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LITERATURE SURVEY

Political business cycles 40 years after Nordhaus

Eric Dubois[1]

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Abstract The aim of this article is to survey the huge literature that has emerged in the last four decades following Nordhaus's (Rev Econ Stud 42(2):169–190, 1975) publication on political business cycles (PBCs). I first propose some developments in history of thought to examine the context in which this ground-breaking contribution saw the light of the day. I also present a simplified version of Nordhaus's model to highlight his key results. I detail some early critiques of this model and the fields of investigations to which they gave birth. I then focus on the institutional context and examine its influence on PBCs, the actual research agenda. Finally, I derive some paths for future research.

Keywords Political business cycles · Politico-economic cycles · Electoral cycles · Opportunistic cycles · Conditional political business cycles

JEL Classification B22 · D72 · D78 · E32

1 Introduction[1]

Forty years ago, William Nordhaus was the first to formalize in an analytical framework the idea that the course of macroeconomic variables is influenced by purely political considerations (Nordhaus 1975). Until this ground-breaking contribution, in most

[1] This paper necessitated reading 530 articles or books. The complete list of references is available upon request. For convenience, I have disregarded unpublished papers (with a few exceptions) and papers not written in English. Despite all our efforts, I was not able to locate approximately 20 published articles or books related to the topic. In some contributions, the study of political business cycles is reduced to a simple electoral dummy introduced as a control variable among others and sometimes not related

✉ Eric Dubois
eric.dubois@univ-paris1.fr

1 CES, Université de Paris 1, Maison des Sciences Economiques, 106-112, boulevard de l'Hôpital, 75647 Paris Cedex 13, France

academic works, the government was considered in economic models to be a social planner, maximizing a social welfare function which coincides with the utility function of the representative agent in the economy. This behavior of a "benevolent dictator" in Knut Wicksell's words is inherited from Tinbergen (1952, chapters 1 and 9) and Theil (1958, chapter 8). In Nordhaus's (1975) theory, governments are driven by private interest and care only about their reelection prospects. They exploit the short-term Phillips curve and benefit from the naïve expectations of voters to attain their goal. As voters are concerned about unemployment, the incumbent improves the probability of being reelected by increasing the inflation rate so that the unemployment rate decreases just before the election. After the election, the government faces a high inflation rate and then implements austerity measures, leading to more unemployment. Unemployment and inflation are thus subject to cyclical fluctuations linked to the rhythm of elections and these fluctuations are called "political business cycles" (PBCs).[2] Without going into a detailed presentation of the history of thought, it is interesting to see how this article emerged and in particular to examine both the forerunners in contributions and the context of the era.

The first trace of PBCs can be found in Akerman (1947), who showed that between 1830 and 1945 in the United States, short-term economic cycles were linked to the four-year presidential election cycle. But his analysis was exclusively empirical and demonstrated no precise causal mechanism. Ten years later, Downs (1957a, 1957b), although not explicitly dealing with cycles in macroeconomic variables, proposed a hypothesis that would serve as a foundation for Nordhaus's (1975) paper: politicians are driven by private interest. In Anthony Downs's (1957b, p. 28) words: "We assume that they act solely in order to attain the income, prestige, and power which come from being in office". This motivation gives rise to an operational objective for politicians: to maximize the number of votes in their favor and win the election. However, Downs says nothing about the macroeconomic variables the government has to manipulate to reach that goal. He simply states that "by means of economic and other actions, [the government] tries to manipulate both present and future utility pay-offs to voters in a way that will win their votes" (Downs 1957b, p. 176). According to Downs (1957a, p. 137), the government "is an entrepreneur

Footnote 1 continued
to Nordhaus (1975). I have probably missed some studies like these. Finally, I note that PBCs, explicitly related or not to Nordhaus (1975), have been investigated in somewhat exotic areas (compared to economics): Wasserman (1983) in relation to suicides, Nincic (1990) and Gaubatz (1991) in international relations, Shughart and Tollison (1985), Lagona and Padovano (2008) and Brechler and Geršl (2014) in legislative activity, Block and Vaaler (2004) in ratings published by agencies, Thies and Porche (2007) in agricultural producer protection, Ladewig (2008) in the housing market, Horgos and Zimmermann (2010) in the activity of interest groups, Kächelein et al. (2011) in electricity supply, and Wehner (2013) in legislative budgetary decisions. Unusual applications in the economic area include Paiva (1996) on prices in regulated industries, Castro and Veiga (2004) on the timing of stabilization programs, Dreher and Vaubel (2004) on credits from the IMF and IBRD, Özatay (2007) on public sector prices, Faye and Niehaus (2012) on foreign aid, Sukhtankar (2012) on prices paid to farmers for sugar cane, Lami et al. (2014) on household consumption spending, and Klien (2014) on water tariffs.

[2] Although it is the canonical expression, "political business cycles" can lead to possible confusion as it in fact refers to a particular type of cycle, namely opportunistic. An opportunistic cycle is the result of political manipulations *before* an election. In contrast, partisan cycles appear as a result of manipulation *after* the election. A generic term to designate both opportunistic and partisan cycles could be "politico-economic cycles" or "electoral cycles". The first author to use the expression political business cycle even if not directly linked to elections was Kalecki (1943, p. 330). Michal Kelecki used this expression to qualify the inflation–unemployment cycle, which reflects fluctuations in the political power struggle between conflicting social classes. Moreover, he was rather silent on the government's behavior. In his work, the government appears as a passive relay in class struggles, favoring the different classes alternately through stop and go policies.

selling policies for votes instead of products for money". In this view, there is no room for ideology. Politicians treat the possible political choices solely as a means of fulfilling their private objectives, objectives that can only be achieved if they are elected: "parties formulate policies in order to win elections, rather than win elections in order to formulate policies" (Downs 1957b, p. 28). Worried only about reelection, they forget the general interest; the benevolent dictator *à la* Wicksell mentioned earlier vanishes. The private interest hypothesis is certainly not new (see Smith 1776), but it is the first time that it is applied to politicians.[3]

In their two co-written papers, Bruno Frey and Lawrence Lau take up the Downsian hypothesis of self-interest to characterize the government in their model (Frey and Lau 1968; Lau and Frey 1971). Popularity is thus considered a form of pressure upon government that can lead to electoral defeat if neglected.[4]

In 1971, in a speech at a symposium on the appraisal of the Employment Act of 1946, Milton Friedman envisaged the possibility of PBCs under some restrictive assumptions:

> …if, in the United States, we had highly precise knowledge of the short-term effects of monetary and fiscal policy, and the authorities were not bound by any rigid and well-enforced rule in the conduct of monetary and fiscal policy, then I would predict with great confidence a four-year cycle, with unemployment reaching its trough in years divisible by four (i.e., presidential election years) and inflation reaching its peak in the following year. (Friedman 1972, p. 196)

Nordhaus's (1975) paper thus comes after several others. The interesting point here is why this particular paper has received so much attention and has occluded most of the previous literature. To identify the reasons for this success, one has to go back to the beginning of the 1970 s when William Nordhaus wrote his paper.

In 1972, Nordhaus wrote a first version of his paper and published it in the *Cowles Foundation Discussion Papers* series (Nordhaus 1972). At the Cowles Foundation, he met Gerald Kramer and Ray Fair, who had both shown that economic conditions influence election results (Kramer 1971; Fair 1975). These works are extremely important because they complete those of Downs: as economic outcomes influence the vote, the incumbent who wants to be reelected has an incentive to manipulate the economy in order to gain votes. To some extent, Nordhaus (1975) therefore echoes the works of Gerald Kramer and Ray Fair.

A second reason can be found in the fact that in the 1970s the work of Michal Kalecki received new attention and most of his books were then reprinted (see Boddy and Crotty 1975; Feiwel 1974). Nordhaus (1975) thus emerged in a period when politico-economic cycles were fashionable.

Third, the popularity gained by Nordhaus (1975) can be explained by the fact that he proposed an analytical model that was missing in Akerman (1947) or Downs (1957a, 1957b) and which probably appeared more appealing and trendy than that of Frey and Lau (1968) or Lau and Frey (1971), notably because of the use of the Phillips curve. He also provided an empirical analysis that only Akerman (1947) had conducted before him.

[3] All the same, one notes that the reelection motivation is present, for example, in Tocqueville (1835).

[4] However, in these papers (and in subsequent papers by the same authors and their coauthors), one should note that the concept of cycle is missing, the political pressure being permanent and not only during elections. I will disregard here the literature concerning this "satisficing" version of the PBC model, but this idea will later be taken up and combined in the traditional electoral cycle (see Sect. 3.4).

Fourth, concerning the economic context, William Nordhaus wrote in a period when the instability of macroeconomic variables was increasing, notably with regard to the inflation rate. These fluctuations, when not expected, are sources of uncertainty that penalize investment and undermine growth. Economic scholars were searching for the origins of this instability and Nordhaus (1975) provided an answer: the volatility of inflation comes from electoral manipulations.

Finally, at the beginning of the 1970s, the United States experienced a confidence crisis in its elected representatives that reached its climax in August 1974 with President Nixon's resignation after the Watergate scandal. A cynical vision of manipulator politicians was in the air and Nordhaus (1975) caught that atmosphere.[5]

Having addressed these considerations of the history of thought, this article aims to survey the existing literature on this topic. Of course, many good surveys already exist on PBCs.[6] The aim here is not only to update these studies, but also to complete them, as many aspects developed below are generally not tackled. In Sect. 2, a simplified version of Nordhaus's model, drawn from Artus (1993), is presented with key assumptions and key results. As this model, despite its appealing formalization, led to mixed empirical conclusions, scholars have put forward several critiques, which have opened up new research fields. These main developments are summarized in Sect. 3. Section 4 is devoted to exploration of a particular critique addressed to Nordhaus's model: the fact that the cycle could be conditional, especially conditional on the institutional context. Section 5 envisages some promising directions for future research.

2 Nordhaus's (1975) model: a simple presentation of the theory and conclusions of first tests

The economy is characterized by an expectation-augmented Phillips curve:

$$Y_j = \overline{Y} + \gamma(\pi_j - \pi_j^e), \tag{1}$$

where Y_j is the output level in period j, $\overline{Y}$ is the equilibrium output level, π_j is the inflation rate in period j, π_j^e is the expected inflation rate for the period j and γ is a positive constant.

The government is penalized by both unemployment and inflation. It maximizes a vote function defined as follows:

$$V_j = -l\left(\tilde{Y} - Y_j\right)^2 - m\pi_j, \tag{2}$$

where $\tilde{Y}$ is the target level of output and l and m are parameters measuring discontent with unemployment and inflation, respectively. Even if the government does not control it directly, the inflation rate is the action variable of the government. The result of the minimization of (2) can be interpreted as the inflation rate the government would like see implemented; it is the preferred inflation rate of the government.

[5] One might note that other articles or books dealing with the idea of PBCs, sometimes written independently of Nordhaus (1975), exist: Schumpeter (1939, in particular p. 391), Breton (1974, in particular p. 49), Ben-Porath (1975), Lindbeck (1976), Frey and Ramser (1976), Umstead (1977), Wagner (1977) and Lächler (1978).

[6] See de Haan (2013), de Haan and Klomp (2013), Drazen (2000, chapter 7; Drazen 2001), Franzese (2000, 2002), Franzese and Long-Jusko (2006), Olters (2001) and Shi and Svensson (2003) for the most recent references.

One supposes that there are two periods, noted t and $t + 1$, and that elections take place at the end of period $t + 1$.

The government minimizes the following intertemporal loss function:

$$V = \frac{V_t}{1+\rho} + V_{t+1}, \tag{3}$$

where ρ is a "forgetting rate" which is supposed to be > 0. This kind of discount rate applied to the first period models the fact that individuals have a short memory. At the time of the elections, voters have partially forgotten the first period. In combining (1) and (2) and in setting $\tilde{Y} - \overline{Y} = \alpha > 0$, one obtains:

$$V_j = -l\left[\alpha - \gamma(\pi_j - \pi_j^e)\right]^2 - m\pi_j. \tag{4}$$

and then:

$$V = \frac{-l\left[\alpha - \gamma(\pi_t - \pi_t^e)\right]^2 - m\pi_t}{1+\rho} - l\left[\alpha - \gamma(\pi_{t+1} - \pi_{t+1}^e)\right]^2 - m\pi_{t+1}. \tag{5}$$

The key assumption of the model is the characterization of the individuals' expectations. One supposes here that individuals form their expectations in a naïve way[7]:

$$\pi_j^e = \pi_{j-1}. \tag{6}$$

In incorporating (6) in (5) and minimizing with respect to π_t and π_{t+1}, one obtains the first-order conditions for the government program:

$$\pi_{t+1} = \pi_t + \frac{\alpha}{\gamma} - \frac{m}{2l\gamma^2} \tag{7}$$

$$\pi_t = \pi_{t-1} + \frac{\alpha}{\gamma} - \frac{m(2+\rho)}{2l\gamma^2} \tag{8}$$

For $\frac{m}{2l\gamma^2} < \frac{\alpha}{\gamma} < \frac{m(2+\rho)}{2l\gamma^2}$, one has the classic Nordhaus (1975) result:

$$\pi_t < \pi_{t-1} \textit{ and } \pi_{t+1} > \pi_t. \tag{9}$$

A politico-economic cycle occurs. In the period after the elections, the actual inflation rate is less than expected. Output declines, which leads to higher unemployment (this will be forgotten in the next period). Post-electoral periods are therefore recession periods. In the period before the elections, the actual inflation rate is higher than expected. Output increases, which leads to lower unemployment. Pre-electoral periods are therefore expansion years. Voters are manipulated as they rely on the (low) inflation rate in the previous period to build their expectations.

The first econometric tests searching for PBCs in inflation and/or unemployment led to mixed conclusions. Allen et al. (1986), McGavin (1987), Haynes and Stone (1988, 1989, 1990), Keil (1988) and Findlay (1990) conclude in favor of Nordhaus's theory, whereas McCallum (1978), Golden and Poterba (1980), Alt and Chrystal (1981), Beck (1982),

[7] Naïve rather than adaptive expectations, as in the Nordhaus model, are used here without loss of generality.

Alesina (1988, 1989) and Davidson et al. (1990) do not. This inconclusive literature has raised some questions about Nordhaus's model, which has been criticized on both theoretical and empirical grounds.

3 First critiques, new fields

I present here a list of the main critiques[8] addressed to Nordhaus's model and the developments that issued from these critiques.

3.1 Heterogeneous preferences over inflation and unemployment: partisan cycles

In the Nordhaus model, when inflation increases around the election owing to political manipulations, one might think that it does not affect all voters in the same way as it may penalize those, for example, who are owners of capital. Nordhaus (1975, p. 173) foresees this possibility of a heterogeneous electorate when he states: "It is probably accurate to say that in the United States Republicans have consistently been more concerned about inflation and Democrats about unemployment". Kirschen et al. (1964) are the first to classify economic policy goals according to the ideology of political parties. They consider, for example, that full employment is the first priority of socialist or labor parties, whereas price stability is the chief objective of conservative parties. In Frey and Lau (1968), besides the reelection constraint, there is an internal pressure on the government, namely ideological satisfaction. The government therefore faces a trade-off as both vote maximization and ideological satisfaction are entered as arguments in the "felicity function" that the government seeks to maximize. This idea of a dual behavior would be taken up by Lau and Frey (1971) and empirically tested by several papers at the end of the 1970s and the beginning of the 1980s, the more frequently quoted papers being Frey and Schneider (1978a, 1978b). Finally, in 1977, Donald Wittman demonstrates analytically that parties with policy preferences as well as private interests do not converge (Wittman 1977; completed by Wittman 1983). This goes against Downs (1957b), who argues that parties in competition tend to move closer to a median platform in order to capture the maximum number of voters. Donald Wittman's works therefore provide a foundation for partisan cycles, developed by Hibbs (1977). According to Hibbs's theory—and unlike Nordhaus (1975)—voters have heterogeneous preferences and therefore parties have different ideological goals. The usual way of accounting for these differences between parties (and therefore governments) is to consider that they do not have the same ideal positions on the short-term Phillips curve. Specifically, conservative governments prefer lower inflation and therefore higher unemployment than liberal governments. The changeover of political

[8] For example, the specification of Nordhaus's (1975) vote function has been criticized (e.g., Frey and Ramser 1976; Paldam 1981). I do not develop this point here because the debate about vote function was older and the critique of Nordhaus (1975) did not give rise to a new strand of literature in this area. However, this issue is related to the effectiveness of PBCs. Do the PBCs pay off in terms of votes? Examining the impact of pre-election budget deficit on reelection probability, Brender and Drazen's (2008) conclusion is negative. Aidt et al. (2011) challenge this view and find that greater expenditures in the election year lead to greater vote differences between the incumbent and the main opponent (see also Veiga and Veiga 2007b, in this line). Moreover, some refinements of the Nordhaus model are not shown here because they have not yet given rise to further developments.

power between conservative and liberal governments leads to "partisan cycles".[9] Partisan theory would later be developed and tested by, among many others, Chappell and Keech (1986), Alesina (1987, 1988, 1989), Alesina and Roubini (1992), Alesina et al. (1992, 1993, 1997) and Hibbs (1994).

3.2 Rational expectations: rational political business cycles

In the same year and the same month (April 1975) that William Nordhaus's article was published, an article written by Thomas Sargent and Neil Wallace launched what was called "the rational expectations revolution" (Sargent and Wallace 1975). Some even spoke about "evangelism" (Price 1997, 408). The impact on PBC theory was so important that Alberto Alesina (1988, p. 15) would speak about a presumed "devastating effect". Indeed, if people are able perfectly to anticipate government policy, there is no longer a politico-economic cycle in the Nordhaus (1975) sense. Minimizing the loss function leads the government to set an inflation rate equal to zero for both periods, thus making any expansive policy impossible; PBCs disappear.[10]

More than 10 years would pass by before scholars tried to reconcile Nordhaus's (1975) model with rational expectations theory. The two main contributions here are Rogoff and Sibert (1988) and Rogoff (1990).[11] These articles no longer envisage an inflation/unemployment trade-off but a state budget problem. Moreover, temporary information asymmetry between voters and governments is substituted for the hypothesis of non-rational voters. Voters are rational but do not have complete information about the government's competence; they observe it with a delay. Competence is defined as the capacity to provide public goods and transfers in an efficient way (i.e., by limiting waste). To appear competent, the government pursues an expansive budgetary policy while temporarily hiding the harmful consequences from the agents (the increase in the budget deficit). By doing so, the government creates the illusion of prosperity until the time when voters realize that they will have to "reimburse" by one means or another the deficit thus caused.

Generally, following a distinction first introduced by Persson and Tabellini (2000), these models are labelled adverse selection models because the government has an informational advantage over voters concerning its true competence. Lohmann (1998a) is the first to relax this assumption. Both voters and the government have the same information about the government's competence. However, if voters no longer face an adverse selection problem, they face a moral hazard problem. The incumbent can indeed modulate his or her level of effort and appear better than he or she really is by using policy instruments unobservable to the public.

In taking advantage of information asymmetry and/or trying to appear as competent as possible before the election, politicians behave as in Nordhaus's model. His conclusions

[9] One notes, however, that in partisan theory, the cycle is involuntary: the electoral calendar is a source of uncertainty and disrupts the agents who, not knowing which policy will be implemented after the elections, anticipate an inflation rate between the parties' preferred rates. After the elections, expectations necessarily turn out to be false, which generates a cycle.

[10] Another way, as chosen by Nordhaus (1989), is to defend adaptive expectations by showing that people do not have rational expectations. Early critics of Nordhaus's view of expectations include, among others, McCallum (1978), Keech (1980) and Paldam (1981). In these studies, voters' sophistication and memory are also debated.

[11] Cukierman and Meltzer (1986) are also often quoted, but if they emphasize the role of information asymmetries, they do not deal explicitly with PBCs. Persson and Tabellini (1990) translate Rogoff (1990) into an inflation-unemployment setting.

hold even when voters are not short-sighted and naïve as long as they are poorly informed about the environment, the government's objectives and/or its ability to manage the economy.

3.3 Instruments versus outcomes

As one has seen above, two key variables in the Nordhaus model are the unemployment and inflation rates, outcome variables that are not actually under the direct control of the government. This could be one of the reasons why PBCs are not detected in these kinds of variables. Tufte (1978) is the first to address the question of the means of action available to the government to generate economic expansion before the elections. According to him, "the economic policy instruments involved must be easy to start-up quickly and must yield clear and immediate economic benefits to a large number of voters" (Tufte 1978, p. 9). An increase in real disposable income seems to be a good candidate. Indeed, through taxes and transfers, it can quickly be manipulated and with much greater ease and flexibility than unemployment, inflation or output growth. If a cycle actually exists, it has to be sought not in the outcomes of economic policy, but rather in the instruments of economic policy, which are by definition more directly controllable.

Empirical tests of the PBC in instruments are much more convincing so that nowadays, tests in relation to outcomes are scarce.[12] It is impossible to cite all the hundreds of articles that seek PBCs in budgetary and monetary variables.[13] The most complete studies in terms of the sample include Ames (1987), Remmer (1993), Neto and Borsani (2004), and Nieto-Parra and Santiso (2012) for Latin America, Block (2002) for Africa, Hallerberg et al. (2002) for East Europe, Alesina et al. (1997), Mink and de Haan (2006) and Klomp and de Haan (2013a, 2013c) for industrial democracies and Schuknecht (1996, 1999, 2000) for developing countries.

Of course, the underlying hypothesis is that the government has perfect control over policy instruments. This issue will be examined in Sect. 4.

3.4 The political and economic context

Many scholars have emphasized that the context of an election has an influence on the PBC. Clearly, if the political and economic conditions are considered good by the agents, success is certain for the incumbent government and there is no need to generate a PBC (Dinkel 1981).[14] Two main indicators have been privileged in assessing the electoral context and therefore measuring the risk of a government losing the election.

[12] One should note, however, that an old and persisting literature exists that highlights the presence of PBCs in stock markets. For early references, see Umstead (1977) and Allvine and O'Neill (1980); for more recent references, see Sturm (2013) and Kräussl et al. (2014).

[13] The legitimacy of tests in terms of instruments rather than outcomes is reinforced by the fact that instruments are the action variables in rational PBC models. Besides all of their properties, their use for political purposes is, moreover, grounded theoretically. One also notes that budgetary variables are privileged over monetary variables because of the conjunction of two elements: (1) for one-country studies, there is a need for a degree of freedom which implies resorting to local data; (2) monetary policy is centralized at the national (or supra-national) level and is therefore not an instrument available to local governments.

[14] Conversely, when the incumbent expects to lose the election, it may prefer to use the debt strategically instead of generating a PBC. In doing so, it can constrain the next government by reducing the latter's room for maneuver. In Borooah and van der Ploeg (1983), the "kamikaze" government, knowing it will lose power, pursues a ruinous economic policy, penalizing its successor to the point that the latter will not be reelected, which puts the suicidal government back at the helm. While Alesina and Tabellini (1990) predict

The first indicator is the level of popularity. Schultz (1995) was the first to amend the traditional PBC dummy variable to take account of the popularity of the government, the latter being measured as the differential between the governing party and the main opposition party. The test showed that whereas the unconditional electoral dummy and permanent popularity lead (in Frey and Schneider's style) are not significant, the product of both is. This conclusion would be confirmed by Carlsen (1997) in relation to re-election probability, Price (1998) for popularity level, Alt and Rose (2007) for the level of approval, Efthyvoulou (2012) in terms of voting intention polls and Klomp and Haan (2013b) using a measure of popular protest.[15]

The second indicator is the level of electoral competitiveness. When an election is not competitive, the incumbent has no incentive to generate a PBC. By splitting their sample between high competition states and low competition states, Baber and Sen (1986) show that the PBC in the situation of debt is stronger in the former. Clingermayer and Wood (1995) seem to have been the first to substitute an index of electoral competition for the traditional PBC dummy. They conclude that this index has a significant impact on debt before the election: debt is higher in states with strong interparty competition in the year preceding an election. The presence of such an effect is found in Vergne (2009), Aidt et al. (2011) and Benito et al. (2013b), but is rejected by Chaudhuri and Dasgupta (2005) and Schneider (2010).[16]

The threat of losing an election is only one aspect of the context. Some authors have suggested that the identity of the party in power could have an impact on the PBC. Swank and Swank (1993) show that in the United States, Republican administrations aim to reduce tax rates when elections are approaching, whereas Democratic administrations are more concerned with inflation and unemployment. Partisan differences are found in Haynes and Stones (1990), Kneebone and McKenzie (2001), Krause (2005), Aidt et al.

Footnote 14 continued
an increase in debt whatever the party, Persson and Swensson (1989) highlight partisan differences according to the preferences of each party. The lowest spending party reduces taxes and in doing so, increases debt, thus forcing the next party to spend less. However, the highest spending party raises taxes, which creates a surplus and makes the next party's policy easier to implement. This theory was tested with success by Pettersson-Lidbom (2001). In Tabellini and Alesina (1990), as the preferences of the next majority concerning the composition of expenditures are uncertain, the current median voter prefers higher debt to be sure that the next majority will have sufficient scope to implement its desired policy. Finally, in Aghion and Bolton (1990), the conservative party accumulates deficits when in power and voters reelect it as they deem the opposition (liberal) party unable to fight against deficits.

[15] Popularity can be considered a proxy for economic conditions, which can also have a direct impact on PBC. In Efthyvoulou (2012), the magnitude of a PBC is weaker when non-economic voting (measured by replies to a survey about households' financial situation) is high. In Hanusch (2012), economic disturbances blur competence signals, which dampen PBCs. In Canes-Wrone and Park (2012), the traditional PBC is invisible because it is cancelled by another cycle in private investment which drops before the election owing to electoral uncertainty. In Alpanda and Honig (2010), the government is constrained in generating a PBC by its borrowing capacity. Finally, endowment in natural resources can play a role (Vergne 2009).

[16] This can be related to the growing literature on leviathan behavior (Brennan and Buchanan 1980), in which politicians are viewed as power-maximizing agents whose only purpose is to maximize the size of the public sector. In this literature, the electoral constraint modelled by the margin (the difference in vote shares or the distance from a 50 % vote share) affects budget outcomes. Ultimately, the empirical test looks very much like a classic PBC test in which the margin is substituted for the traditional electoral dummy. However, the interpretation is different. In the leviathan model, the margin is expected to be related positively to expenditure and taxes. The larger the margin, the greater the government's capacity to increase expenditures and taxes (Dubois *et al.* 2007; Solé-Ollé 2003, 2006). In the PBC model, the larger the margin, the lower the incentive to intervene to secure reelection and the lower the expenditures and the higher the tax.

(2011), Garcia-Sanchez et al. (2011) and Benito et al. (2013b), but not in Grier (1987) and Haynes and Stone (1989). Besides the identity of the party, the distance between parties' platforms (polarization) can also play a role. The larger the distance, the greater the utility loss from losing office and the greater the manipulation the incumbent is willing to engage into be reelected (Alt and Lassen 2006; Klomp and de Haan 2013c). Finally, other dimensions of the context include political alignment or affiliation (i.e., when local and national executives belong to the same party) as shown in Lema and Streb (2013) and Rumi (2014), the strength of political parties (Shelton 2014) and the strength of the incumbent government, a divided or fragmented government being less able to generate a PBC because of coordination costs (Alt and Rose 2007; Rose 2008; Klomp and de Haan 2013c; but see Geys 2007, for a challenging view).

4 Taking into account the institutional context: conditional political business cycles

I focus here on three features of the institutional context: the electoral calendar, the governance system, regime and rule, and the constraints on economic policy.[17]

4.1 The electoral calendar: length of terms and endogenous elections

In Nordhaus's (1975) model, the institutional context appears as a watermark throughout the lengths of office terms. For Nordhaus (1975), reducing the length of terms or the number of terms imposes a time constraint on the government, which is no longer able to generate a cycle (see, in a similar vein, Besley and Case 1995; Streb 1999; Grier and Grier 2000; Bordignon et al. 2003; Rose 2006, 2008; Alt and Rose 2007; Klein 2010; Aidt et al. 2011; Benito et al. 2013b; Sjahrir et al. 2013; Klein and Sakurai 2015).[18] For Amacher and Boyes (1978), reducing the frequency of elections reduces their cost. At the extreme, an infinite length of the electoral cycle could enable such a result (MacRae 1977). Lindbeck (1976) suggests choosing the date of elections randomly. In both cases, if the date of the next election is not known, the government cannot anticipate when it has to generate the cycle. However, these options are not compatible with a democratic system. On the optimal length of the electoral term, see also Chappell and Peel (1979), Ginsburgh and Michel (1983), Keech and Simon (1983), Baleiras and Santos (2000) and Ferris and Voia (2009).

[17] Several other institutional variables that may exert an impact on the magnitude of PBCs have been studied: the quality of institutions by Shi and Svensson (2006), government transparency by Akhmedov and Zhuravskaya (2004), corruption by Shi and Svensson (2006), globalization by Efthyvoulou (2011), social capital measured by the level of generalized trust by Kouvavas (2013), direct versus indirect elections by Sjahrir et al. (2013) and the degree of decentralization (Vergne 2009; Shelton 2014). Among these miscellaneous issues, the special role of the media emerges. As one has seen, information is crucial in the formation of PBCs as informational asymmetries could be at their heart. The better informed the voters, the better their evaluation of government competence, which diminishes the incentives for the government to generate a PBC. Shi and Svensson (2006), Akhmedov and Zhuravskaya (2004), Alt and Rose (2007), Vergne (2009) and Shelton (2014) have found that voters' access to media or media freedom does indeed have an impact on the magnitude of a PBC.

[18] Some of these studies do not deal explicitly with term limits but investigate an issue that is quite close, i.e., what happens to the PBC when the incumbent is seeking reelection (on the understanding that it is allowed to do so).

Besides the considerations linked to term length, one of the hypotheses of the Nordhaus (1975) model is the exogeneity of the electoral calendar. Elections are held on dates set by law, known to everyone. Frey and Schneider (1978b) and Lächler (1982) were among the first to remark that this hypothesis is not valid for all countries, as in Japan and the United Kingdom, for example, elections are organized by the government on the date desired (as long as it falls before the constitutional or statutory "sell by" date, e.g., six years in the UK). Elections are thus labelled "endogenous". This institutional feature has an important implication for Nordhaus's (1975) theory: rather than generate an economic cycle at the moment of the elections, the government will call elections in an expansionary economic period to ensure its reelection. As Inoguchi (1979) puts it, they "surf" on the economic cycle. It is no longer the economic cycle that follows the political cycle but the reverse. This can be viewed as a means of reducing distortions as the government no longer has to manipulate the business cycle but only to choose the election date with care (Terrones 1989). Nothing is changed in empirical terms as an election should be observed during an economic expansion, whereas in the exogenous version, an economic expansion should be observed in the run-up to an election. Finally, one can imagine a combination of both in which the government generates an economic expansion and then chooses the election date in consequence.

Following Inoguchi (1979), numerous empirical studies have been undertaken in which the occurrence of elections is explained by, among other determinants, the economic conditions: Ito and Park (1988), Ito (1990, 1991), Kohno and Nishizawa (1990), Cargill and Hutchison (1991), Suzuki (1994) and Heckelman and Berument (1998) for Japan, Annett (1993) for Ireland, Chowdhury (1993) and Khemani (2004) for India, Balke (1990), Heckelman and Berument (1998) and Smith (2003, 2004) for the United Kingdom, Reid (1998), Dickson et al. (2013) and Voia and Ferris (2013) for Canada and Telatar (2003) and Karakas (2014) for Turkey.[19] In their panel study, Shi and Svensson (2006) reject a direct effect of the timing of the election date on the magnitude of the PBC observed for the surplus. References that distinguish between pre-determined elections and endogenous elections in the detection of PBCs include Brender and Drazen (2005), Vergne (2009), Katsimi and Sarantides (2012) and Ehrhart (2013).

Finally, it has been shown that a political business cycle in a particular country could generate cross-country spillovers (Tufte 1978; Thompson and Zuk 1983; Ito 1991; Dobson and Dufrene 1993; Foerster 1994; Foerster and Schmitz 1997; Katada and McKeown 1998; Sapir and Sekkat 1999, 2002; Nippani and Arize 2005). To eliminate such imported cycles, some scholars wonder about the opportunity to synchronize electoral calendars and to set a uniform election date for all countries belonging to the same geographic area (Sapir and Sekkat 1999; Breuss 2008).

4.2 System, regime and rule

Regarding the system, the impact of two dimensions on PBC has been studied: an authoritarian versus democratic system and new versus old democracy. In a quite intuitive way, in a country where the incumbent is the sole candidate, the probability of losing power is nil and there is therefore no incentive to generate a PBC. Block et al. (2003) find support for this hypothesis. Nevertheless, it has been shown that PBCs occur even in non-democratic systems: in Egypt (Blaydes 2011), in Mexico (Gonzalez 2002), in China (Guo

[19] See also the panel data studies of Alesina et al. (1997) and Palmer and Whitten (2000). It should be noted that besides these empirical studies, analytical models of the choice of election date have been proposed (see, among others, Smith 1996; Kayser 2005).

2009), in Malaysia (Pepinsky 2007) and in the Republic of Korea (Soh 1988). The idea is that even in authoritarian systems, political leaders have to be sufficiently popular to avoid contestation and removal.

Block et al. (2003) hypothesize that initial or founding multiparty elections would present both the greatest incentives for and the fewest constraints on electoral economic manipulation. On the one hand, through the entry of challengers, an election introduces uncertainty for the authoritarian incumbent, who is therefore more likely to generate a PBC. On the other hand, in founding elections, there is little chance of a free press or other institutional constraints. In a similar vein, according to Brender and Drazen (2005), PBCs are more pronounced in new democracies because of lack of experience with electoral politics, lack of information available to voters, or both. This hypothesis is confirmed by Brender and Drazen (2007) and Klomp and de Haan (2013b, c) but rejected by Hagen (2007) and Barberia and Avelino (2011). Other articles on this topic include Veiga and Pinho (2007), Efthyvoulou (2012) and Shelton (2014). Although the debate has focused on old versus new democracy issues in recent years, some studies show that democracy reduces PBCs, mostly because it is a proxy for other factors that may mitigate PBCs, such as governmental transparency or the media (Akhmedov and Zhuravskaya 2004).

Persson and Tabellini (2003) were the first to study the impact of the political regime (parliamentary versus presidential) and electoral rule (proportional versus majority) on PBCs (see also Chang 2008; Efthyvoulou 2012; Klomp and de Haan 2013c; Shelton 2014). They expect different patterns in PBCs because, according to them, majoritarian elections are associated with stronger individual accountability than proportional elections, in which politicians are more accountable collectively. Moreover, proportional electoral rules give politicians stronger incentives to seek support by endorsing broad policy programs, such as welfare state spending, whereas majoritarian electoral rules instead induce them to target spending to smaller geographic groups (marginal districts with more swing voters). As individual political accountability supplies greater incentives to manipulate than collective accountability, stronger electoral cycles are expected under presidential regimes as decisions are concentrated in the hands of a few decision makers. Linked to the voting rule, Aidt and Mooney (2014) use the natural experiment of a change in suffrage (taxpayer suffrage *versus* universal suffrage) to study how it affects the PBC. If the PBC is present under both rules, all fiscal variables are not affected in the same way. They observe a reduction in tax under taxpayer suffrage (as the right to vote is linked to the obligation to pay local taxes) and an increase in capital spending under universal suffrage (as all adult residents can vote, which creates a larger demand for public goods).

4.3 Constraints on economic policy

In Nordhaus's (1975) model, the action variable of the government is the inflation rate. If one adopts a monetarist view of inflation, separating the monetary authority from the political power (for example, through an independent central bank[20]) should be a means of eliminating PBCs.[21] Most of the empirical literature draws this conclusion (Clark and

[20] In fact, through all of the settings that reduce inflationary bias: implementation of a rule (Barro and Gordon 1983), contract between the government and the central bank (Walsh 1995; see al-Nowaihi and Levine 1998, for the impact of such a contract on PBCs) or the appointment of a conservative central banker (Rogoff 1985).

[21] One might ask why the government could choose to give up the monetary instrument which could be so important in generating PBCs and therefore helpful in reelection. First, monetary policy would be less useful because it is less adapted to targeted interventions toward groups of voters. Fiscal instruments are more

Reichert 1998; Hadri et al. 1998; Gärtner 1999; Clark and Hallerberg 2000; Leertouwer and Maier 2001; Hallerberg et al. 2002; Hiroi 2009; Alpanda and Honig 2009, 2010).

However, some case studies cast doubt on this general conclusion as in countries such as Germany or the United States, PBCs seem to survive even when the monetary policy is conducted by an "independent" central bank. Numerous studies have shown the presence of monetary PBCs in the United States (Grier 1987, 1989; Williams 1990; Carlsen 1997; Abrams and Iossifov 2006) and in Germany (Johnson and Siklos 1994; Vaubel 1997; Lohmann 1998b). How can the Federal Reserve Bank and the Bundesbank, reputed to be the two most independent central banks in the world generate a PBC? An answer lies in the distinction between "*de jure*" or "legal" independence, i.e., that warranted by the central bank status, and "*de facto*" or "actual" independence, i.e., that which can be derived from observation of the central bank behavior (see, in particular Cukierman 1992, on this distinction). The difference observed between these two types of independence could be the result of pressures directly exerted by the government (Abrams 2006; Abrams and Butkiewicz 2012), or indirectly through interventions in the media presenting the government's side (Havrilesky 1988; Froyen et al. 1997; Maier et al. 2002). Government can also control the independent central bank through appointments to the board: see Havrilesky and Schweitzer (1990), Gildea (1990) and Havrilesky and Gildea (1992) for the United States, and Sieg (1997) and Lohmann (1998b) for Germany. Other scholars argue that PBCs detected in monetary instruments are the results of PBCs in fiscal instruments accommodated by the monetary authority (Laney and Willett 1983; Allen 1986; Beck 1987; Allen and McCrickard 1991).

Besides an independent central bank, other monetary institutions may have an impact on the magnitude of the PBC. Among these, the foreign exchange regime is one the most studied (Clark and Reichert 1998; Schuknecht 1999; Clark and Hallerberg 2000; Leertouwer and Maier 2001; Hallerberg et al. 2002; Hiroi 2009; Alpanda and Honig 2010; Shelton 2014). The argument is that a fixed exchange rate regime limits the autonomy of domestic monetary policy and therefore prevents monetary manipulations for electoral purposes. Indeed, in a fixed exchange rate regime, attention is focused on maintaining exchange rates, which may imply the use of monetary tools in a way that the government considers undesirable for is reelection prospects (e.g., monetary contraction, upward adjustment of interest rates). A complementary implication is that in this case, government focuses on fiscal policy, so that a PBC in fiscal policy is more likely to happen in a fixed exchange rate regime.

Up to now, I have considered constraints on monetary instruments. Clearly, several constraints also limit the use of fiscal instruments. Various fiscal rules can reduce PBCs: balanced budget requirements or budget targets (Hallerberg and von Hagen 1998; Clark and Hallerberg 2000; Rose 2006; Alt and Rose 2007; Donahue and Warin 2007; Schneider 2010; Garcia-Sanchez et al. 2011; Benito et al. 2013a; Klomp and de Haan 2013c), delegation to a strong finance minister (Hallerberg and von Hagen 1998; Clark and

Footnote 21 continued
easily manipulated and have more immediate and clear impacts. Political gains from inflation are relatively blurred. Second, the adoption of an independent central bank could be a sign of good will towards the financial market to obtain more credibility and a better reputation. Credibility and reputation are crucial to obtain the confidence of the financial market and this confidence should help finance the public debt, which is also a tool for generating PBCs. Third, adopting an independent central bank could reduce volatility; volatility generates uncertainty and penalizes investment and therefore economic growth, which is the key indicator in the voters' eyes.

Hallerberg 2000), checks and balances[22] (Chang 2008; Streb et al. 2009, 2012, 2013; Ho and Huang 2013; Shelton 2014) and transparency[23] (Alt and Lassen 2006; Alt and Rose 2007; Vicente et al. 2013; Shelton 2014).

Because of all of these constraints, it is increasingly difficult for governments to pursue all-around and indiscriminate fiscal policies for electoral purposes. A solution is to play with the distribution rather than with the amount of spending. This need is reinforced by the fact that targeted spending also yields more visible results. Numerous studies have tried to detect a PBC in targeted spending.[24] The specific components most studied are public employment (Spafford 1981; Levitt 1997; Katsimi 1998; Ames et al. 2005; Coelho et al. 2006; Gamez and Ibarra-Yunez 2007; Remmer 2007), public wages (Borjas 1984; Klein 2004; Gamez and Ibarra-Yunez 2007), defense (Nincic and Cusack 1979; Cusack and Ward 1981; Griffin et al. 1982a, 1982b; Mintz and Hicks 1984; Zuk and Woodbury 1986; Kamlet and Mowery 1987; Mintz and Ward 1988; Mintz 1988; Su et al. 1993), culture (Getzner 2002; 2004; Noonan 2007; Nogare and Galizzi 2011; Benito et al. 2013b) and infrastructure (Blais and Nadeau 1992; Chaudhuri and Dasgupta 2005; Goeminne and Smolders 2014). More global studies investigate PBCs in several spending components to discriminate those privileged by the incumbent: for example, van Dalen and Swank (1996), Kneebone and McKenzie (2001), Galli and Rossi (2002), Serritzlew (2005), Veiga and Veiga (2007a, 2007b), Vergne (2009), Drazen and Eslava (2010), Katsimi and Sarantides (2012), Enkelmann and Leibrecht (2013), Brender and Drazen (2013). Most of these studies conclude in favor of PBCs in most visible components. However, one has to be cautious about what "visible" means here. For example, even if both imply an increase in education spending, building a school is visible whereas raising teachers' wages is not (except to teachers). There could be also a problem of accountability depending on which elections and which aspects of spending are considered. For example, building a hospital may not favor the reelection of a local incumbent because voters hold the national government responsible for such spending.

5 Paths for future research

Can one derive some promising directions for future research on PBCs? Looking at past surveys, this exercise, even if traditional, appears to be quite perilous. Indeed, with the notable exception of Chortareas (1999), no scholar has been an accurate visionary in this respect. In his conclusion, Chortareas (1999, p. 137) states "The institutional structure within which the PBC is typically studied is assumed given. Institutions change and how this change affects the PBC is not usually discussed. Such analysis may provide valuable insights". Launching ourselves into the breach, I propose a research agenda for the next two decades. However, to be prudent, I limit myself to proposing a collection of slight improvements. First, although some (national) studies already exist (Lema and Streb 2013;

[22] Usually measured by an index of the political constraints facing the executive when implementing policy.

[23] Usually measured by an index coding several aspects of the budget process (e.g., budget cycle frequency, the existence of multi-year expenditure forecasts, the requirement of published performance measures). In a somewhat related approach, Mourao (2008) shows that fiscal illusion, in hiding the real fiscal situation, aggravates the PBC. Finally, financial transparency should not be mistaken for transparency understood as the absence of corruption, which can also influence the PBC (Shi and Svensson 2006, Klomp and de Haan 2013c).

[24] Similarly, some scholars have studied PBCs in targeted taxes (e.g., Karran 1985; Ashworth and Heyndels 2002; Chaudhuri and Dasgupta 2005; Ehrhart 2013).

Rumi 2014), more attention could be paid to partisan vertical affinities. Indeed, one might think that PBCs at the local level would be reinforced if the local government shared the same political options as the national government. Second, it could be interesting to examine if PBCs are stronger in the case of simultaneous elections (see Veiga and Veiga 2007a, for a first attempt in Portugal). It would be logical as the stakes are more important. The US case, with presidential and congressional elections held in the same year (compared to midterm elections), or the French case, with presidential and legislative elections held in the same year since 2002 (compared to past elections), could be good fields of investigation. Third, even after four decades, one still knows very little about the duration of electoral effects. How long does the influence of political manipulation last? One quarter? One year? There is essentially no answer to this question. There is also no reason to think that this duration is fixed and cannot change from one country to another, or within the same country from one election to another, and/or from one instrument to another. Scholars who believe in PBCs tend to "force" the tests and select the duration for which the electoral dummy is (the most) significant. For transparency purposes, I militate in favor of generalizing practice, possibly through a table in an annex, to show the significance of the electoral variable for different durations. Fourth, the personal characteristics of candidates can alter the shape of the PBC. The first insights are given by Brollo and Troiano (2013) and Alesina et al. (2015). Brollo and Troiano (2013) find that, when elections are approaching, even if there is no gender difference in transfers and health care services, male mayors hire relatively more temporary public employees than female mayors. Alesina et al. (2015) show that younger politicians are more likely to increase expenditures in pre-election years. We can note that these personal characteristics may also have an indirect impact on PBCs by influencing the probability of reelection and therefore the incentives to generate PBCs. Fifth, although most key economic variables have been studied, one might note that no PBC has been sought in relation to income or wealth inequality. If one disregards the fact that it is an outcome, this variable is interesting for at least two reasons. First, there is no consensus as to whether inequalities are good for the economy. Second, in some countries (e.g., France), inequalities are a strong political marker, which leads us to think that different parties will not generate PBCs with the same pattern. Sixth and finally, changes in the definition of the population of registered voters could influence the PBCs. For example, switching from a system of suffrage based on a tax threshold to universal suffrage (as in Aidt and Mooney 2014), allowing women to vote, or lowering the voting age, are natural experiments through which modifications in the PBC could be studied. Indeed, one might consider that these changes could modify the structure of spending by shifting the target according to the new voters' characteristics.

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References

Abrams, B. A. (2006). How Richard Nixon pressured Arthur Burns: evidence from the Nixon tapes. *Journal of Economic Perspectives, 20*(4), 177–188.

Abrams, B. A., & Butkiewicz, J. L. (2012). The political business cycle: new evidence from the Nixon tapes. *Journal of Money, Credit and Banking, 44*(2–3), 385–399.

Abrams, B. A., & Iossifov, P. (2006). Does the Fed contribute to a political business cycle? *Public Choice, 129*(3–4), 249–262.

Aghion, P., & Bolton, P. (1990). Government domestic debt and the risk of default: a political-economic model of the strategic role of debt. In R. Dornbush & M. Draghi (Eds.), *Public debt management: theory and history* (pp. 315–349). Cambridge, MA: Cambridge University Press.

Aidt, T. S., & 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, T. S., Veiga, F. J., & Veiga, L. G. (2011). Election results and opportunistic policies: a new test of the rational political business cycle model. *Public Choice, 148*(1–2), 21–44.

Akerman, J. (1947). Political economic cycle. *Kyklos, 1*, 107–117.

Akhmedov, A., & Zhuravskaya, E. (2004). Opportunistic political cycles: test in a young democracy setting. *Quarterly Journal of Economics, 119*(4), 1301–1338.

Alesina, A. (1987). Macroeconomic policy in a two-party system as a repeated game. *Quarterly Journal of Economics, 102*(3), 651–678.

Alesina, A. (1988). Macroeconomics and politics. In S. Fischer (Ed.), *NBER macroeconomics annual* (pp. 13–52). Cambridge, MA: MIT Press.

Alesina, A. (1989). Politics and business cycles in industrial democracies. *Economic Policy, No, 8*, 57–99.

Alesina, A., Cohen, G., & Roubini, N. (1992). Macroeconomic policy and elections in OECD democracies. *Economics and Politics, 4*(1), 1–30.

Alesina, A., Cohen, G., & Roubini, N. (1993). Electoral business cycle in industrial democracies. *European Journal of Political Economy, 9*(1), 1–23.

Alesina, A., & Roubini, N. (1992). Political cycles in OECD economies. *Review of Economic Studies, 59*(4), 663–688.

Alesina, A., Roubini, N., & Cohen, G. (1997). *Political cycles and the macroeconomy*. Cambridge, MA: MIT Press.

Alesina, A., & Tabellini, G. (1990). A political theory of fiscal deficits and government debt in a democracy. *Review of Economic Studies, 57*(3), 403–414.

Alesina, A., Troiano, U. & Cassidy, T. (2015). Old and young politicians. Unpublished working paper.

Allen, H. V. (1986). The Federal Reserve and the electoral cycle. *Journal of Money, Credit and Banking, 18*(1), 88–94.

Allen, S. D., & McCrickard, D. L. (1991). The influence of elections on Federal Reserve behaviour. *Economics Letters, 37*(1), 51–55.

Allen, S. D., Sulock, J. M., & Sabo, W. A. (1986). The political business cycle: how significant? *Public Finance Quarterly, 14*(1), 107–112.

Allvine, F. C., & O'Neill, D. E. (1980). Stock market returns and the presidential election cycle. *Financial Analysts Journal, 36*(5), 49–56.

al-Nowaihi, A., & Levine, P. (1998). Can political monetary cycles be avoided? *Journal of Monetary Economics, 42*(3), 525–545.

Alpanda, S., & Honig, A. (2009). The impact of central bank independence on political monetary cycles in advanced and developing nations. *Journal of Money, Credit and Banking, 41*(7), 1365–1389.

Alpanda, S., & Honig, A. (2010). Political monetary cycles and de facto ranking of central bank independence. *Journal of International Money and Finance, 29*(6), 1003–1023.

Alt, J. E., & Lassen, D. D. (2006). Transparency, political polarization, and political budget cycles in OECD countries. *American Journal of Political Science, 50*(3), 530–550.

Alt, J. E., & Rose, S. (2007). Context-conditioned political budget cycles. In C. Boix & S. C. Stokes (Eds.), *Oxford handbook of comparative politics* (pp. 845–867). New York, NY: Oxford University Press.

Amacher, R. C., & Boyes, W. J. (1978). Cycles in senatorial voting behavior: implications for the optimal frequency of elections. *Public Choice, 33*(3), 5–13.

Ames, B. (1987). *Political survival: politicians and public policy in Latin America*. Berkeley, CA: University of California Press.

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.

Annett, A. M. (1993). Elections and macroeconomic outcomes in Ireland, 1948–91. *Economic and Social Review, 25*(1), 21–47.

Artus, P. (1993). *Théorie de la croissance et des fluctuations*. Paris: P.U.F.

Ashworth, J., & Heyndels, B. (2002). Tax structure turbulence in OECD countries. *Public Choice, 111*(1–2), 347–376.

Baber, W. R., & Sen, P. K. (1986). The political process and the use of debt financing by State governments. *Public Choice, 48*(3), 201–215.

Baleiras, R. N., & Santos, V. (2000). Behavioral and institutional determinants of political business cycles. *Public Choice, 104*(1–2), 121–147.

Balke, N. S. (1990). The rational timing of parliamentary elections. *Public Choice, 65*(3), 201–216.

Barberia, L. G., & Avelino, G. (2011). Do political budget cycles differ in Latin American democracies? *Economia, 11*(2), 101–134.

Barro, R. J., & Gordon, D. B. (1983). Rules, discretion and reputation in a model of monetary policy. *Journal of Monetary Economics, 12*(1), 101–121.

Beck, N. (1982). Does there exist a political business cycle: a Box-Tiao analysis. *Public Choice, 38*(2), 205–209.

Beck, N. (1987). Elections and the Fed: is there a political monetary cycle? *American Journal of Political Science, 31*(1), 194–216.

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.

Ben-Porath, Y. (1975). The years of plenty and the years of famine – A political business cycle? *Kyklos, 28*(2), 400–403.

Besley, T., & Case, A. (1995). Does electoral accountability affect economic policy choices? Evidence from gubernatorial term limits. *Quarterly Journal of Economics, 110*(3), 769–798.

Blais, A., & Nadeau, R. (1992). The electoral budget cycle. *Public Choice, 74*(4), 389–403.

Blaydes, L. (2011). *Elections and distributive politics in Mubarak's Egypt*. Cambridge, UK: Cambridge University Press.

Block, S. A. (2002). Political business cycles, democratization, and economic reform: The case of Africa. *Journal of Development Economics, 67*(1), 205–228.

Block, S. A., Ferree, K. E., & Singh, S. (2003). Multiparty competition, founding elections and political business cycles in Africa. *Journal of African Economies, 12*(3), 444–468.

Block, S. A., & Vaaler, P. M. (2004). The price of democracy: sovereign risk ratings, bond spreads and political business cycles in developing countries. *Journal of International Money and Finance, 23*(6), 917–946.

Boddy, R., & Crotty, J. (1975). Class conflict and macro-policy: the political business cycle. *Review of Radical Political Economics, 7*(1), 1–19.

Bordignon, M., Cerniglia, F., & Revelli, F. (2003). In search for yardstick competition: a spatial analysis of Italian municipality property tax setting. *Journal of Urban Economics, 54*(2), 199–217.

Borjas, G. L. (1984). Electoral cycles and the earnings of federal bureaucrats. *Economic Inquiry, 22*(4), 447–459.

Borooah, V. K., & van der Ploeg, F. (1983). *Political aspects of the economy*. Cambridge, UK: Cambridge University Press.

Brechler, J., & Geršl, A. (2014). Political legislation cycle in the Czech Republic. *Constitutional Political Economy, 25*(2), 137–153.

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? *American Economic Review, 98*(5), 2203–2220.

Brender, A., & Drazen, A. (2013). Elections, leaders, and the composition of government spending. *Journal of Public Economics, 97*, 18–31.

Brennan, G., & Buchanan, J. M. (1980). *The power to tax: analytical foundations of fiscal constitution*. New York: Cambridge University Press.

Breton, A. (1974). *The economic theory of representative government*. Chicago: Aldine Publishing Company.

Breuss, F. (2008). A common election day for the Euro zone? *Kyklos, 61*(1), 19–32.

Brollo, F. & Troiano, U. (2013). What happens when a woman wins an election? Evidence from close races in Brazil. Unpublished working paper.

Canes-Wrone, B., & Park, J. K. (2012). Electoral business cycles in OECD countries. *American Political Science Review, 106*(1), 103–122.

Cargill, T. F., & Hutchison, M. M. (1991). Political business cycles with endogenous election timing: evidence from Japan. *Review of Economics and Statistics, 73*(4), 733–739.

Carlsen, F. (1997). Opinion polls and political business cycles: theory and evidence for the United States. *Public Choice, 92*(3–4), 387–406.

Castro, V., & Veiga, F. J. (2004). Political business cycles and inflation stabilization. *Economics Letters, 83*(1), 1–6.

Chang, E. C. (2008). Electoral incentives and budgetary spending: rethinking the role of political institutions. *Journal of Politics, 70*(4), 1086–1097.

Chappell, H. W., & Keech, W. R. (1986). Party differences in macroeconomic policies and outcomes. *American Economic Review, 76*(2), 71–74.

Chappell, D., & Peel, D. A. (1979). On the political theory of the business cycle. *Economics Letters, 2*(4), 327–332.

Chaudhuri, K., & Dasgupta, S. (2005). Political determinants of central governments' economic policies in India: empirical investigation. *Journal of International Development, 17*(7), 957–978.

Chortareas, G. E. (1999). Political business cycles: theory, evidence and extension. In J. M. Mbaku & M. S. Kimenyi (Eds.), *Institutions and collective choice in developing countries: applications of the theory of public choice* (pp. 113–144). Aldershot: Ashgate.

Chowdhury, A. R. (1993). Political surfing over economic waves: parliamentary election timing in India. *American Journal of Political Science, 37*(4), 1000–1118.

Clark, W. R., & Hallerberg, M. (2000). Mobile capital, domestic institutions, and electorally induced monetary and fiscal policy. *American Political Science Review, 94*(2), 323–346.

Clark, W. R., & Reichert, U. N. (1998). International and domestic constraints on political business cycles in OECD economies. *International Organization, 52*(1), 87–120.

Clingermayer, J. C., & Wood, B. D. (1995). Disentangling patterns of state debt financing. *American Political Science Review, 89*(1), 108–120.

Coelho, C., Veiga, F. J., & Veiga, L. G. (2006). Political business cycles in local employment: evidence from Portugal. *Economics Letters, 93*(1), 82–87.

Cukierman, A. (1992). *Central bank strategy, credibility and independence: theory and evidence*. Cambridge, MA: MIT Press.

Cukierman, A., & Meltzer, A. H. (1986). A positive theory of discretionary policy, the costs of democratic government and the benefits of a constitution. *Economic Inquiry, 24*(3), 367–388.

Cusack, T. R., & Ward, M. D. (1981). Military spending in the United States, Soviet Union, and the People's Republic of China. *Journal of Conflict Resolution, 25*(3), 429–469.

Davidson, L. S., Fratianni, M., & von Hagen, J. (1990). Testing for political business cycles. *Journal of Policy Modeling, 12*(1), 35–59.

de Haan, J. (2013). Democracy, elections and government budget deficits. *German Economic Review, 15*(1), 131–142.

de Haan, J., & Klomp, J. (2013). Conditional political budget cycles: a review of recent evidence. *Public Choice, 157*(3–4), 387–410.

de Tocqueville, A. (1835). *De la démocratie en Amérique*. Paris: C. Gosselin.

Dickson, V., Farnworth, M., & Zhang, J. (2013). Opportunism and election timing by Canadian provincial and federal governments. *Canadian Public Policy, 39*(1), 101–118.

Dinkel, R. (1981). Political business cycles in Germany and the United States: some theoretical and empirical considerations. In D. A. Hibbs & H. Fassbender (Eds.), *Contemporary Political Economy* (pp. 209–230). Amsterdam: North-Holland.

Dobson, J., & Dufrene, U. B. (1993). The impacts of U.S. presidential elections on international security-markets. *Global Finance Journal, 4*(1), 39–47.

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.

Downs, A. (1957a). An economic theory of political action in democracy. *Journal of Political Economy, 65*(2), 135–150.

Downs, A. (1957b). *An economic theory of democracy*. New York: Harper & Row.

Drazen, A. (2000). The political business cycle after 25 years. In B. S. Bernanke & K. Rogoff (Eds.), *NBER macroeconomic annual* (pp. 75–137). Cambridge, MA: MIT Press.

Drazen, A. (2001). *Political economy in macroeconomics*. Princeton, NJ: Princeton University Press.

Drazen, A., & Eslava, M. (2010). Electoral manipulation via voter-friendly spending: theory and evidence. *Journal of Development Economics, 92*(1), 39–52.

Dreher, A., & Vaubel, R. (2004). Do IMF and IBRD cause moral hazard and political business cycles? Evidence from panel data. *Open Economies Review, 15*(1), 5–22.

Dubois, E., Leprince, M., & Paty, S. (2007). The effects of politics on local tax setting: evidence from France. *Urban Studies, 44*(8), 1603–1618.

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.

Ehrhart, H. (2013). Elections and the structure of taxation in developing countries. *Public Choice, 156*(1–2), 195–211.

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.

Fair, R. C. (1975). On controlling the economy to win elections. Cowles Foundation Discussion Paper No 397.

Faye, M., & Niehaus, P. (2012). Political aid cycles. *American Economic Review, 102*(7), 3516–3530.

Feiwel, G. R. (1974). Reflection on Kalecki's theory of political business cycle. *Kyklos, 27*(1), 21–48.

Ferris, J. S., & Voia, M. (2009). What determines the length of a typical Canadian parliamentary government? *Canadian Journal of Political Science/Revue Canadienne de Science Politique, 42*(4), 881–910.

Findlay, D. W. (1990). The political business cycle and republican administrations: an empirical investigation. *Public Finance Quarterly, 18*(3), 328–338.

Foerster, S. R. (1994). *Stock market performance and elections: made-in-Canada effects?* (pp. 39–42). Summer: Canadian Investment Review.

Foerster, S. R., & Schmitz, J. J. (1997). The transmission of U.S. election cycles to international stock returns. *Journal of International Business Studies, 28*(1), 1–27.

Franzese, R. J. (2000). Review of A. Alesina & N. Roubini with G. Cohen, *Political Cycles and the Macroeconomy. Journal of Policy Analysis Management, 19(3)*, 501–509.

Franzese, R. J. (2002). Electoral and partisan cycles in economic policies and outcomes. *Annual Review of Political Science, 5*, 369–421.

Franzese, R. J., & Long-Jusko, K. (2006). Political-economic cycles. In B. R. Weingast & D. Wittman (Eds.), *The Oxford handbook of political economy* (pp. 545–564). Oxford: Oxford University Press.

Frey, B. S., & Lau, L. J. (1968). Towards a mathematical model of government behaviour. *Zeitschrift Für Nationalökonomie, 28*, 355–380.

Frey, B. S., & Ramser, H. J. (1976). The political business cycle: a comment. *Review of Economic Studies, 43*(3), 553–555.

Frey, B. S., & Schneider, F. (1978a). An empirical study of politico-economic interaction in the US. *Review of Economics and Statistics, 60*(2), 174–183.

Frey, B. S., & Schneider, F. (1978b). A politico-economic model of the United Kingdom. *Economic Journal, 88*(350), 243–253.

Friedman, M. (1972). Monetary policy. *Proceedings of the American Philosophical Society, 116*(3), 183–196.

Froyen, R. T., Havrilesky, T. W., & Waud, R. N. (1997). The asymmetric effects of political pressures on U.S. monetary policy. *Journal of Macroeconomics, 19*(3), 471–493.

Galli, E., & Rossi, S. P. S. (2002). Political budget cycles: the case of the Western German länder. *Public Choice, 110*(3–4), 283–303.

Gamez, C., & Ibarra-yunez, A. (2007). Political cycles and public expenditures at subnational level: the case of Mexico. *Public Administration, 4*(16), 17–25.

Garcia-Sanchez, I.-M., Prado-Lorenzo, J. M. & Cuadrado-Ballesteros, B. (2011). Do progressive governments undertake different debt burdens? Partisan vs. electoral cycles. *Revista de Contabilidad, 14(1)*, 29–57.

Gärtner, M. (1999). The election cycle in the inflation bias: evidence from the G-7 countries. *European Journal of Political Economy, 15*(4), 705–725.

Gaubatz, K. T. (1991). Election cycles and war. *Journal of Conflict Resolution, 35*(2), 212–244.

Getzner, M. (2002). Determinants of public cultural expenditures: an exploratory time series analysis for Austria. *Journal of Cultural Economics, 26*(4), 287–306.

Getzner, M. (2004). Cultural policies and fiscal federalism. *Public Finance and Management, 4*(1), 21–50.

Geys, B. (2007). Government weakness and electoral cycles in local public debt: evidence from Flemish municipalities. *Local Government Studies, 33*(2), 237–251.

Gildea, J. A. (1990). Explaining FOMC members' votes. In T. Mayer (Ed.), *The political economy of American monetary policy* (pp. 211–227). New York: Cambridge University Press.

Ginsburgh, V., & Michel, P. (1983). Random timing of elections and the political business cycle. *Public Choice, 40*(2), 155–164.

Goeminne, S., & Smolders, C. (2014). Politics and public infrastructure investments in local governments: empirical evidence from Flemish municipalities (1996–2009). *Local Government Studies, 40*(2), 182–202.

Golden, D. G., & Poterba, J. M. (1980). The price of popularity: the political business cycle re-examined. *American Journal of Political Science, 24*(4), 696–714.

Gonzalez, M. (2002). Do changes in democracy affect the political budget cycle? Evidence from Mexico. *Review of Development Economics, 6*(2), 204–224.

Grier, K. B. (1987). Presidential elections and Federal Reserve policy: an empirical test. *Southern Economic Journal, 54*(2), 475–486.
Grier, K. B. (1989). On the existence of a political monetary cycle. *American Journal of Political Science, 33*(2), 376–389.
Grier, R. M., & Grier, K. B. (2000). Political cycles in nontraditional settings: theory and evidence from the case of Mexico. *Journal of Law and Economics, 43*(1), 239–264.
Griffin, L. J., Devine, J. A. and Wallace, M. (1982a). Monopoly capital, organized labor, and military expenditures in the United States, 1949–1976. *American Journal of Sociology, 88(S)*, S113–S153.
Griffin, L. J., Devine, J. A., & Wallace, M. (1982b). The political economy of military spending: evidence from the United States. *Cambridge Journal of Economics, 6*(1), 1–14.
Guo, G. (2009). China's local political budget cycles. *American Journal of Political Science, 53*(3), 621–632.
Hadri, K., Lockwood, B., & Maloney, J. (1998). Does central bank independence smooth the political business cycle in inflation some OECD evidence. *Manchester School of Economic and Social Studies, 66*(4), 377–395.
Hagen, T. (2007). Estimating the effect of parliamentary elections on primary budget deficits in OECD countries. *Economics Bulletin, 8*(8), 1–5.
Hallerberg, M., Vinhas da Souza, L., & Clark, W. R. (2002). Political business cycles in EU accession countries. *European Union Politics, 3*(2), 231–250.
Hallerberg, M., & von Hagen, J. (1998). Electoral institutions and the budget process. In K. Fukasaku & R. Hausmann (Eds.), *Democracy, decentralization and deficits in Latin America* (pp. 65–94). Paris: Organisation for Economic Cooperation and Development.
Hanusch, M. (2012). Mooted signals: economic disturbances and political budget cycles. *Journal of Applied Economics, 15*(2), 189–212.
Havrilesky, T. M. (1988). Monetary policy signalling from the Administration to the Federal Reserve. *Journal of Money, Credit and Banking, 20*(1), 82–101.
Havrilesky, T. M., & Gildea, J. A. (1992). Reliable and unreliable partisan appointees to the board of governors. *Public Choice, 73*(4), 397–417.
Havrilesky, T. M., & Schweitzer, R. (1990). A theory of FOMC dissent voting with evidence from the time series. In T. Mayer (Ed.), *The political economy of American monetary policy* (pp. 197–210). New York: Cambridge University Press.
Haynes, S. E., & Stone, J. A. (1988). Does the political business cycle dominate US unemployment and inflation? Some new evidence. In T. D. Willett (Ed.), *Political business cycles: the political economy of money, inflation and unemployment* (pp. 276–293). Durham: Duke University Press.
Haynes, S. E., & Stone, J. A. (1989). An integrated test for electoral cycles in the US economy. *Review of Economics and Statistics, 71*(3), 426–434.
Haynes, S. E., & Stone, J. A. (1990). Political models of the business cycle should be revived. *Economic Inquiry, 28*(3), 442–465.
Heckelman, J. C., & Berument, H. (1998). Political business cycles and endogenous elections. *Southern Economic Journal, 64*(4), 987–1000.
Hibbs, D. A. (1977). Political parties and macroeconomic policy. *American Political Science Review, 71*(4), 1467–1487.
Hibbs, D. A. (1994). The partisan model of macroeconomic cycles. *Economics and Politics, 6*(1), 1–23.
Hiroi, T. (2009). Exchange rate regime, central bank independence, and political business cycles in Brazil. *Studies in Comparative International Development, 44*(1), 1–22.
Ho, Y. H., & Huang, C. J. (2013). Presidential election, checks and balances, and allocation of public expenditures in Taiwan. *Journal of Economics and Management, 9*(1), 31–53.
Horgos, D., & Zimmermann, K. W. (2010). It takes two to tango: lobbies and the political business cycle. *Kyklos, 63*(3), 383–399.
Inoguchi, T. (1979). Political surfing over economic waves: a simple model of the Japanese political-economic system in comparative perspective. Unpublished working paper.
Ito, T. (1990). The timing of elections and political business cycles in Japan. *Journal of Asian Economics, 1*(1), 135–156.
Ito, T. (1991). International impacts on domestic political economy: a case of Japanese general elections. *Journal of International Money and Finance, 10*, S73–S89.
Ito, T., & Park, J. H. (1988). Political business cycles in the parliamentary system. *Economics Letters, 27*(3), 233–238.
Johnson, D. R., & Siklos, P. L. (1994). Political effects on central bank behaviour: some international evidence. In P. L. Siklos (Ed.), *Variety of monetary reforms: lessons and experiences on the road to monetary union* (pp. 133–163). Dordecht: Kluwer Academic Publishers.

Kächelein, H., Lami, E., & Imami, D. (2011). Election-related cycles in publicly supplied goods in Albania. *South-Eastern Europe Journal of Economics, 9*(1), 13–25.

Kalecki, M. (1943). Political aspects of full employment. *Political Quarterly, 14*(4), 322–331.

Kamlet, M. S., & Mowery, D. C. (1987). Influences on executive and congressional budgetary priorities, 1955–1981. *American Political Science Review, 81*(1), 155–178.

Karakas, M. (2014). Political business cycles in Turkey: a monetary approach. *Electronic Journal of Social Sciences, 13*(48), 159–174.

Karran, T. (1985). The determinants of taxation in Britain: an empirical test. *Journal of Public Policy, 5*(3), 365–386.

Katada, S. N., & McKeown, T. J. (1998). Aid politics and electoral politics: Japan, 1970–1992. *International Studies Quarterly, 42*(3), 591–602.

Katsimi, M. (1998). Explaining the size of the public sector. *Public Choice, 96*(1–2), 117–144.

Katsimi, M., & Sarantides, V. (2012). Do elections affect the composition of fiscal policy in developed, established democracies? *Public Choice, 151*(1–2), 325–362.

Kayser, M. A. (2005). Who surfs, who manipulates? The determinants of opportunistic election timing and electorally motivated economic intervention. *American Political Science Review, 99*(1), 17–27.

Keech, W. R. (1980). Elections and macroeconomic policy optimization. *American Journal of Political Science, 24*(2), 345–367.

Keech, W. R., & Simon, C. P. (1983). Inflation, unemployment, and electoral terms: when can reform of political institutions improve macroeconomic policy? In K. R. Monroe (Ed.), *The political process and economic change* (pp. 77–107). New York: Agathon Press.

Keil, M. W. (1988). Is the political business cycle really dead? *Southern Economic Journal, 55*(1), 86–99.

Khemani, S. (2004). Political cycles in a developing economy: effect of elections in the Indian states. *Journal of Development Economics, 73*(1), 125–154.

Kirschen, E. S., Bénard, J., Besters, H., Blackaby, F., Eckstein, O., Faaland, J., et al. (1964). *Economic policy in our time*. Amsterdam: North-Holland.

Klein, N. (2004). Political cycles and economic policy in Israel: 1980–1999. *Israel Economic Review, 2*(1), 55–67.

Klein, F. A. (2010). Reelection incentives and political budget cycle: evidence from Brazil. *Revista de Administração Pública, 44*(2), 283–337.

Klein, F. A., & Sakurai, S. N. (2015). Term limits and political budget cycles at the local level: evidence from a young democracy. *European Journal of Political Economy, 37*, 21–36.

Klien, M. (2014). Tariff increases over the electoral cycle: a question of size and salience. *European Journal of Political Economy, 36*, 228–242.

Klomp, J., & de Haan, J. (2013a). Political budget cycles and election outcomes. *Public Choice, 157*(1–2), 245–267.

Klomp, J., & de Haan, J. (2013b). Popular protest and political budget cycles: a panel data analysis. *Economics Letters, 120*(3), 516–520.

Klomp, J., & de Haan, J. (2013c). Do political budget cycles really exist? *Applied Economics, 45*(3), 329–341.

Kneebone, R. D., & McKenzie, K. J. (2001). Electoral and partisan cycles in fiscal policy: an examination of Canadian provinces. *International Tax and Public Finance, 8*(5–6), 753–774.

Kohno, M., & Nishizawa, Y. (1990). A study of the electoral business cycle in Japan: elections and government spending on public construction. *Comparative Politics, 22*(2), 151–166.

Kouvavas, O. (2013). Political budget cycles revisited, the case for social capital. Unpublished working paper.

Kramer, G. H. (1971). Short-term fluctuations in U.S. voting behavior, 1896–1964. *American Political Science Review, 65*(1), 131–143.

Krause, G. A. (2005). Electoral incentives, political business cycles, and macroeconomic performance: empirical evidence from Postwar U.S. personal income growth. *British Journal of Political Science, 35*(1), 77–101.

Kräussl, R., Lucas, A., Rijsbergen, D. R., van der Sluis, P. J., & Vrugt, E. B. (2014). Washington meets Wall Street: a closer examination of the presidential cycle puzzle. *Journal of International Money and Finance, 43*, 50–69.

Lächler, U. (1978). The political business cycle: a complementary study. *Review of Economic Studies, 45*(2), 369–375.

Lächler, U. (1982). On political business cycles with endogenous election dates. *Journal of Public Economics, 17*(1), 111–117.

Ladewig, J. W. (2008). Housing starts and the political business cycle. *American Politics Research, 36*(5), 776–798.

Lagona, F., & Padovano, F. (2008). The political legislation cycle. *Public Choice, 134*(3–4), 201–229.
Lami, E., Kächelein, H., & Imami, D. (2014). A new view into political business cycles: household expenditures in Albania. *Acta Oeconomica, 64*, 201–224.
Laney, L. O., & Willett, T. D. (1983). Presidential politics, budget deficits and monetary policy in the United-States, 1960–1976. *Public Choice, 40*(1), 53–69.
Lau, L. J., & Frey, B. S. (1971). Ideology, public approval, and government behavior. *Public Choice, 10*, 21–40.
Leertouwer, E., & Maier, P. (2001). Who creates political business cycles: should central banks be blamed? *European Journal of Political Economy, 17*(3), 445–463.
Lema, D. & Streb, J. M. (2013). Party alignment and political budget cycles: the Argentine provinces. Unpublished working paper.
Levitt, S. D. (1997). Using electoral cycles in police hiring to estimate the effect of police on crime. *American Economic Review, 87*(3), 270–290.
Lindbeck, A. (1976). Stabilization policy in open economies with endogenous politicians. *American Economic Review, 66*(2), 1–19.
Lohmann, S. (1998a). Rationalizing the political business cycle: a workhorse model. *Economics and Politics, 10*(1), 1–17.
Lohmann, S. (1998b). Federalism and central bank independence: the politics of German monetary policy, 1957–1992. *World Politics, 50*(3), 401–446.
MacRae, D. (1977). A political model of the business cycle. *Journal of Political Economy, 85*(2), 239–265.
Maier, P., Sturm, J.-E., & de Haan, J. (2002). Political pressure on the Bundesbank: an empirical investigation using the Havrilesky approach. *Journal of Macroeconomics, 24*(1), 103–123.
McCallum, B. T. (1978). The political business cycle: an empirical test. *Southern Economic Journal, 44*(3), 504–515.
McGavin, B. H. (1987). The political business cycle: a reexamination of some empirical evidence. *Quarterly Journal of Business and Economics, 26*(1), 36–49.
Mink, M., & de Haan, J. (2006). Are there political budget cycles in the Euro area? *European Union Politics, 7*(2), 191–211.
Mintz, A. (1988). Electoral cycles and defence spending: a comparison of Israel and the United States. *Comparative Political Studies, 21*(3), 368–381.
Mintz, A., & Hicks, A. (1984). Military Keynesianism in the United States, 1949–1976: disaggregating military expenditures and their determination. *American Journal of Sociology, 90*(2), 411–417.
Mintz, A., & Ward, M. D. (1988). The evolution of Israel's military expenditures: 1960–1983. *The Western Political Quarterly, 41*(3), 489–507.
Mourao, P. R. (2008). Political budget cycles and fiscal illusion – A panel data study. In H. Marques, E. Soukiazis, & P. Cerqueira (Eds.), *Perspectives on integration and globalisation* (pp. 83–110). Munster: LIT Verlag.
Neto, O. A., & Borsani, H. (2004). Presidents and cabinets: the political determinants of fiscal behavior in Latin America. *Studies in Comparative International Development, 39*(1), 3–27.
Nieto-Parra, S., & Santiso, J. (2012). Revisiting political budget cycles in Latin America. In J. Santiso & J. Dayton-Johnson (Eds.), *The Oxford handbook of Latin American political economy* (pp. 557–584). Oxford: Oxford University Press.
Nincic, M. (1990). U.S. Soviet policy and the electoral connection. *World Politics, 42*(3), 370–396.
Nincic, M., & Cusack, T. R. (1979). The political economy of US military spending. *Journal of Peace Research, 16*(2), 101–115.
Nippani, S., & Arize, A. C. (2005). U.S. presidential election impact on Canadian and Mexican stock markets. *Journal of Economics and Finance, 29*(3), 271–279.
Nogare, C. D., & Galizzi, M. M. (2011). The political economy of cultural spending: evidence from Italian cities. *Journal of Cultural Economics, 35*(3), 203–231.
Noonan, D. (2007). Fiscal pressures, institutional context, and constituents: a dynamic model of states' art agency appropriations. *Journal of Cultural Economics, 31*(4), 293–310.
Nordhaus, W. D. (1972). The political business cycle. Cowles Foundation Discussion Paper No 333.
Nordhaus, W. D. (1975). The political business cycle. *Review of Economic Studies, 42*(2), 169–190.
Nordhaus, W. D. (1989). Alternative approaches to the political business cycles. *Brookings Papers on Economic Activity, No, 2*, 1–49.
Olters, J.-P. (2001). Modeling politics with economic tools: a critical survey of the literature. IMF Working Paper No. 01/10.
Özatay, F. (2007). Public sector price controls and electoral cycles. *Applied Economics, 39*(4), 527–539.
Paiva, C. A. (1996). Electoral price cycles in regulated industries. *World Development, 24*(10), 1673–1680.

Paldam, M. (1981). An essay on the rationality of the economic policy: the test-case of the electional cycle. *Public Choice, 37*(2), 287–305.
Palmer, H. D., & Whitten, G. D. (2000). Government competence, economic performance and endogenous election dates. *Electoral Studies, 19*(2–3), 413–426.
Pepinsky, T. (2007). Autocracy, elections, and fiscal policy: evidence from Malaysia. *Studies in Comparative International Development, 42*(1–2), 136–163.
Persson, T., & Swensson, L. (1989). Why a stubborn conservative would run a deficit. *Quarterly Journal of Economics, 104*(2), 325–345.
Persson, T., & Tabellini, G. (1990). *Macroeconomic policy, credibility and politics*. Chur, Switzerland: Hardwood Academics Publishers.
Persson, T., & Tabellini, G. (2000). *Political economics: explaining economic policy*. Cambridge, MA: MIT Press.
Persson, T. & Tabellini, G. (2003). *The economic effects of constitutions*. Cambridge, MA & London: MIT Press.
Pettersson-Lidbom, P. (2001). An empirical investigation of the strategic use of debt. *Journal of Political Economy, 109*(3), 570–582.
Price, S. (1997). Political business cycles and macroeconomic credibility: a survey. *Public Choice, 92*(3–4), 407–427.
Price, S. (1998). Comment on "The politics of the political business cycle". *British Journal of Political Science, 28*(1), 201–209.
Reid, B. G. (1998). Endogenous elections, electoral budget cycles and Canadian provincial governments. *Public Choice, 97*(1–2), 35–48.
Remmer, K. L. (1993). The political economy of elections in Latin America, 1980–1991. *American Political Science Review, 87*(2), 393–407.
Remmer, K. L. (2007). The political economy of patronage: expenditure patterns in the Argentine provinces, 1983–2003. *Journal of Politics, 69*(2), 363–377.
Rogoff, K. (1985). The optimal degree of commitment to an intermediate monetary target. *Quarterly Journal of Economics, 100*(403), 1069–1189.
Rogoff, K. (1990). Equilibrium political budget cycles. *American Economic Review, 80*(1), 21–36.
Rogoff, K., & Sibert, A. (1988). Elections and macro-economic policy cycle. *Review of Economic Studies, 55*(1), 1–16.
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.
Rumi, C. (2014). National electoral cycles in transfers to subnational jurisdictions: evidence from Argentina. *Journal of Applied Economics, 17*(1), 161–178.
Sapir, A., & Sekkat, K. (1999). Optimum electoral areas: should Europe adopt a single election day? *European Economic Review, 43*(8), 1595–1619.
Sapir, A., & Sekkat, K. (2002). Political cycles, Fiscal deficits, and Output spillovers in Europe. *Public Choice, 111*(1–2), 195–205.
Sargent, T. J., & Wallace, N. (1975). Rational expectations, the optimal monetary instrument and the optimal money supply rule. *Journal of Political Economy, 83*(2), 241–254.
Schneider, C. J. (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. (1996). Political business cycles and fiscal policies in developing countries. *Kyklos, 49*(2), 155–170.
Schuknecht, L. (1999). Fiscal policy cycles and the exchange rate regime in developing countries. *European Journal of Political Economy, 15*(3), 569–580.
Schuknecht, L. (2000). Fiscal policy cycles and public expenditure in developing countries. *Public Choice, 102*(1–2), 115–130.
Schultz, K. A. (1995). The politics of political business cycle. *British Journal of Political Science, 25*(1), 79–100.
Schumpeter, J. A. (1939). *Business cycles: a theoretical, historical, and statistical analysis*. New York: McGraw Hill.
Serritzlew, S. (2005). Breaking budgets: an empirical examination of Danish municipalities. *Financial Accountability & Management, 21*(4), 413–435.
Shelton, C. A. (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*(8–9), 1367–1389.
Shughart, W. F, I. I., & Tollison, R. D. (1985). Legislation and political business cycles. *Kyklos, 38*(1), 43–59.
Sieg, G. (1997). A model of partisan central banks and opportunistic political cycles. *European Journal of Political Economy, 13*(3), 503–516.
Sjahrir, B. S., Kis-Katos, K., & Schulze, G. G. (2013). Political budget cycles in Indonesia at the district level. *Economics Letters, 120*(2), 342–345.
Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations*. New York: Random House.
Smith, A. (1996). Endogenous election timing in majoritarian parliamentary systems. *Economics and Politics, 8*(2), 85–110.
Smith, A. (2003). Election timing in majoritarian parliaments. *British Journal of Political Science, 33*(3), 397–418.
Smith, A. (2004). *Election timing*. Cambridge, MA: Cambridge University Press.
Soh, B. H. (1988). Political instability and economic fluctuations in the Republic of Korea. *Public Choice, 57*(3), 259–274.
Solé Ollé, A. (2003). Electoral accountability and tax mimicking: the effects of electoral margins, coalition government, and ideology. *European Journal of Political Economy, 19*(4), 685–713.
Solé Ollé, A. (2006). The effects of party competition on budget outcomes: empirical evidence from local governments in Spain. *Public Choice, 126*(1–2), 145–176.
Spafford, D. (1981). Highway employment and provincial elections. *Canadian Journal of Political Science, 14*(1), 135–143.
Streb, J. M. (1999). Reelection or term limits? The short and the long run view of economic policy. *Estudios de economía, 26*(2), 187–206.
Streb, J. M., Lema, D., & Garofalo, P. (2012). Temporal aggregation in political budget cycles. *Economía, 13*(1), 39–78.
Streb, J. M., Lema, D., & Garofalo, P. (2013). Electoral cycles in international reserves: evidence from Latin America and the OECD. *Revista di Economia, 20*(2), 27–60.
Streb, J. M., Lema, D., & Torrens, G. (2009). Checks and balances on political budget cycles: cross-country evidence. *Kyklos, 62*(3), 426–447.
Sturm, R. R. (2013). Economic policy and the presidential election cycle in stock returns. *Journal of Economics and Finance, 37*(2), 200–215.
Su, T. T., Kamlet, M. S., & Mowery, D. C. (1993). Modeling US budgetary and fiscal policy outcomes: a disaggregated, systemwide perspective. *American Journal of Political Science, 37*(1), 213–245.
Sukhtankar, S. (2012). Sweetening the deal? Political connections and sugar mills in India. *American Economic Journal: Applied Economics, 4*(3), 43–63.
Suzuki, M. (1994). Evolutionary voter sophistication and political business cycle. *Public Choice, 81*(3–4), 241–261.
Swank, O. H., & Swank, J. (1993). In search of the motives behind US fiscal macroeconomic policy. *Applied Economics, 25*(8), 1013–1022.
Tabellini, G., & Alesina, A. (1990). Voting on the budget deficit. *American Economic Review, 80*(1), 37–49.
Telatar, F. (2003). Political business cycles in the parliamentary systems: evidence from Turkey. *Emerging Markets Finance and Trade, 39*(4), 24–39.
Terrones, M. (1989). Macroeconomic policy choices under alternative electoral structures. University of Western Ontario research report No 8905.
Theil, H. (1958). *Economic forecasts and policy*. Amsterdam: North-Holland.
Thies, C., & Porche, S. (2007). The political economy of agricultural protection. *The Journal of Politics, 69*(1), 116–127.
Thompson, W. R., & Zuk, G. (1983). American elections and the international electoral-economic cycle: a test of the Tufte hypothesis. *American Journal of Political Science, 27*(3), 464–484.
Tinbergen, J. (1952). *On the theory of economic policy*. Amsterdam: North-Holland.
Tufte, E. R. (1978). *Political control of the economy*. Princeton: Princeton University Press.
Umstead, D. A. (1977). Forecasting stock market prices. *Journal of Finance, 32*(2), 427–441.
van Dalen, H. P., & Swank, O. H. (1996). Government spending cycles: ideological or opportunistic. *Public Choice, 89*(1–2), 183–200.
Vaubel, R. (1997). The bureaucratic and partisan behavior of independent central bank: German and international evidence. *European Journal of Political Economy, 13*(2), 201–224.
Veiga, L. G., & Pinho, M. M. (2007). The political economy of intergovernmental grants: evidence from a maturing democracy. *Public Choice, 133*(3–4), 457–477.

Veiga, L. G., & Veiga, F. J. (2007a). Political business cycles at the municipal level. *Public Choice, 131*(1–2), 45–64.

Veiga, L. G., & Veiga, F. J. (2007b). Does opportunism pay off? *Economics Letters, 96*(2), 177–182.

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. (2013). Transparency and political budget cycles at municipal level. *Swiss Political Science Review, 19*(2), 139–156.

Voia, M. C., & Ferris, J. S. (2013). Do business cycle peaks predict election calls in Canada? *European Journal of Political Economy, 29*, 102–118.

Wagner, R. E. (1977). Economic manipulation for political profit. *Kyklos, 30*(3), 395–409.

Walsh, C. E. (1995). Optimal contract for central banker. *American Economic Review, 85*(1), 150–167.

Wasserman, A. M. (1983). Political business cycles, presidential elections, and suicide and mortality. *American Sociological Review, 48*(5), 711–720.

Wehner, J. (2013). Electoral budget cycles in legislatures. *Legislative Studies Quarterly, 38*(4), 545–570.

Williams, J. T. (1990). The political manipulation of macroeconomic policy. *American Political Science Review, 84*(3), 767–796.

Wittman, D. (1977). Candidates with policy preferences: a dynamic model. *Journal of Economic Theory, 14*(1), 180–189.

Wittman, D. (1983). Candidate motivation: a synthesis of alternative theories. *American Political Science Review, 77*(1), 142–157.

Alt, J. E. & Chrystal, K. A. (I981). Public sector behaviour: the status of the political business cycle. In Currie, D. A., Nobay, A. R. & Peel, D. (Eds.), *Macroeconomic analysis: essays in macroeconomics and econometrics*. London: Croom Helm, PP. 353–382.

Zuk, G., & Woodbury, N. R. (1986). U.S. defense spending, electoral cycles, and Soviet-American relations. *Journal of Conflict Resolution, 30*(3), 445–468.