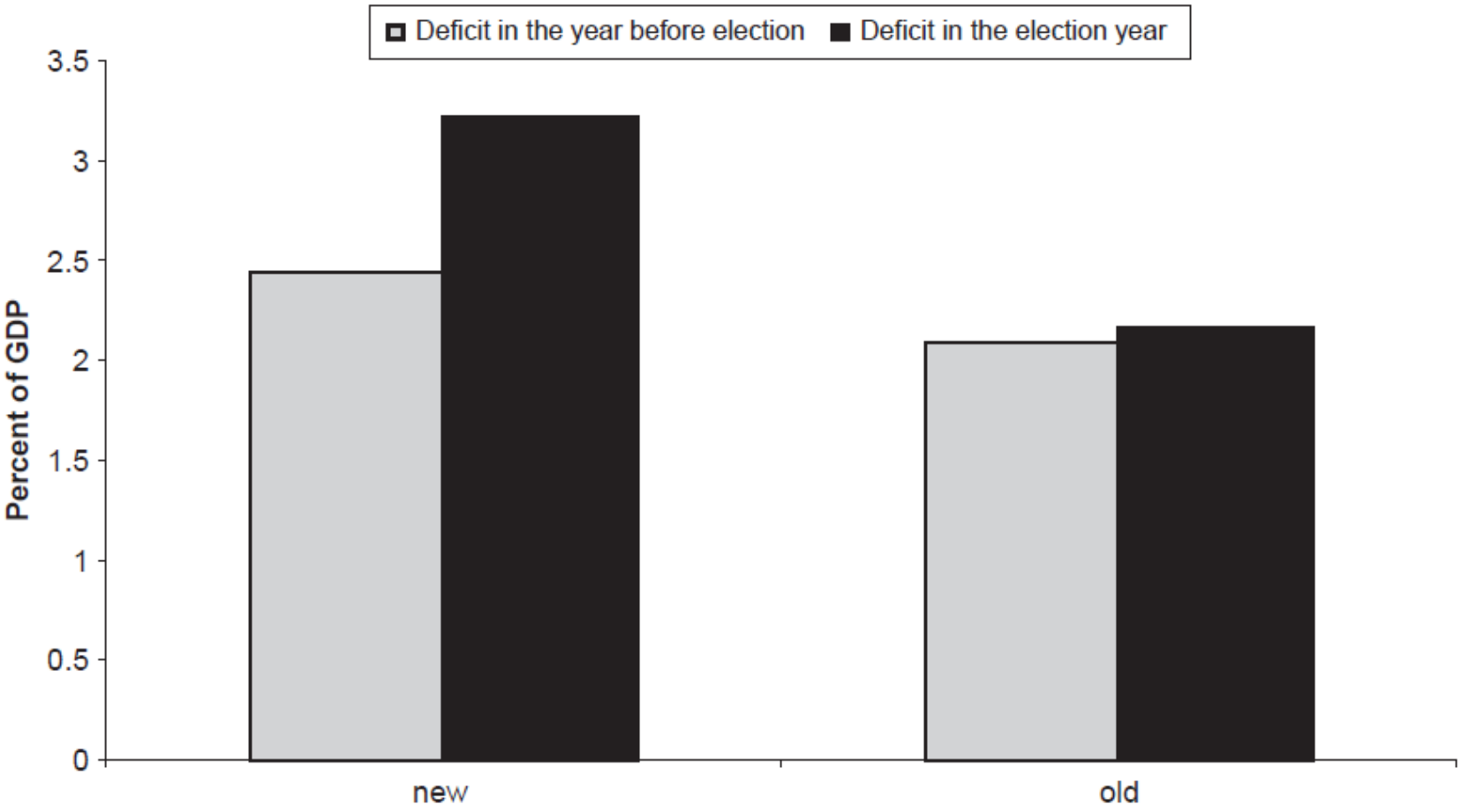


Fig. 1. Average budget deficits in the election year and in the previous year.

Further Results

- Developed vs less developed countries?
  - Significant political budget cycle in the sample of less developed countries, entirely driven by the experience of "new" (less developed) democracies
- Presidential vs parliamentary systems?
  Proportional vs majoritarian voting rules?
  - The electoral rule matters, but only in the "new democracies"
- Level of democracy?
  - Rejecting hypothesis that the effect is driven by the low level of democracy in "new democracies" instead of the fact that they are "new"

Do Parties Mater for Economic Outcomes? A Regression-Discontinuity Approach (Pettersson-Lidbom)

Research question

What is the causal effect of party control on fiscal and economic policies?

Approach: regression-discontinuity design (using control function) based on the 50% threshold to control

Data: data set from Swedish local governments

- large panel (288 municipalities over 21 years)
- local governments are very homogeneous $\rightarrow$ comparable outcomes
- clear division of political parties on left and right (quasi bipartisan system)

Results

Figure: Party effect: Fiscal policies

	1	2	3	4	5	6	7
Log (Total spending per capita)	0.024**	0.027***	0.023**	0.021**	0.024*	0.020**	0.022**
	(0.009)	(0.009)	(0.010)	(0.010)	(0.013)	(0.0009)	(0.010)
Log (Total spending as a share of income)	0.021**	0.025**	0.024**	0.025**	0.034*	0.021**	0.024***
	(0.010)	(0.010)	(0.010)	(0.011)	(0.018)	(0.009)	(0.009)
Log (Current spending per capita)	0.024**	0.027***	0.027**	0.026**	0.019	0.025**	0.027**
	(0.010)	(0.010)	(0.011)	(0.011)	(0.013)	(0.010)	(0.011)
Log (Current spending as a share of income)	0.022*	0.025**	0.028**	0.030***	0.029	0.026***	0.029***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.018)	(0.009)	(0.010)
Log (Total revenues per capita)	0.024***	0.027***	0.019**	0.017*	0.015	0.017*	0.014
	(0.009)	(0.009)	(0.009)	(0.009)	(0.013)	(0.009)	(0.010)
Log (Total revenues as a share of income)	0.021**	0.025**	0.020**	0.021**	0.025	0.018**	0.017*
	(0.010)	(0.010)	(0.010)	(0.010)	(0.018)	(0.009)	(0.009)
Log (Proportional income tax rate)	0.012***	0.013***	0.012***	0.013***	0.011	0.013***	0.014***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.008)	(0.004)	(0.004)
Sample	Full	Full	Full	Full	± 2	Full	Full
Left vote share polynomial	First	Second	Third	Fourth	None	Fourth	Fourth $\times$ time
Controls	No	No	No	No	No	Yes	Yes

Note: Standard errors clustered at the local government's term in office level are within parentheses. Each entry is a separate regression. All regressions also include, but do not report, municipality specific effects, time effects, and an indicator for undefined majority governments. The full sample includes 5,913 observations and the ± 2 sample include all observations that are in the range of $[48, 52]$ of the left vote share and there are 828 such observations.

*Significant at 10%; **significant at 5%; ***significant at 1%.

Results

Figure: Party effect: Economic policies

	1	2	3	4	5	6	7
Log (Unemployment rate)	−0.017	−0.032	−0.056*	−0.056*	−0.121	−0.048	−0.070**
	(0.033)	(0.031)	(0.032)	(0.032)	(0.089)	(0.031)	(0.033)
Log (Government employees per capita)	0.030**	0.033***	0.035***	0.036***	0.039***	0.032***	0.036***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.016)	(0.011)	(0.012)
Sample	Full	Full	Full	Full	±2	Full	Full
Left vote share polynomial	First	Second	Third	Fourth	None	Fourth	Fourth × time
Controls	No	No	No	No	No	Yes	Yes

Note: Standard errors clustered at the local government's term in office level are within parentheses. Each entry is a separate regression. All regressions also include, but do not report, municipality specific effects, time effects, and an indicator for undefined majority governments. The full sample includes 5,913 observations for government employment and 4520 for unemployment. The ±2 sample include all observations that are in the range of [48, 52] of the left vote share and there are 828 such observations for government employment and 603 for unemployment.

*Significant at 10%; **significant at 5%; ***significant at 1%.

Specification tests & conclusions

The size of the party effect is quite large: left-wing governments spend 2-3 % more and employ 4 % more workers than right-wing governments.

Evaluation:

- + clear identification
- + results are robust and there is no evidence of sorting at the threshold
- − validity of the bipartisan division is questionable

Ferreira and Gyourko (2009)

Research question

"Are cities as politically polarized as states and countries?" (Ferreira and Gyourko 2009, p. 399)

- Lee, Moretti, and Butler (2004) have shown partisanship on the level of U.S. congressional districts.
  - $\Rightarrow$ Voters do not *affect* but merely *elect* policies.
- Ferreira and Gyourko (2009) cannot find support for parties influencing economic outcome variables at the city level.
  - $\Rightarrow$ In the words of Lee, Moretti, and Butler (2004): Voters might rather *affect* policies.

Setup

Data

- Survey data on mayoral elections (1950–2000)
  - Surveyed all cities and townships with more than 25,000 inhabitants with an elected mayor (877 out of 34,574).
  - Final sample contains 413 cities.
  - Key properties of sample match those of universe.
- Local Public Finance Data (1950–2005) from Census Bureau
- Crime Data (1960–2004) from FBI and Department of Justice

Setup

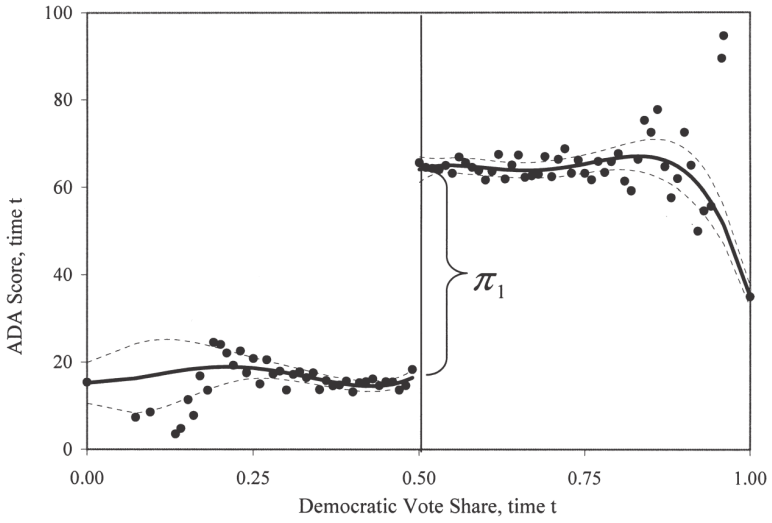
Data

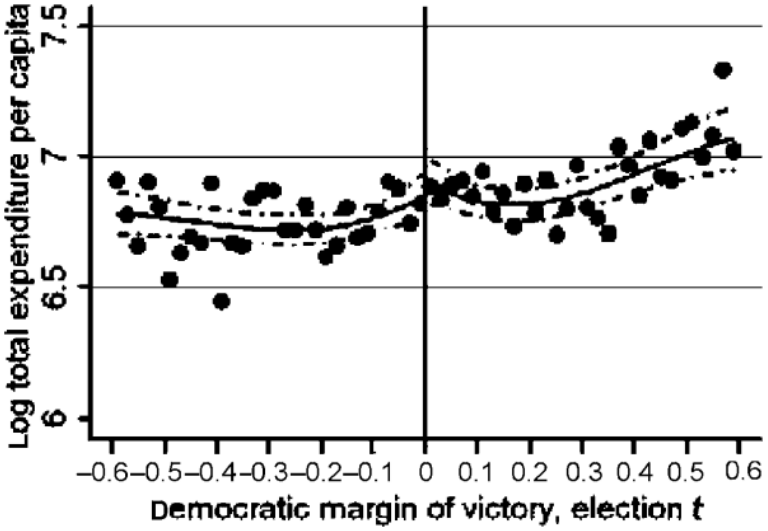
- Survey data on mayoral elections (1950–2000)
  - Surveyed all cities and townships with more than 25,000 inhabitants with an elected mayor (877 out of 34,574).
  - Final sample contains 413 cities.
  - Key properties of sample match those of universe.
- Local Public Finance Data (1950–2005) from Census Bureau
- Crime Data (1960–2004) from FBI and Department of Justice

Methodology

- RDD (sharp)
- estimate *incumbent* effect and *elect* effect as in Lee, Moretti, and Butler (2004) but not the *total* effect

The *Elect* Effect





Lee, Moretti, and Butler (2004, p. 830); Ferreira and Gyourko (2009, p. 413)

Interpretation

Potential moderating effects:

1. Tiebout sorting: Cities are more homogeneous than congressional districts.
2. Tiebout competition: Limited scope for local redistribution due to "competing" cities.
3. Limited media diversity: cannot target specific voter groups

⇒ Estimation: Interact dummy and all polynomial coefficients with proxies (coded as dummies) of the above characteristics.

⇒ Result: Partisanship is dampened by *Tiebout competition*.

Evaluation

+ credible results	− less sophisticated identification
+ some economics	

Topic Summary

Is there evidence of politicians deliberately inducing cycles in economic variables to improve their electoral success?

⇒ Yes, political cycles are rather short-lived and decline over time (Akhmedov and Zhuravskaya 2004). The latter is mainly not an effect of maturing institutions but rather of adjustment time itself (Brender and Drazen 2005).

Is political partisanship as found by Lee, Moretti, and Butler (2004) relevant for economic outcomes?

⇒ Pettersson-Lidbom (2008): Yes

⇒ Ferreira and Gyourko (2009): No

References I

- Akhmedov, A., and E. Zhuravskaya. 2004. "Opportunistic Political Cycles. Test in a Young Democracy Setting." *The Quarterly Journal of Economics* 119 (4): 1301–1338.
- Brender, Adi, and Allan Drazen. 2005. "Political budget cycles in new versus established democracies." *Journal of Monetary Economics* 52 (7): 1271–1295.
- Ferreira, Fernando, and Joseph Gyourko. 2009. "Do Political Parties Matter? Evidence from U.S. Cities." *Quarterly Journal of Economics* 124 (1): 399–422.
- Lee, D. S., E. Moretti, and M. J. Butler. 2004. "Do Voters Affect or Elect Policies? Evidence from the U. S. House." *The Quarterly Journal of Economics* 119 (3): 807–859.
- Nordhaus, William D. 1975. "The Political Business Cycle." *Review of Economic Studies* 42 (2): 169–190.

References II

Pettersson-Lidbom, Per. 2008. "Do Parties Matter for Economic Outcomes? A Regression–Discontinuity Approach." *Journal of the European Economic Association* 6 (5): 1037–1056.

Rogoff, Kenneth. 1990. "Equilibrium Political Budget Cycles." *American Economic Review* 80 (1): 21–36.