Supplemental materials for, "Seeing the forest through the trees: A meta-analysis of political budget cycles"

August 27, 2016

Contents

1	Studies included in meta-analysis	2
2	Details on research design	2
3	Addressing potential publication bias	6
4	Excluded studies	10
5	Probing the robustness of the effects	13
6	Meta-regression analysis and Bayesian model averaging	20
7	Coding decisions	20

1 Studies included in meta-analysis

Table 1 shows the studies included in the main meta-analysis.

Table 1: Included studies

Schady (2000); Schuknecht (2000); Wibbels (2000); Harrinvirta and Mattila (2001); Kneebone and McKenzie (2001); Neck and Getzner (2001); John and Ward (2001); Goff and Tollison (2002); Rodden and Wibbels (2002); Svorny and Marcal (2002); Galli and Rossi (2002); Block (2002); Gordin (2002); Gonzalez (2002); Akhmedov and Zhuravskaya (2004); Baleiras and Costa (2004); Binet and Pentecôte (2004); Khemani (2004); Lambrinidis et al. (2005); Brender and Drazen (2005); Kwon (2005); Chaudhuri and Dasgupta (2005); Ames et al. (2005); Alt and Lassen (2006); Chaudhuri and Dasgupta (2006); Haber and Neck (2006); Mink and de Haan (2006); Rose (2006); Shi and Svensson (2006); Geys (2007); Remmer (2007); Tujula and Wolswijk (2007); Pepinsky (2007); Veiga and Pinho (2007); Veiga and Veiga (2007); Chang (2008); Klašnja (2008); Bercoff and Meloni (2009); Chang et al. (2009); Streb et al. (2009); Vergne (2009); Sáez and Sinha (2010); Drazen and Eslava (2010); Hagen (2010); Hyde and O'Mahony (2010); Krishnakumar et al. (2010); Peters (2010); Potrafke (2010); Barberia and Avelino (2011); Efthyvoulou (2011); Dahlberg and Mörk (2011); García-Sánchez et al. (2011); Jochimsen and Nuscheler (2011); O'Mahony (2011); Park (2011); Sakurai and Menezes-Filho (2011); Sedmihradská et al. (2011); Bartolini and Santolini (2012); Benito et al. (2012); Efthyvoulou (2012); Hanusch (2012); Katsimi and Sarantides (2012); Padovano (2012) Streb et al. (2012); Veiga (2012); Benito et al. (2013); Bonfiglioli and Gancia (2013); Enkelmann and Leibrecht (2013); Dash and Raja (2013); Guillamón et al. (2013); Klomp and De Haan (2013c,b,a); Sjahrir et al. (2013); Wehner (2013); Aidt and Mooney (2014); Amable and Azizi (2014); García-Sánchez et al. (2014); Mačkić (2014); Nyblade and O'Mahony (2014); Padovano (2014); Petrarca (2014); Shelton (2014); Tepe and Vanhuysse (2014); Bee and Moulton (2015); Getzner (2015); Houlberg and Pedersen (2015); Neck et al (2015); Ribeiro and Jorge (2015)

2 Details on research design

As discussed in the main paper, a specific set of criteria had to be met for a study to be included in the meta analysis. This can be grouped into four general stages, as shown in Figure 1. In the identification step, searches for "political budget cycle" and "political business cycle" were performed using both Google Scholar and Web of Science. A total of 1120 were identified for political budget cycles, and 4740 for political business cycles. Next, study titles and abstracts were screened. This excluded the vast majority of search results, since a substantial portion of Google Scholar results are often citations to unpublished papers, or conference papers that became articles, were not in English, or overlapped with the other search term.



Figure 1: Decision tree for inclusion

Of the 232 studies that remained, a full-text screening for eligibility was performed. This involved reading the text and ensuring that the article: 1.) contained an empirical test, 2.) used a fiscal measure as the dependent variable, 3.) included some form of election variable 4.) did not exclusively report an interaction between elections and some other variable. The studies that did not meet these criteria are in the "Excluded Studies" section below.

One interesting question is how the inability to get *all* available studies might affect the results.¹ We might expect that if working papers were to be included, the effect size might be smaller (towards zero). This is because of the tendency for journals to publish significant findings. In line with other meta-analyses, (Doucouliagos and Ulubasoğlu 2008), I did not include working papers. There were several reasons for this. First, working papers have not yet gone through the peer review process, so we might expect these studies to be of lower quality. Second, with nearly 1200 estimates of the political budget cycle effect, the dataset I constructed was large by meta-analytic standards (Stanley and Doucouliagos 2012); this reflects the substantial size of the literature, both in number of articles and length of time studies have been published. Were the literature on political budget cycles less developed, considering working papers might be a good strategy. Last, unless the overlooked studies were non-randomly distributed along the funnel plot (which plots the calculated partial correlation against precision), they should not exert much influence on the average effect. Again, while we might expect working papers to be centered around zero effect, it is hard to see how other overlooked studies-for instance, if a public finance article simply controlled for elections—would be anything except random. In fact, Stanley et al (2010) show that keeping only the top 10% most precise estimates often leads to better estimates of the true effect size. As shown in Table 2, the trimmed estimated effect size is fairly close to the full-sample estimate. The average effect is slightly larger for expenditures and debt and smaller for revenues and fiscal balance. Thus, the effect sizes seen in the main paper appears to be robust; it would take a very precise overlooked study to change the results in a significant way.

In the main paper I opened discussion of the results from the effect size calculation through the use of a funnel plot. Another way to visualize the effect size, and to test if the empirical findings remain constant over time, is to regress the publication year on the partial correlations. This is weighted by the precision of the estimate. This is shown in Figure 2. More precise estimates are

¹I thank an anonymous reviewer for posing this question.

Fiscal Variable	Full Sample (Obs.)	Top 10% Precise (Obs.)	
Expenditures	0.046 (699)	0.060 (70)	
Revenues	-0.047 (243)	-0.019 (25)	
Fiscal Balance	-0.107 (234)	-0.073 (24)	
Debt	0.011 (22)	0.082 (3)	

Table 2: Does trimming the bottom 90% change the effect size?

Notes: Table shows unweighted means of calculated partial correlations, with number of observations in parentheses.

indicated by larger circles. A number of interesting characteristics of the results can be gleaned from Figure 2. The first is that extreme estimates of the effect size tend to lack precision. In addition, the variation in effect size appears to increase for more recent publications. As mentioned earlier, the average effect size is relatively small. Moreover, it does not appear to change much over time, although all effects look like they are converging on zero.



Note: Larger circles indicate increased model precision. Regression lines weighted by precision.

Figure 2: Effect size over publication year

3 Addressing potential publication bias

In the main paper, the results of the meta-regression analysis suggested that publication bias may exist. To test whether the quality of a journal affects the precision of the estimates, I ran the following regression:

$$Precision_{ij} = \beta_0 + \beta_1 Impact \ Factor_{ij} + \varepsilon_{ij} \tag{1}$$

testing the hypothesis that journal quality for study *i*, model *j* (as proxied by the impact factor) is not related to the precision of the partial correlation (one over the standard error), $H_0: \beta_1 = 0$. As shown by Table 3, the journal impact factor is positive and statistically significant for expenditures and revenues, but not for fiscal surplus or debt. This suggests that higher quality journals publish studies of expenditures and revenues with higher levels of precision. To put these effects in perspective, consider that moving from an unranked journal (with an impact factor of zero) to the Quarterly Journal of Economics, the highest-ranked journal in the sample, would result in the standard error of the effect size decreasing from about 0.049 to 0.017 (when using expenditures). Given that the average partial correlation was near-zero, this means moving from an effect that is not statistically significant to one that is. In contrast, neither fiscal surplus or debt appear to suffer from publication bias according to Table 3, since the impact factor is not statistically significant.

Next, I follow the suggestion of Stanley and Doucouliagos (2012) to test for publication bias using the following regression:

$$t_{ij} = \beta_0 \frac{1}{SE_{ij}} + \beta_1 + v_{ij}$$
(2)

where the t-statistic of the partial correlation for model *i* and study *j* is regressed on the coefficient on the standard error of the effect size divided by itself, β_1 , a constant term, β_0 , and an error term,

	Expenditures	Revenues	Fiscal Surplus	Debt
	Coef.	Coef.	Coef.	Coef.
Variable	(Std. Error)	(Std. Error)	(Std. Error)	(Std. Error)
Journal Impact Factor (β_1)	6.701***	3.167**	-1.490	-9.002
	(0.939)	(1.578)	(1.257)	(7.769)
Constant (β_0)	20.595***	21.330***	25.425***	41.493***
	(1.388)	(2.095)	(1.459)	(6.317)
Observations	699	243	234	22
R^2	0.07	0.02	0.01	0.06

Table 3: Publication bias: Journal quality on precision

Notes: Dependent variable is precision. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

 $v_{ij} = \frac{\varepsilon_{ij}}{SE}$. These results are shown in Table 4. Also known as the funnel asymmetry test (FAT), it is used to examine asymmetries in the t-statistic across the precision of the estimates. Such asymmetry is indicative of publication bias. As shown in the table, the coefficient on the standard error, β_1 , is negative and statistically significant for expenditures and debt. Both revenues and fiscal surplus have positive standard error estimates, although this effect is statistically significant for only fiscal surplus. This indicates that expenditures, fiscal surplus, and debt appear to have effect sizes that may be distorted by publication bias.

Table 4: Publication bias: FAT-PET

	Expenditures	Revenues	Fiscal Surplus	Debt
	Coef.	Coef.	Coef.	Coef.
Variable	(Std. Error)	(Std. Error)	(Std. Error)	(Std. Error)
Standard Error _{<i>ij</i>} (β_1)	-60.455***	0.624	20.246***	-121.969***
	(7.579)	(5.910)	(4.269)	(31.055)
Constant (β_0)	4.261***	-1.007***	-3.246***	5.873***
	(0.318)	(0.262)	(0.202)	(1.005)
Observations	699	243	234	22
R^2	0.08	0.00	0.09	0.44

Notes: Dependent variable is the t-statistic of the model-study partial correlation. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

In Table 4 we can also test for the significance of of the constant, which is known as the precision effect test (PET). Rejection of the null hypothesis that $\beta_0 = 0$ indicates that despite publication bias, there exists a true underlying effect. Or, in other words, when publication bias equals zero, there is still an effect statistically significantly different from zero. The null hypothesis can be rejected for all four dependent variable categories, in the expected theoretical directions; despite publication bias, there appears to be a genuine increase in expenditures and debt during elections, and a decrease in revenues and fiscal surplus.

Since publication bias and an underlying effect appear to exist, as well as an underlying effect, I present the precision-effect estimate with standard error (PEESE) test in Table 5. It provides a better estimate of the underlying effect in the presence of publication bias (Stanley and Doucouliagos 2012). Weighting by the standard error as with the FAT-PET test, but replacing the standard error on β_1 with the variance yields:

$$t_{ij} = \beta_0 \frac{1}{SE_{ij}} + \beta_1 SE_{ij} + \nu_{ij} \tag{3}$$

A significant β_0 provides evidence that there is an underlying effect of political budget cycles. As evidenced by the constant, β_0 remains positive and significant for expenditures and debt, and negative and significant for revenues and fiscal surplus. This suggests that the underlying effect seen in the literature remains robust to publication bias. Moreover, this effect remains in the expected theoretical direction and is statistically significant across all models.

	Expenditures	Revenues	Fiscal Surplus	Debt
	Coef.	Coef.	Coef.	Coef.
Variable	(Std. Error)	(Std. Error)	(Std. Error)	(Std. Error)
Variance _{<i>ij</i>} (β_1)	-357.239***	14.967	106.617***	-1029.085**
-	(72.906)	(63.683)	(33.163)	(416.913)
Constant (β_0)	2.775***	-1.011***	-2.647***	3.627***
	(0.220)	(0.166)	(0.125)	(0.769)
Observations	699	243	234	22
<i>R</i> ²	0.03	0.00	0.04	0.23

Table 5: Publication bias: PEESE

Notes: Dependent variable is the t-statistic of the model-study partial correlation. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

4 Excluded studies

Table 6 documents the studies that failed to make it past the eligibility stage, along with the reason for exclusion.

Formal model

Tuinstra (2000); Baleiras and Santos (2000); Ghate and Zak (2002); Gavious and Mizrahi (2002); Economides et al. (2003); Dhami (2003); Streb (2005); Kayser (2005); Sieg (2006); Aidt and Dutta (2007); Beniers and Dur (2007); Candel-Sánchez (2007); Saporiti and Streb (2008); Biswas and Marjit (2008); Martinez (2009); Bonomo and Terra (2010); Garrí (2010); Yoshino and Mizoguchi (2010); Gersbach (2004); Hanusch (2012); Streb and Torrens (2013); Ales et al. (2014); Ferré and Manzano (2014); Hanusch and Magleby (2014); Findley (2015)

Qualitative

Franzese (2002); Shi and Svensson (2003); Eslava (2011); Lupu and Riedl (2013); Percic and Apostoaie (2014); Halász (2014)

No fiscal variable

Kiefer (2000); DeRouen and Heo (2000, 2001) [no. of defense contracts]; Toma and Cebula (2001); Patterson and Beason (2001) [announcement of stimulus package]; Heckelman (2001); Heckelman (2002); Erlandsson (2004); Krause (2005); Heckelman and Wood (2005); Andrikopoulos et al. (2006); Berlemann and Markwardt (2006); Heckelman (2006); Sadeh (2006); Özatay (2007); Miliauskas and Grebliauskas (2008); Tepe and Vanhuysse (2009) [no. new teachers]; Milani (2010); Ferris and Voia (2011); Helland (2011); Potrafke (2012); Canes-Wrone and Park (2012); Ahlquist (2010) [social pacts]; Coelho et al. (2006) [local employment]; Rose and Smith (2012) [revenue forecast bias]; Brogan (2012) [forecast errors]; Brender and Drazen (2013) [change of leader's post-election effect on spending]; Geys (2013) [employment]; Mechtel and Potrafke (2013) [growth in job-creation scheme enrollment]; Anessi-Pessina and Sicilia (2015) [revenue misrepresentation] Baskaran, Min, and Uppal (2015) [electricity provision]; (Benito et al 2015) [deviation from expected]; Chiripanhura and Niño-Zarazúa (2015) [GDP growth]; Katsimi and Sarantides (2015) [probability of re-election]; Konstantakis et al (2015) [GDP cycle]

No election variable

Ergun (2000) [1 and 2 periods before election]; Esaw and Garratt (2000); Padovano and Venturi (2001) [election variable is last term]; Reddick (2002) [1 and 2 periods before election]; Remmer (2002); Matschke (2003) [countdown variable for election]; Easaw and Garratt (2006); Cerda and Vergara (2008); Guo (2009); Benito and Bastida (2009); Balassone et al. (2010); Bogdan et al. (2010) [election variable is for term continuation]; Luo et al. (2010); Klein (2010) [diff. in diff.]; Tepe and Vanhuysse (2010) [no election variable, hazard model]; Albuquerque (2011) [election variable is decadal election count]; Alt and Lassen (2006); Tellier (2006) [election variable is time elapsed since last election]; Fujii (2008); Brender and Drazen (2008) [examine re-election prospects]; Schneider (2010) [only pre-election]; Javid et al. (2011); Bröthaler and Getzner (2011); Aidt et al. (2011) [dependent variable is election year distortion from trend]; Tutar and Tansel (2012) [dummy equals -1, 0, 1, in year before, year of, year after election, respectively]; Shahor (2013) [dummies for each election]; Benito et al. (2013) [no election period variable]; Bertelli and John (2013); Fiva and Natvik (2013); Veiga and Veiga (2013) [election dummies included but not shown]; Franklin et al. (2013); Cassette and Farvaque (2014); Kim and Kwon (2014); García-Sánchez et al. (2014) [election variable is integer count-down to next election]; Bodea and Higashijima (2015) [election variable is presidential or parliamentary dummy]; Cabaleiro-Casal and Buch-Gómez (2015)

Only conditional effects (i.e., interactions)

Clark and Hallerberg (2000); An and Kang (2000); Hallerberg et al. (2002); Block et al. (2003); Blomberg and Hess (2003); Buti and Noord (2004); Golinelli and Momigliano (2006); Rose (2008); Hiroi (2009); Mourão (2011); Gan et al. (2012); Vicente et al. (2013a, 2013b); Hanusch and Vaaler (2013); Bastida et al (2013); Klomp and de Haan (2013); Rumi (2014); Tsai (2014); Hanusch and Keefer (2014); Bojar (2015); Haga (2015); Klein and Sakurai (2015)

Other

Thames (2001) [no measure of uncertainty]; Treisman and Gimpelson (2001) [no regression, only Ftest results]; Andrikopoulos et al. (2004) [no effect size reported]; Mierau et al. (2007) [logit]; Malley et al. (2007) [state-space]; Donahue and Warin (2007) [no measure of uncertainty, observations]; Lalvani (2008) [no regression]; Karagol and Turhan (2008) [VAR]; Brender and Drazen (2007) [results identical to Brender and Drazen (2005)]; Doležalová (2011) [unclear]; Kendall-Taylor (2011) [no regression]; Hayo and Neumeier (2012) [no measure of uncertainty]; Karakaş (2013) [cannot obtain journal]; de Haan and Klomp (2013) [results taken from Klomp and de Haan 2013]; de Haan (2014) [results taken from Klomp and de Haan 2013]; Pérez-Forniés et al. (2014) [no regression]; Benazić and Tomić (2014) [no regression]; Citi (2015) [unit of analysis is EU]

Table 6: Studies excluded from analysis

5 Probing the robustness of the effects

In the main paper, plots of the calculated effect sizes were given as:

$$\varepsilon = \frac{\sum(\varepsilon_{ij}N_{ij})}{\sum N_{ij}} \tag{4}$$

where the effect size is given by the sum of the study-model partial correlations, ε_{ij} , times the study-model number of observations, N_{ij} , divided by the sum of all observations. The number of observations was chosen as the weighting scheme since it is a commonly-used weight in the meta-analysis literature. In this section I probe the robustness of the results in the main paper by considering alternative weights.

One of the alternative weighting schemes is the precision, or the inverse of the standard error of

the calculated study-model effect size.² After changing N_{ij} to precision, I then plotted the overall effect size calculations, along with 95% confidence intervals calculated the same way as in the main paper.³ The results are shown in Figure 3. It is clear that the results remain robust to weighting by precision.



Figure 3: The political budget cycle effect across 4 major categories (precision-weighted)

Notes: 95% confidence intervals reported.

²Recall that the standard error of the partial correlation is given as

$$SE_{ij} = \sqrt{\frac{1 - \varepsilon_{ij}}{df_{ij}}} \tag{5}$$

³These were unweighted, random effects, fixed effects, and the Hunter-Schmidt calculation.

I also re-ran the revenue and expenditure disaggregation calculations using precision as the weight. These are shown in Figures 4 and 5, respectively. As with the overall categories, the results appear to be robust to weighting by the precision of the partial correlations.



Figure 4: The political budget cycle effect: Revenue disaggregation (precision-weighted) *Notes:* 95% confidence intervals reported.

Another alternative weighting scheme uses journal impact factors. Using the impact factors (from 2013) as the new N_{ij} , I recalculated the effect sizes.⁴ The results are shown in Figures 6 (four general categories), 8 (expenditure disaggregation), and 7 (revenue disaggregation). Once

⁴Not all journals had impact factor scores, thus severely downplaying the influence of these partial correlations.



Figure 5: The political budget cycle effect: Expenditure disaggregation (precision-weighted) *Notes:* 95% confidence intervals reported.

again, the results remain fairly robust to the alternative weighting scheme.



Figure 6: The political budget cycle effect across four major categories (impact factor-weighted) *Notes:* 95% confidence intervals reported.



Figure 7: The political budget cycle effect: Revenue disaggregation (impact factor-weighted)

Notes: 95% confidence intervals reported.



Figure 8: The political budget cycle effect: Expenditure disaggregation (impact factor-weighted) *Notes:* 95% confidence intervals reported.

6 Meta-regression analysis and Bayesian model averaging

For all models using Bayesian model averaging in the main paper, two million draws were taken after a burn-in period of 500,000 draws. I used a beta-binomial model prior, with coefficient priors set to benchmark priors for the hyperparameter in Zellner's g-prior, as given by Fernandez et al (2001)

A graphical depiction of the posterior inclusion probabilities is shown in Figure 9, 10, and 11 for the model of expenditures, revenues, and fiscal surplus, respectively. These are based on the 500 best models chosen via the Markov chain Monte Carlo (MCMC). To swap covariates when conducting the MCMC, a reversible-jump algorithm was used. Each row represents a different covariate eligible for inclusion in the final model. For example, for expenditures, those at the top (where the colored bars span the width of the figure) have the highest posterior inclusion probability. Red bars (lighter in grayscale) indicate that the covariate has a negative coefficient (i.e., the presence of this factor makes the resulting political budget cycle effect *smaller*). Blue bars (darker in grayscale) indicate that the coefficient is positive (i.e., the presence of this factor makes the resulting political budget cycle effect *smaller*).

To probe the robustness of the covariate-swapping algorithm, the model was re-run using a birth-death algorithm. I found very similar results when using the alternative algorithm.

7 Coding decisions

This section details coding decisions made when coding variables for the calculation of the overall effect sizes, and for the meta-analysis. The first are dependent variables:

• Fiscal surplus: Dependent variable used in the analysis was deficit spending or fiscal surplus.



Model Inclusion Based on Best 500 Models

Figure 9: Posterior inclusion probabilities in model for each variable: Expenditures

Notes: Figure shows the probability of variable inclusion in the model based on 500 best models for expenditures. Red bars (lighter in grayscale) indicate inclusion, but in the negative direction. Blue bars (darker in grayscale) indicate inclusion in the positive direction. The hyperparameter on Zellner's g-prior for regression coefficients set to a benchmark prior, and the model prior is set to a random prior. A reversible-jump algorithm used to swap covariates.



Model Inclusion Based on Best 500 Models

Figure 10: Posterior inclusion probabilities in model for each variable: Revenues

Notes: Figure shows the probability of variable inclusion in the model based on 500 best models for revenues. Red bars (lighter in grayscale) indicate inclusion, but in the negative direction. Blue bars (darker in grayscale) indicate inclusion in the positive direction. The hyperparameter on Zellner's g-prior for regression coefficients set to a benchmark prior, and the model prior is set to a random prior. A reversible-jump algorithm used to swap covariates.

method_dynamics state_elec muni_elec singlecountry control_ideology control_unemployment elec_exogenous control_winmargin control_inflation control_revenues method_olspcsegls parcorr_se control debt control_coalition control_postelec totmodels avg yr in sample control_GDPgrowth method_feunit elec_Franzese elec half region_oecd temp_agg_quarterly control_GDP_any control_presidential cites peryr control_democracy temp_agg_monthly region_subsaharan control_prelec region_asia JournalImpactFactor elec_dummy control_transfers region latam region_soviet elec_endogenous 0 0.42 0.62 0.74 0.79 0.83 0.87 0.91 0.95 Cumulative Model Probabilities

Model Inclusion Based on Best 500 Models

Figure 11: Posterior inclusion probabilities in model for each variable: Fiscal surplus

Notes: Figure shows the probability of variable inclusion in the model based on 500 best models for fiscal surplus. Red bars (lighter in grayscale) indicate inclusion, but in the negative direction. Blue bars (darker in grayscale) indicate inclusion in the positive direction. The hyperparameter on Zellner's g-prior for regression coefficients set to a benchmark prior, and the model prior is set to a random prior. A reversible-jump algorithm used to swap covariates.

The signs were reversed on deficits to indicate that increases correspond with an increased budget surplus.

- Debt: Dependent variable used in the analysis was government debt, or net claims on government.
- Expenditures: Dependent variable used in the analysis was expenditures, further broken into sub-categories below.
- Revenues: Dependent variable used in the analysis was revenues, further broken into subcategories below.
- Total Expenditures: Dependent variable used in the analysis was total expenditures. Other names for this were government consumption, consumption expenditures, non-interest expenditures, and general payments.
- Inter-governmental Grants and Transfers: Dependent variable used in the analysis involved inter-governmental grants or transfers. This included loans to other levels of government. Note that this *did not* include transfers to individuals, such as social security payments.
- Capital Expenditures: Dependent variable used in the analysis was capital expenditures. This included capital transfers, construction spending, development expenditures, investment in buildings and construction, and other infrastructure projects.
- Current Expenditures: Dependent variable used in the analysis was current expenditures. This included (current) development expenditures, spending on economic services, (current) grants, transfers to individuals such as social services or social security, payments to retirees, and spending on "culture".
- Administrative Expenditures: Dependent variable used in the analysis was administrative

expenditures. This included wages and income to public sector employees, transfers to stateowned enterprises, police expenditures, and other administrative spending.

- Education and Health Expenditures: Dependent variable used in the analysis was education or health expenditures.
- Other Expenditures: Dependent variable used in the analysis was some "other" expenditure not listed above. Care was taken to choose the eight largest categories—this category is a catch-all term for any non-classifiable dependent variable. This includes spending on agriculture, defense, security, subsidies, economic services, housing, environment, industry, irrigation, leisure, media, net lending, social expenditures, other transfers (to citizens), public services, and spending on water, energy, and communications. Often, these were vaguely defined—so although social expenditures could be capital or current, for instance, it was unclear and so listed as "Other".
- Total Revenues: Dependent variable used in the analysis was described as total government revenues. Often this was expressed as a percent of budget or GDP.
- Tax Revenues: Dependent variable used in the analysis was tax receipts for government. This included income, sales, and property taxes, for instance.
- Other Revenues: Dependent variable used in the analysis was some other type of revenue. This included fees, non-tax revenues, and money income.

Below is a list of other variables coded for the meta-regression analysis.

- Standard Error: The standard error of the calculated effect size for a given study-model.
- OECD: A dummy variable that takes on a value of one if the analysis included at least one country in the OECD.

- Latin America: A dummy variable that takes on a value of one if the analysis included at least one country from Latin America.
- Asia: A dummy variable that takes on a value of one if the analysis included at least one country from Asia.
- Sub-Saharan Africa: A dummy variable that takes on a value of one if the analysis included at least one country from Sub-Saharan Africa.
- Eastern Europe and the Former Soviet Union: A dummy variable that takes on a value of one if the analysis included at least one country from Eastern Europe or the former Soviet Union.
- Average Year: The average year in the sample, calculated as $\frac{MinYear+MaxYear}{2}$.
- Quarterly Aggregation: The temporal aggregation is quarterly. This variable is dichotomous.
- Monthly Aggregation: The temporal aggregation is monthly. This variable is dichotomous.
- Single Country: A dummy variable that takes on a value of one if the analysis is conducted on a single country. Most often, this means that the level of aggregation is either municipal or state.
- Municipal Aggregation: Level of analysis is at the lowest level of government—commonly a municipality. This variable is dichotomous.
- State Aggregation: Level of analysis is at the state or provincial level. This variable is dichotomous.
- Democracy: This is a dichotomous variable equal to one if the analysis controlled for democracy. This included some index of democracy (commonly the Polity score or an equivalent), or a democracy dummy.

- Coalition: This is a dichotomous variable equal to one if the analysis controlled for if the current government was in a coalition, or was a minority or majority government. Typically this was a dummy variable; although some controlled for the overall size of the coalition.
- Debt: This is a dichotomous variable equal to one if the analysis controlled for the debt of the unit of analysis (national government, state/province, or municipality). This was most commonly a continuous variable, although I included those who had budgetary restraint dummy variables or indebted dummy variables.
- Deficit: This is a dichotomous variable equal to one if the analysis controlled for the deficit. If the analysis controlled for the budget surplus (otherwise called the fiscal balance), I included it as well.
- Government Expenditures: This is a dichotomous variable equal to one if the analysis controlled for government expenditures. This could include total spending, non-defense spending, capital spending, or primary sector spending.
- Government Revenues: This is a dichotomous variable equal to one if the analysis controlled for government revenues. This could include total revenues, tax revenues, capital revenues, tax revenues per capita, privatization revenues, local-source revenues, and municipal taxes.
- Transfers: This is a dichotomous variable equal to one if the analysis controlled for grants, subsidies, bailouts, or other transfers from upper- to lower-levels of government.
- GDP: This is a dichotomous variable equal to one if the analysis controlled for economic output. This could include gross domestic product (GDP), GDP per capita, GDP gap between potential and real output, gross national product, as well as lags or leads of GDP.
- GDP Growth: This is a dichotomous variable equal to one if the analysis controlled for GDP growth.

- Ideology: This is a dichotomous variable equal to one if the analysis controlled for political ideology, either through a continuous measure or a dichotomous or trichotomous indicator.
- Inflation: This is a dichotomous variable equal to one if the analysis controlled for inflation, either actual, expected, or the change in inflation.
- Presidential: This is a dichotomous variable equal to one if the analysis controlled for a presidential system.
- Proportional: This is a dichotomous variable equal to one if the analysis controlled for a system of proportional representation.
- Unemployment: This is a dichotomous variable equal to one if the analysis controlled for unemployment.
- Win Margin: This is a dichotomous variable equal to one if the analysis controlled for either the vote share or margin of victory from the previous election.
- Fixed-effects Unit: Analysis used some form of unit fixed effects. In this sample of articles, this included unit fixed effects, regional fixed effects, weighted least squares with regional fixed effects, and a tobit model with fixed effects.
- Dynamics: Analysis used some form of dynamics using a lagged dependent variable. In this analysis, this included GMM and GMM-HLM models, error-correction models, pooled mean-group estimators, and autoregressive distributed lag (ARDL) models.
- OLS PCSE GLS: A catch-all category that included models estimated using ordinary least squares (OLS), OLS with panel-corrected standard errors (PCSE), generalized least squares (GLS), and GLS with autoregression corrected using the Cochrane-Orcutt procedure.

- Election Dummy: This is a dichotomous variable equal to one if the election variable used in the analysis is a dummy variable. This is the most basic election variable since it does not account for *when* the election occurred during the year.
- Election Half-Year: This is a dichotomous variable equal to one if the study accounted for the election year in the following way: the election variable equals one in the year of an election *only* if the election took place after June 30. If not, the year before the election is coded as the election variable. This indicator is not as coarse as the simple dummy variable, but not as specific as the Franzese indicator.
- Franzese: This is a dichotomous variable equal to one if the election variable used in the analysis uses the method of Franzese (2000). The resulting variable is equal to $\frac{M}{12}$ in an election year, where *M* is the month of the election.⁵
- Election Pre-Determined: This is a variable equal to one if the author(s) election variable was only for pre-determined...i.e., exogenous. This only applies to cross-national analyses.
- Election Early: This is a dichotomous variable equal to one if the author(s) election variable was only for elections called early...i.e., endogenous. This only applies to cross-national analyses.
- Election_{t+1}: This is a dichotomous variable equal to one if the analysis controlled for the period after an election.
- Election_{t-1}: This is a dichotomous variable equal to one if the analysis controlled for the period before an election. To keep the comparison similar in terms of functional form (since this is the key independent variable of interest), I only included indicators the are bounded by zero and one. This excluded "counter" variables that equal 0, 1, 2,... for one year after,

⁵The period-before-election indicator, if included, is then equal to $1 - \frac{M}{12}$.

two years after,... the election. It also excluded a number of articles that created an indicator that could take on negative and positive values.

- Total Models: The total number of models (not including the appendix) that appear in the article.
- Cites per Year: The total number article cites (collected at the time of the meta-analysis) divided by the number of years since publication.
- Impact Factor: The impact factor of the journal (using 2013 impact factors).

References

- Ahlquist JS (2010) Policy by contract: Electoral cycles, parties and social pacts, 1974-2000. The Journal of Politics 72(2):572–587
- Aidt TS, Dutta J (2007) Policy myopia and economic growth. European Journal of Political Economy 23(3):734–753
- Aidt TS, Mooney G (2014) Voting suffrage and the political budget cycle: Evidence from the london metropolitan boroughs 1902–1937. Journal of Public Economics 112:53–71
- Aidt TS, Veiga FJ, Veiga LG (2011) Election results and opportunistic policies: A new test of the rational political business cycle model. Public Choice 148(1-2):21–44
- Akhmedov A, Zhuravskaya E (2004) Opportunistic political cycles: Test in a young democracy setting. The Quarterly Journal of Economics 119(4):1301–1338
- Albuquerque B (2011) Fiscal institutions and public spending volatility in europe. Economic Modelling 28(6):2544–2559
- Ales L, Maziero P, Yared P (2014) A theory of political and economic cycles. Journal of Economic Theory 153:224–251
- Alt JE, Lassen DD (2006a) Fiscal transparency, political parties, and debt in oecd countries. European Economic Review 50(6):1403–1439
- Alt JE, Lassen DD (2006b) Transparency, political polarization, and political budget cycles in oecd countries. American Journal of Political Science 50(3):530–550
- Amable B, Azizi K (2014) Counter-cyclical budget policy across varieties of capitalism. Structural Change and Economic Dynamics 30:1–9

- Ames B, Hiroi T, Renno L (2005) The political economy of personnel expenditures: Brazilian states, 1965-1994. Brazilian Journal of Political Economy 25(1):50–69
- An Cb, Kang S (2000) Government expenditure and political business cycle. The Korean Economic Review 16(2):193–206
- Andrikopoulos A, Loizides I, Prodromidis K (2004) Fiscal policy and political business cycles in the eu. European Journal of Political Economy 20(1):125–152
- Andrikopoulos A, Loizides I, Prodromidis K (2006) Taxation and political business cycles in eu economies. Applied Economics 38(15):1761–1774
- Anessi-Pessina E, Sicilia M (2015) Biased budgeting in the public sector: Evidence from italian local governments. Local Government Studies 41(6):819–840
- Balassone F, Francese M, Zotteri S (2010) Cyclical asymmetry in fiscal variables in the eu. Empirica 37(4):381–402
- Baleiras RN, Santos V (2000) Behavioral and institutional determinants of political business cycles. Public Choice 104(1-2):121–147
- Baleiras RN, da Silva Costa J (2004) To be or not to be in office again: An empirical test of a local political business cycle rationale. European Journal of Political Economy 20(3):655–671
- Barberia LG, Avelino G (2011) Do political budget cycles differ in latin american democracies? Economía pp 101–146
- Bartolini D, Santolini R (2012) Political yardstick competition among italian municipalities on spending decisions. The Annals of Regional Science 49(1):213–235
- Baskaran T, Min B, Uppal Y (2015) Election cycles and electricity provision: Evidence from a quasi-experiment with indian special elections. Journal of Public Economics 126:64–73

- Bastida F, Beyaert A, Benito B (2013) Electoral cycles and local government debt management. Local Government Studies 39(1):107–132
- Bee CA, Moulton SR (2015) Political budget cycles in us municipalities. Economics of Governance 16(4):379–403
- Benazić M, Tomić D (2014) The evaluation of fiscal and monetary policy in croatia over a business cycle. Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu 32(1):75–99
- Beniers KJ, Dur R (2007) Politicians' motivation, political culture, and electoral competition. International Tax and Public Finance 14(1):29–54
- Benito B, Bastida F (2009) Budget transparency, fiscal performance, and political turnout: An international approach. Public Administration Review 69(3):403–417
- Benito B, Bastida F, Vicente C (2012) Political budget cycles in local governments. Lex Localis 10(4):341
- Benito B, Bastida F, Vicente C (2013a) Creating room for manoeuvre: a strategy to generate political budget cycles under fiscal rules. Kyklos 66(4):467–496
- Benito B, Bastida F, Vicente C (2013b) Municipal elections and cultural expenditure. Journal of Cultural Economics 37(1):3–32
- Benito B, Guillamón MD, Bastida F (2015) Budget forecast deviations in municipal governments:Determinants and implications. Australian Accounting Review 25(1):45–70
- Bercoff JJ, Meloni O (2009) Federal budget allocation in an emergent democracy: evidence from argentina. Economics of Governance 10(1):65–83

- Berlemann M, Markwardt G (2006) Variable rational partisan cycles and electoral uncertainty. European Journal of Political Economy 22(4):874–886
- Bertelli AM, John P (2013) Public policy investment: Risk and return in british politics. British Journal of Political Science 43(04):741–773
- Binet ME, Pentecôte JS (2004) Tax degression and the political budget cycle in french municipalities. Applied Economics Letters 11(14):905–908
- Biswas R, Marjit S (2008) Distributive manipulations and political stability: A theoretical analysis. International Review of Economics & Finance 17(4):618–628
- Block SA (2002) Political business cycles, democratization, and economic reform: the case of africa. Journal of Development Economics 67(1):205–228
- Block SA, Ferree KE, Singh S (2003) Multiparty competition, founding elections and political business cycles in africa. Journal of African Economies 12(3):444–468
- Blomberg SB, Hess GD (2003) Is the political business cycle for real? Journal of Public Economics 87(5):1091–1121
- Bodea C, Higashijima M (2015) Central bank independence and fiscal policy: Can the central bank restrain deficit spending? British Journal of Political Science pp 1–24
- Bojar A (2015) Intra-governmental bargaining and political budget cycles in the european union. European Union Politics 16(1):90–115
- Bonfiglioli A, Gancia G (2013) Uncertainty, electoral incentives and political myopia. The Economic Journal 123(568):373–400
- Bonomo M, Terra C (2010) Electoral cycles through lobbying. Economics & Politics 22(3):446– 470

- Brender A, Drazen A (2005) Political budget cycles in new versus established democracies. Journal of Monetary Economics 52(7):1271–1295
- Brender A, Drazen A (2007) Electoral fiscal policy in new, old, and fragile democracies. Comparative Economic Studies 49(3):446–466
- Brender A, Drazen A (2008) How do budget deficits and economic growth affect reelection prospects? evidence from a large panel of countries. The American Economic Review pp 2203–2220
- Brender A, Drazen A (2013) Elections, leaders, and the composition of government spending. Journal of Public Economics 97:18–31
- Brogan M (2012) The politics of budgeting: Evaluating the effects of the political election cycle on state-level budget forecast errors. Public Administration Quarterly pp 84–115
- Bröthaler J, Getzner M (2011) Fiscal autonomy and total government expenditure: An austrian case-study. International Advances in Economic Research 17(2):134–156
- Buti M, Noord P (2004) Fiscal discretion and elections in the early years of emu. JCMS: Journal of Common Market Studies 42(4):737–756
- Cabaleiro-Casal R, Buch-Gómez E (2015) Public spending policies and budgetary balances: Evidence from spanish municipalities. Lex Localis 13(4):973
- Candel-Sánchez F (2007) Incentives for budget discipline in the presence of elections. European Journal of Political Economy 23(4):863–884
- Canes-Wrone B, Park JK (2012) Electoral business cycles in oecd countries. American Political Science Review 106(01):103–122

- Cassette A, Farvaque E (2014) Are elections debt brakes? evidence from french municipalities. Economics Letters 122(2):314–316
- Cerda R, Vergara R (2008) Government subsidies and presidential election outcomes: Evidence for a developing country. World Development 36(11):2470–2488
- Chang CP, Kim Y, Ying Yh (2009) Economics and politics in the united states: A state-level investigation. Journal of Economic Policy Reform 12(4):343–354
- Chang EC (2008) Electoral incentives and budgetary spending: Rethinking the role of political institutions. The Journal of Politics 70(04):1086–1097
- Chaudhuri K, Dasgupta S (2005) The political determinants of central governments' economic policies in india: An empirical investigation. Journal of International Development 17(7):957–978
- Chaudhuri K, Dasgupta S (2006) The political determinants of fiscal policies in the states of india: An empirical investigation. The Journal of Development Studies 42(4):640–661
- Chiripanhura B, Niño-Zarazúa M (2015) Aid, political business cycles and growth in africa. Journal of International Development 27(8):1387–1421
- Citi M (2015) European union budget politics: Explaining stability and change in spending allocations. European Union Politics p 1465116515569551
- Clark WR, Hallerberg M (2000) Mobile capital, domestic institutions, and electorally induced monetary and fiscal policy. American Political Science Review 94(02):323–346
- Coelho C, Veiga FJ, Veiga LG (2006) Political business cycles in local employment: Evidence from portugal. Economics Letters 93(1):82–87

- Dahlberg M, Mörk E (2011) Is there an election cycle in public employment? separating time effects from election year effects. CESifo Economic Studies p ifr003
- Dash BB, Raja AV (2013) Do political determinants affect the size and composition of public expenditures? a study of the indian states. International Review of Economics 60(3):293–317
- De Haan J, Klomp J (2013) Conditional political budget cycles: A review of recent evidence. Public Choice 157(3-4):387–410
- DeRouen K, Heo U (2000) Defense contracting and domestic politics. Political Research Quarterly 53(4):753–769
- DeRouen K, Heo U (2001) Presidents and defense contracting, 1953-1992. Conflict Management and Peace Science 18(2):251–267
- Dhami S (2003) The political economy of redistribution under asymmetric information. Journal of Public Economics 87(9):2069–2103
- Dima B, Moldovan N, et al (2010) Correlation between electoral cycle and fiscal policy decisions in romania. EuroEconomica (24):48–56
- Doležalová J (2011) The political-budget cycle in countries of the european union. Review of Economic Perspectives 11(1):12–36
- Donahue K, Warin T (2007) The stability and growth pact: A european answer to the political budget cycle? Comparative European Politics 5(4):423–440
- Doucouliagos H, Ulubaşoğlu MA (2008) Democracy and economic growth: A meta-analysis. American Journal of Political Science 52(1):61–83
- Drazen A, Eslava M (2010) Electoral manipulation via voter-friendly spending: Theory and evidence. Journal of Development Economics 92(1):39–52

- Easaw J, Garratt D (2000) Elections and uk government expenditure cycles in the 1980s: An empirical analysis. Applied Economics 32(3):381–391
- Easaw JZ, Garratt D (2006) General elections and government expenditure cycles: Theory and evidence from the uk. European Journal of Political Economy 22(2):292–306
- Economides G, Philippopoulos A, Price S (2003) How elections affect fiscal policy and growth: Revisiting the mechanism. European Journal of Political Economy 19(4):777–792
- Efthyvoulou G (2011) Political cycles under external economic constraints: Evidence from cyprus. Journal of Economics and Business 63(6):638–662
- Efthyvoulou G (2012) Political budget cycles in the european union and the impact of political pressures. Public Choice 153(3-4):295–327
- Enkelmann S, Leibrecht M (2013) Political expenditure cycles and election outcomes: Evidence from disaggregation of public expenditures by economic functions. Economics Letters 121(1):128–132
- Ergun M (2000) Electoral political-business cycles in emerging markets: Evidence from turkey. Russian and East European Finance and Trade pp 6–32
- Erlandsson M (2004) Partisan differences in swedish macroeconomic policy. Public Choice 120(1-2):205–220
- Eslava M (2011) The political economy of fiscal deficits: A survey. Journal of Economic Surveys 25(4):645–673
- Fernandez C, Ley E, Steel MF (2001) Benchmark priors for bayesian model averaging. Journal of Econometrics 100(2):381–427

- Ferré M, Manzano C (2014) Rational partisan theory with fiscal policy and an independent central bank. Journal of Macroeconomics 42:27–37
- Ferris JS, Voia MC (2011) Does the expectation or realization of a federal election precipitate canadian output growth? Canadian Journal of Economics/Revue canadienne d'économique 44(1):107–132
- Findley TS (2015) Hyperbolic memory discounting and the political business cycle. European Journal of Political Economy 40:345–359
- Fiva JH, Natvik GJ (2013) Do re-election probabilities influence public investment? Public Choice 157(1-2):305–331
- Franklin D, Richey S, Yonk RM (2013) Battlegrounds and budgets: State-level evidence of budget manipulation in competitive presidential election states. State and Local Government Review 45(2):108–115
- Franzese RJJ (2000) Electoral and partisan manipulation of public debt in developed democracies, 1956–1990. In: Strauch R, Hagen JV (eds) Institutions, Politics and Fiscal Policy, Kluwer Academic Press, Dordrecht, pp 61–83
- Franzese RJJ (2002) Electoral and partisan cycles in economic policies and outcomes. Annual Review of Political Science 5(1):369–421
- Fujii S (2008) The timing of public spending in japan and the us. Japanese Journal of Political Science 9(02):145–159
- Galli E, Rossi SP (2002) Political budget cycles: The case of the western german länder. Public Choice 110(3-4):283–303

- Gan L, Xu LC, Yao Y (2012) Local elections and consumption insurance. Economics of Transition 20(3):521–547
- Garcia-Sanchez IM, Prado-Lorenzo JM, Cuadrado-Ballesteros B (2011) Do progressive goverments undertake different debt burdens? partisan vs. electoral cycles. Revista de Contabilidad 14(1):29–57
- García-Sánchez IM, Mordán N, Cuadrado-Ballesteros B (2014) Do electoral cycles affect local financial health? Policy Studies 35(6):533–556
- Garrì I (2010) Political short-termism: a possible explanation. Public Choice 145(1-2):197-211
- Gavious A, Mizrahi S (2002) Maximizing political efficiency via electoral cycles: An optimal control model. European Journal of Operational Research 141(1):186–199
- Gersbach H (2004) Competition of politicians for incentive contracts and elections. Public Choice 121(1-2):157–177
- Getzner M (2015) Cultural politics: Exploring determinants of cultural expenditure. Poetics 49:60– 75
- Geys B (2007) Government weakness and electoral cycles in local public debt: Evidence from flemish municipalities. Local Government Studies 33(2):237–251
- Geys B (2013) Election cycles in mps' outside interests? the uk house of commons, 2005–2010. Political Studies 61(2):462–472
- Ghate C, Zak PJ (2002) Growth of government and the politics of fiscal policy. Structural Change and Economic Dynamics 13(4):435–455
- Goff BL, Tollison RD (2002) Explaining us federal deficits: 1889–1998. Economic Inquiry 40(3):457–469

- Golinelli R, Momigliano S (2006) Real-time determinants of fiscal policies in the euro area. Journal of Policy Modeling 28(9):943–964
- Gonzalez MdlA (2002) Do changes in democracy affect the political budget cycle? evidence from mexico. Review of Development Economics 6(2):204–224
- Gordin JP (2002) The political and partisan determinants of patronage in latin america 1960–1994: A comparative perspective. European Journal of Political Research 41(4):513–549
- Guillamón MD, Bastida F, Benito B (2013) The electoral budget cycle on municipal police expenditure. European Journal of Law and Economics 36(3):447–469
- Guo G (2009) China's local political budget cycles. American Journal of Political Science 53(3):621-632
- Haan J (2014) Democracy, elections and government budget deficits. German Economic Review 15(1):131–142
- Haber G, Neck R (2006) Sustainability of austrian public debt: A political economy perspective. Empirica 33(2-3):141–154
- Haga M (2015) On central bank independence and political cycles. Journal of Applied Economics 18(2):267–295
- Hagen T (2010) Effects of parliamentary elections on primary budget deficits in oecd countries– robustness of the results with regard to alternative econometric estimators. Applied Economics Letters 17(2):135–139
- Halász Á (2014) Fiscal cycle effects in the pattern of the hungarian state expenditures. Society and Economy 36(2):263–283

- Hallerberg M, de Souza LV, Clark WR (2002) Political business cycles in eu accession countries. European Union Politics 3(2):231–250
- Hanusch M (2012a) Coalition incentives for political budget cycles. Public Choice 151(1):121-136
- Hanusch M (2012b) Mooted signals: Economic disturbances and political budget cycles. Journal of Applied Economics 15(2):189–212
- Hanusch M, Keefer P (2014) Younger parties, bigger spenders? party age and political budget cycles. European Economic Review 72:1–18
- Hanusch M, Magleby DB (2014) Popularity, polarization, and political budget cycles. Public Choice 159(3-4):457–467
- Hanusch M, Vaaler PM (2013) Credit rating agencies and elections in emerging democracies: Guardians of fiscal discipline? Economics Letters 119(3):251–254
- Harrinvirta M, Mattila M (2001) The hard business of balancing budgets: A study of public finances in seventeen oecd countries. British Journal of Political Science 31(03):497–521
- Hayo B, Neumeier F (2012) Leaders' impact on public spending priorities: The case of the german laender. Kyklos 65(4):480–511
- Heckelman JC (2001) The econometrics of rational partisan theory. Applied Economics 33(3):417– 426
- Heckelman JC (2002) Electoral uncertainty and the macroeconomy: The evidence from canada. Public Choice 113(1-2):179–189
- Heckelman JC (2006) Another look at the evidence for rational partisan cycles. Public Choice 126(3-4):257–274

- Heckelman JC, Wood JH (2005) Political monetary cycles under alternative institutions: the independent treasury and the federal reserve. Economics & Politics 17(3):331–350
- Helland L (2011) Partisan conflicts and parliamentary dominance: the norwegian political business cycle. Public Choice 147(1-2):139–154
- Hiroi T (2009) Exchange rate regime, central bank independence, and political business cycles in brazil. Studies in Comparative International Development 44(1):1–22
- Houlberg K, Pedersen LH (2015) Political consensus and fiscal outcomes. Local Government Studies 41(1):78–99
- Hyde SD, O'Mahony A (2010) International scrutiny and pre-electoral fiscal manipulation in developing countries. The Journal of Politics 72(03):690–704
- Javid AY, Arif U, Arif A (2011) Economic, political and institutional determinants of budget deficits volatility in selected asian countries. The Pakistan Development Review pp 649–662
- Jochimsen B, Nuscheler R (2011) The political economy of the german länder deficits: Weak governments meet strong finance ministers. Applied Economics 43(19):2399–2415
- John P, Ward H (2001) Political manipulation in a majoritarian democracy: Central government targeting of public funds to english subnational government, in space and across time. The British Journal of Politics & International Relations 3(3):308–339
- Karagol ET, Turhan A (2008) External debt, defence expenditures and political business cycles in turkey. Defence and Peace Economics 19(3):217–224
- Karakaş M (2013) Political business cycles in turkey: A fiscal approach. Journal of Management and Economics 20(1)

- Katsimi M, Sarantides V (2012) Do elections affect the composition of fiscal policy in developed, established democracies? Public Choice 151(1-2):325–362
- Katsimi M, Sarantides V (2015) Public investment and reelection prospects in developed countries. Southern Economic Journal 82(2):471–500
- Kayser MA (2005) Who surfs, who manipulates? the determinants of opportunistic election timing and electorally motivated economic intervention. American Political Science Review 99(1):17– 27
- Kendall-Taylor A (2012) Purchasing power: Oil, elections and regime durability in azerbaijan and kazakhstan. Europe-Asia Studies 64(4):737–760
- Khemani S (2004) Political cycles in a developing economy: Effect of elections in the indian states. Journal of Development Economics 73(1):125–154
- Kiefer D (2000) Activist macroeconomic policy, election effects and the formation of expectations:Evidence from oecd economies. Economics & Politics 12(2):137–154
- Kim H, Kwon C (2014) The effects of fiscal consolidation and welfare composition of spending on electoral outcomes: Evidence from us gubernatorial elections between 1978 and 2006. New Political Economy (ahead-of-print):1–26
- Klašnja M (2008) Electoral rules, forms of government, and political budget cycles in transition countries. Panoeconomicus 55(2):185–218
- Klein FA (2010) Reelection incentives and political budget cycle: evidence from brazil. Revista de Administração Pública 44(2):283–337
- Klein FA, Sakurai SN (2015) Term limits and political budget cycles at the local level: evidence from a young democracy. European Journal of Political Economy 37:21–36

- Klomp J, De Haan J (2013a) Conditional election and partisan cycles in government support to the agricultural sector: An empirical analysis. American Journal of Agricultural Economics 95(4):793–818
- Klomp J, De Haan J (2013b) Do political budget cycles really exist? Applied Economics 45(3):329–341
- Klomp J, De Haan J (2013c) Political budget cycles and election outcomes. Public Choice 157(1-2):245–267
- Klomp J, De Haan J (2013d) Popular protest and political budget cycles: A panel data analysis. Economics Letters 120(3):516–520
- Kneebone RD, McKenzie KJ (2001) Electoral and partisan cycles in fiscal policy: An examination of canadian provinces. International Tax and Public Finance 8(5-6):753–774
- Konstantakis KN, Papageorgiou T, Michaelides PG, Tsionas EG (2015) Economic fluctuations and fiscal policy in europe: A political business cycles approach using panel data and clustering (1996–2013). Open Economies Review 26(5):971–998
- Krause GA (2005) Electoral incentives, political business cycles and macroeconomic performance: empirical evidence from post-war us personal income growth. British Journal of Political Science 35(01):77–101
- Krishnakumar J, Martin MJ, Soguel N (2010) Explaining fiscal balances with a simultaneous equation model of revenue and expenditure: A case study of swiss cantons using panel data. Public Budgeting & Finance 30(2):69–94
- Kwon HY (2005) Targeting public spending in a new democracy: Evidence from south korea. British Journal of Political Science 35(2):321–341

- Lalvani M (2008) Demonstrating a 'new political budget cycle'. Economic and Political Weekly pp 25–28
- Lambrinidis M, Psycharis Y, Rovolis A (2005) Regional allocation of public infrastructure investment: The case of greece. Regional Studies 39(9):1231–1244
- Luo R, Zhang L, Huang J, Rozelle S (2010) Village elections, public goods investments and pork barrel politics, chinese-style. The Journal of Development Studies 46(4):662–684
- Lupu N, Riedl RB (2013) Political parties and uncertainty in developing democracies. Comparative Political Studies 46(11):1339–1365
- Mačkić V (2014) Political budget cycles at the municipal level in croatia. Financial Theory and Practice 38(1):1–35
- Malley J, Philippopoulos A, Woitek U (2007) Electoral uncertainty, fiscal policy and macroeconomic fluctuations. Journal of Economic Dynamics and Control 31(3):1051–1080
- Martinez L (2009) A theory of political cycles. Journal of Economic Theory 144(3):1166–1186
- Matschke X (2003) Are there election cycles in wage agreements? an analysis of german public employees. Public Choice 114(1-2):103–135
- Mechtel M, Potrafke N (2013) Electoral cycles in active labor market policies. Public Choice 156(1-2):181–194
- Mierau JO, Jong A Pin R, De Haan J (2007) Do political variables affect fiscal policy adjustment decisions? new empirical evidence. Public Choice 133(3-4):297–319
- Milani F (2010) Political business cycles in the new keynesian model. Economic Inquiry 48(4):896–915

- Miliauskas G, Grebliauskas A (2008) Political business cycles in lithuania in 1993–2006. Pinigu studijos 1
- Mink M, De Haan J (2006) Are there political budget cycles in the euro area? European Union Politics 7(2):191–211
- Mourão PR (2011) Has trade openness already voted? a panel data study. Emerging Markets Finance and Trade 47(sup5):53–71
- Neck R, Getzner M (2001) Politico-economic determinants of public debt growth: A case study for austria. Public Choice 109(3-4):243–268
- Neck R, Haber G, Klinglmair A (2015) Austrian public debt growth: a public choice perspective. International Advances in Economic Research 21(3):249–260
- Nyblade B, O'Mahony A (2014) Playing with fire: Pre-electoral fiscal manipulation and the risk of a speculative attack. International Studies Quarterly 58(4):828–838
- O'Mahony A (2011) Engineering good times: Fiscal manipulation in a global economy. British Journal of Political Science 41(02):315–340
- Özatay F (2007) Public sector price controls and electoral cycles. Applied Economics 39(4):527– 539
- Padovano F (2012) The drivers of interregional policy choices: Evidence from italy. European Journal of Political Economy 28(3):324–340
- Padovano F (2014) Distribution of transfers and soft budget spending behaviors: Evidence from italian regions. Public Choice 161(1-2):11–29
- Padovano F, Venturi L (2001) Wars of attrition in italian government coalitions and fiscal performance: 1948–1994. Public Choice 109(1-2):15–54

- Park JH (2011) The economy and elections in korea: An analysis of the political business cycle. International Review of Public Administration 16(2):117–142
- Patterson D, Beason D (2001) Politics, pressure, and economic policy: Explaining japan's use of economic stimulus policies. World Politics 53(04):499–523
- Pepinsky T (2007) Autocracy, elections, and fiscal policy: Evidence from malaysia. Studies in Comparative International Development 42(1-2):136–163
- Percic S, Apostoaie CM (2014) Interferences between the political cycle and the business cycle in the cases of slovakia, romania and the republic of moldova: Lessons to be learned. Politické vedy (4):31–53
- Pérez-Forniés C, Cámara N, Dolores Gadea M (2014) Cyclical properties of spanish defence expenditure. Defence and Peace Economics 25(1):7–22
- Peters AC (2010) Election induced fiscal and monetary cycles: Evidence from the caribbean. The Journal of Developing Areas 44(1):287–302
- Petrarca I (2014) No news is costly news: The link between the diffusion of the press and public spending. European Journal of Political Economy 34:68–85
- Potrafke N (2010) The growth of public health expenditures in oecd countries: Do government ideology and electoral motives matter? Journal of Health Economics 29(6):797–810
- Potrafke N (2012) Political cycles and economic performance in oecd countries: empirical evidence from 1951–2006. Public Choice 150(1-2):155–179
- Reddick CG (2002) Canadian provincial budget outcomes: A long–run and short–run perspective. Financial Accountability and Management 18(4):355–382

- Remmer KL (2002) The politics of economic policy and performance in latin america. Journal of Public Policy 22(01):29–59
- Remmer KL (2007) The political economy of patronage: Expenditure patterns in the argentine provinces, 1983–2003. Journal of Politics 69(2):363–377
- Ribeiro NA, Jorge S (2015) Political-ideological circumstances and local authorities' debt: Evidence from portuguese municipalities. Contemporary Economics 9(2):155–170
- Rodden J, Wibbels E (2002) Beyond the fiction of federalism: Macroeconomic management in multitiered systems. World Politics 54(04):494–531
- Rose S (2006) Do fiscal rules dampen the political business cycle? Public Choice 128(3-4):407– 431
- Rose S (2008) The political manipulation of us state rainy day funds under rules versus discretion. State Politics & Policy Quarterly 8(2):150–176
- Rose S, Smith DL (2012) Budget slack, institutions, and transparency. Public Administration Review 72(2):187–195
- Rumi C (2014) National electoral cycles in transfers to subnational jurisdictions. evidence from argentina. Journal of Applied Economics 17(1):161–178
- Sadeh T (2006) Adjusting to the emu electoral, partisan and fiscal cycles. European Union Politics 7(3):347–372
- Sáez L, Sinha A (2010) Political cycles, political institutions and public expenditure in india, 1980–
 2000. British Journal of Political Science 40:91–113
- Sakurai SN, Menezes-Filho N (2011) Opportunistic and partisan election cycles in brazil: New evidence at the municipal level. Public Choice 148(1-2):233–247

- Saporiti A, Streb JM (2008) Separation of powers and political budget cycles. Public Choice 137(1-2):329–345
- Schady NR (2000) The political economy of expenditures by the peruvian social fund (foncodes), 1991–95. American Political Science Review 94(02):289–304
- Schneider CJ (2010) Fighting with one hand tied behind the back: political budget cycles in the west german states. Public Choice 142(1-2):125–150
- Schuknecht L (2000) Fiscal policy cycles and public expenditure in developing countries. Public Choice 102(1-2):113–128
- Sedmihradská L, Kubík R, Haas J (2011) Political business cycle in czech municipalities. Prague Economic Papers 1:59–70
- Shahor T (2013) Election year economics and political budget cycle in israel–myth or reality. Israel Affairs 19(4):713–730

Shelton CA (2014) Legislative budget cycles. Public Choice 159(1-2):251-275

- Shi M, Svensson J (2003) Political budget cycles: A review of recent developments. Nordic Journal of Political Economy 29(1):67–76
- Shi M, Svensson J (2006) Political budget cycles: Do they differ across countries and why? Journal of Public Economics 90(8):1367–1389
- Sieg G (2006) A model of an opportunistic-partisan political business cycle. Scottish Journal of Political Economy 53(2):242–252
- Sjahrir BS, Kis-Katos K, Schulze GG (2013) Political budget cycles in indonesia at the district level. Economics Letters 120(2):342–345

- Stanley T, Jarrell SB, Doucouliagos H (2010) Could it be better to discard 90% of the data? a statistical paradox. The American Statistician 64(1)
- Stanley TD, Doucouliagos H (2012) Meta-regression analysis in economics and business, vol 5. Routledge
- Streb JM (2005) Signaling in political budget cycles: How far are you willing to go? Journal of Public Economic Theory 7(2):229–252
- Streb JM, Torrens G (2013) Making rules credible: Divided government and political budget cycles. Public Choice 156(3-4):703–722
- Streb JM, Lema D, Torrens G (2009) Checks and balances on political budget cycles: Crosscountry evidence. Kyklos 62(3):426–447
- Streb JM, Lema D, Garofalo P (2012) Temporal aggregation in political budget cycles. Economía pp 39–78
- Svorny S, Marcal L (2002) The allocation of federal funds to promote bureaucratic objectives: An empirical test. Contemporary Economic Policy 20(3):209–220
- Tellier G (2006) Public expenditures in canadian provinces: An empirical study of politicoeconomic interactions. Public Choice 126(3-4):367–385
- Tepe M, Vanhuysse P (2009) Educational business cycles. Public Choice 139(1-2):61-82
- Tepe M, Vanhuysse P (2010) Who cuts back and when? the politics of delays in social expenditure cutbacks, 1980–2005. West European Politics 33(6):1214–1240
- Tepe M, Vanhuysse P (2014) A vote at the opera? the political economy of public theaters and orchestras in the german states. European Journal of Political Economy 36:254–273

- Thames FC (2001) Did yeltsin buy elections? the russian political business cycle, 1993–1999. Communist and Post-Communist Studies 34(1):63–76
- Toma MJ, Cebula RJ (2001) Politicians, deficits, and monetary policy in the us revisited. International Advances in Economic Research 7(4):419–430
- Treisman D, Gimpelson V (2001) Political business cycles and russian elections, or the manipulations of 'chudar'. British Journal of Political Science 31(02):225–246
- Tsai PH (2014) State fiscal rules and composition changes in public spending before the election. Public Finance Review 42(1):58–91
- Tuinstra J (2000) The emergence of political business cycles in a two-sector general equilibrium model. European Journal of Political Economy 16(3):509–534
- Tujula M, Wolswijk G (2007) Budget balances in oecd countries: What makes them change? Empirica 34(1):1–14
- Tutar I, Tansel A (2012) An analysis of political and institutional power dispersion: The case of turkey. Contemporary Economic Policy 30(4):548–565
- Veiga LG (2012) Determinants of the assignment of eu funds to portuguese municipalities. Public Choice 153(1-2):215–233
- Veiga LG, Pinho MM (2007) The political economy of intergovernmental grants: Evidence from a maturing democracy. Public Choice 133(3-4):457–477
- Veiga LG, Veiga FJ (2007) Political business cycles at the municipal level. Public Choice 131(1-2):45–64
- Veiga LG, Veiga FJ (2013) Intergovernmental fiscal transfers as pork barrel. Public choice 155(3-4):335–353

- Vergne C (2009) Democracy, elections and allocation of public expenditures in developing countries. European Journal of Political Economy 25(1):63–77
- Vicente C, Benito B, Bastida F (2013a) Transparency and political budget cycles at municipal level. Swiss Political Science Review 19(2):139–156
- Vicente C, Ríos AM, Guillamón MD (2013b) Voting behavior and budget stability. Revista de Contabilidad 16(1):46–52
- Wehner J (2013) Electoral budget cycles in legislatures. Legislative Studies Quarterly 38(4):545– 570
- Wibbels E (2000) Federalism and the politics of macroeconomic policy and performance. American Journal of Political Science pp 687–702
- Yoshino N, Mizoguchi T (2010) The role of public works in the political business cycle and the instability of the budget deficit in japan. Asian Economic Papers 9(1):94–112