We examine the relationship between political development and electoral economic cycles. Recent work suggests that in OECD countries the policy uncertainty associated with elections can lead to “reverse electoral investment cycles” in which private costly-to-undo investment declines in the pre-election period. Yet little is known about whether these cycles exist in less politically developed countries. We analyze this question while also considering opportunistic business cycles, in which incumbents attempt to induce pre-election expansions. Three major findings emerge. First, political development reduces reverse electoral investment cycles; the less politically developed the country, the larger the decline in private investment prior to an election. Second, political development is associated with smaller opportunistic cycles in private consumption and government spending. Finally, the competitiveness of a race matters differently in OECD versus developing democracies; in the former, only close elections produce cycles of either type while in the latter even less competitive races have these effects. Thus while elections are a source of economic cycles, democratic development weakens these effects.

**Key Words:** Policy Uncertainty, Political Business Cycles, Irreversible Investment, Electoral Cycles, Democratic Development
1. Introduction
Various studies argue that policy uncertainty reduces capital investment in developing countries (e.g., Rodrik 1991; Stasavage 2002). Furthermore, recent scholarship demonstrates that the policy uncertainty associated with elections leads to “reverse electoral investment cycles” in which costly-to-undo investments such as capital expenditures decline in the pre-election period, at least in OECD countries (e.g., Canes-Wrone and Park 2012; Julio and Yook 2012). Yet the relationship between these cycles and political development has not been examined. Do such cycles exist in countries with minimal levels of democracy? Do they become stronger or weaker as a country becomes more democratic, and if so, why and how?

Indeed, the relationship between political development and other types of electoral business cycles has been underexplored as well. A couple of studies analyze government fiscal policies and show that elections have a larger impact on these policies in less economically developed countries (Shi and Svensson 2006) and in new democracies (Brender and Drazen 2005). Yet this work does not analyze whether private economic behavior is affected by the level of democracy. Moreover, even for government spending, the analyses do not examine the impact of political development among democracies that are not fully consolidated.

This paper fills these gaps by broadly examining the relationship between political development and electoral cycles in economic outcomes. While a primary focus is on reverse electoral investment cycles, we also consider “opportunistic” ones, whereby incumbents aim to produce pre-election expansions (e.g., Tufte 1978; Keelch 1995).¹ We begin by theorizing about

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¹ Related work finds opportunistic cycles in policies ranging from electricity supply (Min and Golden 2014) to budget composition (e.g., Schneider 2010). For a recent review of the literature on opportunistic cycles, see Dubois (2016).
the ways in which political development affects electoral cycles in different categories of economic output, especially investment and consumption. The theoretical implications are then tested on two datasets that span 1975-2012. The first, main dataset contains annual data on private investment, nondurable consumption, durable consumption, government spending, and total GDP for 55 non-OECD democracies. As a comparison, these five expenditure categories are also analyzed with a panel of quarterly data for 17 OECD countries. In each case, we examine the overall effect as well as how the impact varies according to the closeness or competitiveness of the election.

Three major findings emerge. Most significantly, political development moderates election-induced declines in irreversible investment. Thus while the policy uncertainty associated with democracy produces cycles in real economic outcomes, democratic development ultimately reduces these cycles. Second, unlike earlier work on opportunistic cycles, we establish that they extend beyond government expenditures into the type of private consumption predicted by theory. This is the case in both OECD and developing democracies, although again, political development reduces the size of the cycle. Third, the impact of the closeness or competitiveness of a race matters differently in OECD versus developing countries. In the former, only close elections produce opportunistic and reverse electoral investment cycles. By comparison, in developing democracies even less competitive elections have these effects.

2. Theoretical framework

The reverse electoral investment cycle theory, developed in Canes-Wrone and Park (2012) and Julio and Yook (2012), focuses on “irreversible” investments that would be
impossible or quite expensive to reverse. Consider a firm that is deciding whether to construct a plant to produce solar panels. Once the plant is constructed, it cannot be used for other purposes without expensive modifications. According to the reverse electoral investment cycle theory, the policy uncertainty associated with elections can induce the firm to postpone decisions about how or even whether to construct the plant, assuming the costs of delay are lower than the expected utility from learning who will be in office. Stated more generally, the pre-election period will be associated with a decline in the portions of the economy dominated by irreversible investment. Within gross domestic product (GDP), categories of irreversible investment include private gross fixed capital formation, such as construction or equipment, and consumer durables, such as automobiles or furniture.

Earlier scholarship does not relate the reverse electoral investment cycle theory to political development. However, the underlying assumptions imply that the level of democracy should affect the magnitude of the cycle. As Lupu and Riedl (2013, 1344) discuss, there are “vastly greater levels of uncertainty in developing democracies” due to, among other things, the relative weakness of formal institutional constraints and questions over whether the regime will even remain democratic (emphasis theirs). More broadly, research emphasizes institutionalized checks and balances, the strength of opposition parties, and civil liberties as critical features of a fully developed democracy (e.g., Guillaume and Stasavage 2000; van de Walle 2003), and these

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2 The perspective builds on the broader theoretical literature on investment under uncertainty (e.g., Cukierman 1980; Bernanke 1983; Dixit and Pindyck 1994; Bloom 2009).

3 Romer (1990) shows that economic uncertainty affects consumer purchases of durable goods.
features reduce the policy uncertainty surrounding elections.\(^4\) Consider the earlier example of the solar panel company. The fewer are the constraints on a new leader to change energy policy unilaterally, the higher is the value of learning the electoral results before taking on a costly-to-undo solar project. In a country with limited institutional checks and balances, a new leader could easily change property rights, regulations, and civil liberties upon taking office.

We accordingly expect that as a country becomes more democratic, reverse electoral investment cycles will decline in magnitude. Notably, however, this prediction presumes a minimal level of democracy. If an election is nothing more than an autocrat’s public relations endeavor (e.g., Magaloni and Kricheli 2010), then it will not entail policy uncertainty. However, among countries that are at least partially democratic, such that the elections are associated with a non-trivial possibility of government turnover, we expect the size of reverse electoral investment cycles to be inversely correlated with political development.

Similarly, we expect the size of opportunistic business cycles to be inversely correlated with the level of democracy. Recall that these cycles are caused by incumbent manipulation of the economy via fiscal or monetary expansions (e.g., Nordhaus 1975; Tufte 1978). As the level of democracy decreases, incumbent governments face fewer institutionalized checks and balances and can therefore more easily manipulate policy.\(^5\) Correspondingly, the lack of constraints can reduce fiscal transparency, which makes fiscal manipulation easier to conceal and

\(^4\) For space reasons, we cannot possibly review the extensive literature on democratic development. For a detailed review, see, e.g., Keefer and Vlaicu (2008).

\(^5\) Consistent with this argument, Treisman and Gimpelson (2001, 227) suggest that the “weakly institutionalized” character of the Russian government in the 1990s make it a good case for analyzing incumbent manipulation of the economy.
hence more appealing (e.g., Alt and Lassen 2006). Of course, in a truly autocratic state, where elections are a sham, the government does not need to resort to economic manipulation in order to bolster its chances of winning. However, among countries that are at least partially democratic, we expect smaller opportunistic cycles as the level of democracy increases.

This prediction has implications for both consumer and government spending. In the opportunistic models in which incumbents manipulate fiscal policy, government spending is a prototypical source of this manipulation (e.g., Keech and Pak 1989). And assuming voters believe that they will not bear the costs of these policies (i.e., that personal taxes will not rise proportionately), personal consumption will rise (e.g., Bloomberg and Hess 2003). Likewise, in the monetary policy models, personal consumption increases, in this case because private actors respond to unexpected inflation by boosting wages and hiring, which in turn spurs consumption (e.g., Nordhaus 1989, 17; Hibbs 1987). Despite the implications of the opportunistic cycle for consumer spending, however, existing studies have not established that consumer or other private spending exhibits such an electoral cycle (e.g., Franzese 2002a).

Table 1 summarizes the predictions of the multiple electoral cycle models as they relate to different components of economic output, as well as how the level of political development should affect these cycles.

[Table 1 about here]

The predictions in bold italics are ones that have not been previously tested and/or empirically established. As the table highlights, this group includes almost all of those involving private investment or consumption. For the former, the impact of democratic development has not been
examined. For the latter, even the tests for OECD countries are novel to this paper. As Table 1 summarizes, consumer nondurables should experience an election-induced expansion. However, as with the reverse electoral investment cycle, democratic development should reduce the magnitude of this phenomenon. Consumer durables, by comparison, face countervailing pressures. The reverse electoral investment cycle theory predicts that elections will reduce such consumption, given that durables are a type of irreversible investment, while the opportunistic theory suggests that government actions will encourage consumption of all types. Theoretically, it is not clear which effect should dominate. However, if both perspectives are correct, a distinction should emerge between nondurable and durable goods.

For completeness, Table 1 also shows the predicted effects for government and total spending. As already discussed, the literature suggests that elections induce an expansion in government spending. One earlier study compares fully consolidated democracies—i.e., those with a POLITY rating of 10—to all other countries, and finds that the impact is less for those with a rating of 10 (Brender and Drazen 2005). However, this study does not examine the impact for countries that are not fully consolidated, or whether it is caused by differences in economic development. Thus while we do not claim to be the first to examine the impact of political development on government spending, we examine the subject more thoroughly than previous work does; for this reason the prediction is not in bold in Table 1 but still in italics. Finally, total GDP, like consumer durables, faces countervailing cycles. Assuming these cycles cancel each other out, democratic development will not alter the relationship between elections and total output. As political development increases, the portions of GDP experiencing a reverse

6 In addition, the impact of elections on private fixed investment has not been tested on a panel that is limited to non-OECD or developing countries.
electoral investment cycle will be less subject to an electorally-induced decline, while the portions affected by opportunistic cycles will be less subject to an electorally-induced expansion.

2.1. Closeness of election in developed versus developing democracies

Previous research suggests that the closeness of a race, or what some scholars term electoral competitiveness, should influence the strength of electoral business cycles, at least in highly consolidated democracies. Consider first the reverse electoral investment cycle perspective. As electoral outcomes become less predictable, the policy uncertainty associated with them should increase. Consequently, the closeness of a race enhances the incentive to delay costly-to-undo investments until after the election occurs. Canes-Wrone and Park (2012) formalize this intuition, which is also discussed in Julio and Yook (2012).

Electoral closeness is also relevant to opportunistic political business cycles. Indeed, Schultz (1995) argues that the weak evidence for opportunistic budget cycles in OECD countries is due to scholars’ habit of grouping noncompetitive and competitive elections jointly. When the incumbent government is likely to win by a large margin, manipulation of the economy carries small marginal benefits yet could open up a line of attack from the opposition. Consistent with these arguments, Schultz finds that as the popularity of a British government rises, it becomes less likely to increase transfer payments in the quarter before an election. Price (1998) agrees with Schultz’s analysis as it pertains to popular incumbents, but suggests that governments quite likely to lose reelection should also perceive the costs of manipulation as higher than the benefits. Price consequently expects that as the closeness of a race increases, opportunistic cycles should intensify, regardless of whether the incumbent or opposition is leading (for similar arguments, see Franzese 2002b and Aidt, Viega and Viega 2011).

The available empirical evidence on the impact of closeness/competitiveness does not account for the level of political development, and there are reasons to believe that the impact
will be lower in less developed democracies. When the level of democracy is not high, parties tend to be more fluid, making election outcomes—even ones that are ultimately lopsided—harder to predict. Shifts in voters’ preferences and politicians’ affiliations are common (e.g., Mainwaring and Zoco 2007). Correspondingly, it is often the case that new political parties emerge during a campaign, while seemingly strong and stable political parties fracture (e.g., Elster, Offe, and Preuss 1998). Voter inexperience further contributes to the volatility of electoral outcomes (e.g., Block, Ferree, and Singh 2003; Pop-Eleches 2014). In sum, voters’ alignments and parties’ platforms are less stable than in democracies with high levels of political development.

This fluidity has implications for both reverse electoral investment and opportunistic cycles. With respect to the former, the lower predictability of voters’ and parties’ positions in less developed democracies gives firms an incentive to hold back on costly-to-undo investments in both close and lopsided electoral races. Likewise, with respect to opportunistic cycles, incumbents cannot be confident that a lopsided race will remain so. Therefore, the motivation to manipulate the economy in seemingly uncompetitive races will be higher than in OECD countries, while the costs of manipulation will be lower given the relative lack of checks and balances. We therefore expect that in less politically developed democracies, opportunistic and reverse electoral investment cycles will exist even for electoral races that are relatively uncompetitive.

3. Data and specifications

We analyze two databases that span 1975-2012. The first centers on data from 55 non-OECD democracies of various levels of political development. These data are available annually from the UN National Accounts Official Country Data, World Bank, and other sources described
subsequently. As a point of comparison, we also analyze a panel of quarterly data from the OECD for 17 member-nations. This comparison also enables the testing of predictions not previously analyzed for OECD countries, such as whether consumer spending experiences opportunistic cycles. Additionally, the OECD panel includes recent entrants not examined in previous work.7

The developing democracies span Africa, Asia, Europe, and the Americas. From the potential set of countries the dataset is limited by three requirements. First, the analysis demands at least two successive years of data on nondurable goods, durable goods, or private fixed investment. Second, consistent with the theoretical arguments, we require countries to be at least partially democratic; thus as in Persson and Tabellini (2003) and Epstein et al. (2006), the data include only countries with a score of at least 1 on the POLITY IV scale designed by Marshall and Gurr (2012). The POLITY scale ranges from -10 to 10, with consolidated democracies anchoring the highest values and autocracies the lowest. The rankings are determined by the constraints on executive power, executive recruitment procedures, and the extent of political competition.8 In addition, we use the Freedom House scores that categorize countries as free, partially free, or not free on the basis of political rights and civil liberties, excluding any classified as “not free” (Freedom House 2014). Third, to avoid the concern that the developing...

7 As detailed in the following description, all data sources are publicly available. Upon publication of the article, the unified data sets, log files, and replication codes will be posted in a public data repository.

democracies data are dominated by OECD countries, we exclude ones that are in the OECD during the years of the study.\textsuperscript{9}

The OECD panel includes all member nations for which the OECD has quarterly data on the GDP components of private spending on nondurable goods, durable goods, or private fixed investment. The countries include both recent members such as the Czech Republic as well as longstanding members such as the Netherlands and United States. Nations are in the dataset only for the years in which they are OECD members.\textsuperscript{10}

3.1. **Dependent variables**

For each dataset the main analyses consist of five regressions, where the dependent variables are Nondurable Goods, Durable Goods, Private Fixed Investment, Government Spending and Total GDP. Each of the components is measured with its real annual growth rate. Thus for the developing democracies data, Private Fixed Investment equals the real increase

\textsuperscript{9} These procedures produce the following set: Albania, Bangladesh, Belarus, Bhutan, Bolivia, Botswana, Bulgaria, Cape Verde Islands, Colombia, Costa Rica, Croatia, Cyprus, Djibouti, Ecuador, El Salvador, Ethiopia, Fiji, Gambia, Ghana, Guatemala, Guinea-Bissau, Guyana, Honduras, India, Kenya, Kyrgyzstan, Macedonia, Madagascar, Malawi, Malaysia, Mauritius, Mongolia, Mozambique, Namibia, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Peru, Philippines, Romania, Russia, South Africa, Sierra Leone, Solomon Islands, Sri Lanka, Suriname, Thailand, Ukraine, Uruguay, Venezuela, Zambia, and Zimbabwe.

\textsuperscript{10} The set includes Australia, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Israel, Italy, Luxembourg, the Netherlands, New Zealand, Norway, the United Kingdom, and United States.
between year \( t \) and \( t-1 \) in country \( i \). For the OECD data, which is measured quarterly, the variables are based on year-over-year growth for the same quarter.\(^{11}\)

The GDP components for the developing democracies are from the World Bank Development Indicators (WDI) and UN National Accounts Official Country Data. Where possible we use the former, which contain data on government spending, private gross fixed capital formation (GFCF), and total GDP.\(^{12}\) In addition, the WDI contain national consumer price indices, which are employed to measure the real annual percentage change in the dependent variables and for other variables described subsequently. The WDI do not include data on private consumption of durables versus nondurables, so we construct proxy indices using the UN National Accounts Official Country Data, which contain various categories of personal consumption. Specifically, the UN category “Alcoholic Beverages, Tobacco and Narcotics” represents nondurables and the category “Furniture, Household Equipment, and Routine Household Maintenance” durables. As Engel and Wang (2011) note, beverages and tobacco are classic nondurable goods while furniture and equipment are durable ones.\(^{13}\) We include these data even if the WDI lack a GDP component for that country-year just as we include the WDI data even if the UN lacks data for that country-year; our general strategy was to include as much data as possible.

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\(^{11}\) The data are seasonally adjusted, and the 2010 local currency consumer price index is used.

\(^{12}\) Government spending is calculated from the sum of government consumption and government gross fixed capital formation (GFCF), where the latter equals total GFCF minus private GFCF.

\(^{13}\) See [https://unstats.un.org/unsd/classifications/](https://unstats.un.org/unsd/classifications/) (accessed September 6, 2018) for further details on the composition of all categories of spending.
The supplemental appendix provides descriptive statistics on these and other variables. To ensure the results are not driven by outliers, which are prominent in some GDP components in the developing democracies panel, we winsorize the dependent variables at 1 percent (0.5 percent of each tail). Winsorization is a standard means of dealing with outlying observations (e.g., Julio and Yook 2012). As shown in the supplemental appendix, the results are robust to winsorizing the dependent variables at 1 percent of each tail and to using a log transformation of the unwinsorized data.

3.2. Specifications and independent variables

To test the predictions on political development, the following equation is analyzed for each GDP component in country \( i \) and year \( t \):

\[
\text{GDP Component}_{it} = f(\text{Election year}_{it}, \text{Polity}_{it} \times \text{Election year}_{it}, \text{Polity}_{it}, \text{Controls}_{it})
\]

The election period is measured by Election Year, which equals 1 if the election for the head executive (i.e., president or prime minister) occurs in that calendar year and 0 otherwise. We use the Beck et al. (2001) Database of Political Institutions to determine the dates of these elections and whether the head executive is a president or prime minister. The examination of the election year follows the practice of earlier studies that examine electoral business cycles with annual data (e.g., Block, Ferree, and Singh 2003; Persson and Tabellini 2003). In addition, we have analyzed specifications that include as an additional variable the year before the election year and, separately, the year after the election. The results are substantively similar, as presented in the supplemental appendix.

The previously described POLITY IV scores of Marshall and Gurr (2012) are used to measure political development. The variable Polity reaches a maximum of 10 and a minimum of 1 within the data. As mentioned previously, the score is based on the constraints on executive
power, methods of executive selection, and the ability of opposition parties to challenge incumbent governments. Gleditsch and Ward (1997) argue that the scale primarily captures constraints on executive power. For our purposes, such dominance correlates with the theoretical arguments on why democratic development produces lower electoral cycles; as such, we have separately analyzed the data with Marshall and Gurr’s (2012) measure of executive constraints, and all results hold, as shown in the supplemental appendix.

Equation (1) includes an interaction term between Polity and Election Year plus main effects for each of these variables. If political development reduces the size of electoral cycles, the coefficient on the interaction term should be the opposite of that on the main effect of election year. Thus for private fixed investment, the coefficient on election year should be negative and that on the interaction term positive. Likewise, for components where the opportunistic cycle dominates, the coefficient on election year should be positive and that on the interaction term negative.

In addition to political development, the theoretical predictions concern electoral competitiveness. Like much previous scholarship (e.g., Blais 2006, 120; Cox, Rosenbluth, and Thies 1998), we base the measure on vote share. At the same time, because competitiveness can be influenced by whether a system is parliamentary or presidential, has first-past-the-post versus proportional representation, or minimum threshold requirements, we use a measure that emphasizes within-country variation, as in Julio and Yook (2012). More specifically, we estimate the absolute value of the vote gap between the winning party/candidate and major opposition, take the median of this absolute value, and define close elections as ones in which the
difference is smaller than the median in that country. In presidential systems, the vote gap is calculated as the difference between the top two candidates in the final round. In parliamentary systems, it equals the absolute difference in vote shares between the major party in government and the major opposition party. Specifically, Close Election is an indicator for whether the vote gap is above the median for that country within the years of the data, and Not Close Election is an indicator based on the inverse coding.

To test for whether the impact of elections varies between competitive versus uncompetitive elections, the econometric model estimates one effect of the pre-election period for cases where Close Election equals 1 and a second where Not Close Election equals 1, controlling for the main effect. Formally, the following equation is analyzed:

\[
GDP_{it} = f(Close\ election_{it} \times Election\ year_{it}, \ Not\ close\ election_{it} \times \ Election\ year_{it}, \ Close\ election_{it}, \ Polity_{it}, \ Polity_{it} \times Election\ year_{it}, \ Controls_{it}) \quad (2)
\]

Thus if competitiveness influences the size of an electoral cycle, the coefficient on the interaction Close Election × Election Year should be significantly greater than that on Not Close Election × Election Year. In order to avoid conflating the impact of political development and electoral competitiveness, Equation (2) also accounts for the polity score as well as the interaction of this score.

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14 We use 2012 Database of Political Institutions (Beck et al. 2001) for the vote margins data. If this database does not consider the official election results reliable enough for inclusion, we follow their coding, which means that some observations are dropped when analyzing electoral closeness. We do update the series, however, given that it ends in 2010.
Both Equations (1) and (2) also include a full set of controls that might affect growth in total output and/or one of the individual components. Specifically, these include:

**Government ideology.** To measure government ideology, we use the 2012 Database of Political Institutions (DPI) coding, which is a standard source (e.g., Leblang 2003). The DPI classifies the head executive as left, right, center, or non-ideological (Beck et al. 2001). Because the non-ideological governments do not ordinally scale, we use a set of indicators for the four categories—*Left, Right, Center,* and *Non-ideological*—with the center governments as the omitted category in the regressions.

**Rational partisan theory.** Alesina, Londregan, and Rosenthal (1993) (see also Alesina, Roubini and Cohen 1997) theorize that a shift in government from the right (left) to the left (right) engenders a short-term unexpected increase (decrease) in inflation, temporarily increasing (decreasing) output. The coding of whether partisan turnover occurs is based on the government ideology indicators. In particular, *Rational Partisan Theory* equals -1 in the year after the election if there is turnover from a left- to right-wing government, 1 in this year if the government shifts from right to left, and 0 otherwise.

**G7 Economy.** Previous research uses the G7 growth rate to account for the world economy (e.g., Alesina, Roubini, and Cohen 1997). This growth rate is based on a weighted average among the G7 nations, which include Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

**Lagged GDP per capita.** Like earlier scholarship, we measure economic development with GDP per capita (e.g., Jensen 2008), using the World Bank World Development Indicators. The variable is lagged given that the dependent variables consist of individual GDP components.
Lagged interest rate. Analyses of irreversible investment typically control for interest rates given that long-term purchases can readily involve borrowing. Thus in analyzing private fixed investment and durable goods, we control for the lagged real interest rate with data from the WDI. Because interest rates are not a standard control for studies of total GDP, and because the variable is not available for many developing democracies, the main specifications only include it for the fixed investment and durable goods regressions. However, the results are robust to including this control in other regressions too, as the supplemental appendix details.

Country indicators. We control for the average within-country effect with a series of country indicators that equal 1 if an observation concerns the given nation and 0 otherwise.

The OECD comparison analysis is similar to that for developing democracies with a few exceptions. First, because the OECD countries are almost always at the maximum level of the polity score, we do not include the variables involving these scores. Second, as described earlier, the GDP components are available quarterly and therefore quarterly variables are used where available. For instance, the pre-election period can be specified at the quarterly level, and as Akhmedov and Zhuravskaya (2004) point out, the precision of the time period examined affects the possibility of detecting an opportunistic cycle. Thus the main specifications define the pre-election period as in Schultz (1995), which focuses on the pre-election quarter relative to all other periods. The key independent variable is Pre-election Quarter, which equals 1 in the quarter before the election quarter, and 0 otherwise. The supplemental appendix shows the results from alternative specifications that also include indicators for periods subsequent to and following the pre-election quarter.

15 The only exceptions are France, which always equals at least 8, and a subset of years for which Belgium equals 8 and the Czech Republic equals 9.
The quarterly nature of the data also has implications for several controls. Those for the interest rate and world economic growth can be measured quarterly with OECD data. Also, following Alesina, Londregan, and Rosenthal (1993), for the rational partisan theory control we assume the output effects occur in the 2nd through 5th quarters following the election. All other control variables are available only annually.

3.3. Estimation procedures

A standard method for analyzing panel data for which the number of time periods is comparable to or larger than the number of panels is panel corrected standard errors (Beck and Katz 1995), and the text focuses on this model. There is evidence of first-order autocorrelation, and in keeping with Beck and Katz, a common coefficient of correlation is assumed.\(^\text{16}\) Also as standard, the disturbances are assumed to be heteroskedastic by panel and contemporaneously correlated across panels.

We have considered the possibility that endogenously called elections may affect the findings. Using the specification test of Wooldridge (1995) to assess the endogeneity of the election variables, the results suggest that one cannot reject the null of exogenous elections (p>0.10, two-tailed). These findings are consistent with Alesina, Roubini, and Cohen (1997),\(^\text{\footnotesize 16}\)

\(^\text{16}\) Applying the Wooldridge (2002, pp. 282-283) test to Equation (1), the null of no first-order autocorrelation is rejected at p<0.05, two-tailed, for all dependent variables. Applying the same test to Equation (3), there is evidence of significant autocorrelation for durables and total GDP; for the other dependent variables, the results are substantively similar and significant at p≤0.1, two-tailed, regardless of whether we correct for autocorrelation. We have also tested for unit roots, and the Maddala and Wu (1999) test finds that one can reject the null that the panels are non-stationary at p<0.01, two-tailed, for all dependent variables.
which finds that in most parliamentary democracies there is not a statistically significant relationship between the performance of the economy and the calling of elections.\textsuperscript{17}

4. Results

The theoretical discussion suggested that democratic development should reduce reverse electoral investment and opportunistic business cycles. As executive power becomes less subject to oversight, the policy uncertainty associated with elections will be greater, inducing larger declines in private investment. Likewise, if the chief executive faces few institutional constraints, government transparency is low, and freedom of speech is curtailed, incumbents will have a freer hand to try to create temporary economic expansions. Accordingly, among countries that are at least partially democratic, we should expect smaller electoral cycles as the level of democracy increases.

Table 2 shows that this is indeed what the analysis finds.

\begin{table}
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Year} & \textbf{Election Year} \\
\hline
2010 & 0.12 \\
2011 & 0.13 \\
\hline
\end{tabular}
\caption{Table 2 about here}
\end{table}

The coefficient on the main effect Election Year represents the baseline effect of an election, while that on the interaction Election Year \times Polity reflects how this impact changes as political development increases. Notably, for each regression in which the election year has a significant impact, there is also a significant opposite effect of the level of democracy, suggesting that the size of the electoral cycle declines as the level of democracy increases. Moreover, the effects are

\textsuperscript{17} In the exogeneity tests, the endogenous election period variable was instrumented with an indicator for whether the term was expiring. For each of the five dependent variables for each of the two datasets, the null of exogenous election periods could not be rejected at p<0.10, two-tailed. Further details are available upon request.
significant for all economic outcomes for which they were predicted to be, including private
nondurable consumption and fixed investment.

Take the first column of results, for consumer nondurables. (From left to right the
columns are organized in the typical ordering of GDP components, beginning with consumption,
then investment, followed by government spending.) The coefficient on election year is
statistically significant at conventional levels, providing empirical evidence that opportunistic
cycles extend beyond government behavior into private spending. Furthermore, the effect of
political development on this cycle is significantly negative, indicating that the cycle declines as
a country becomes more democratic. More specifically, the baseline impact of elections on
private nondurable consumption is 12 percentage points, with each one-point in the polity score
decreasing this impact by approximately 1.5 percentage points. Thus for a country with a polity
score of 5, the estimated magnitude of the cycle is 4.5 percentage points. To the best of our
knowledge, this is the first empirical evidence that opportunistic cycles carry over from
government activity into private economic behavior, as the opportunistic theories would predict.

The effect of elections on nondurable consumption remains significant at conventional
levels for all polity scores up to 7. This lack of a significant cycle in countries with the highest
level of development indicates we might not find an impact with the OECD data. However,
because the evidence for opportunistic cycles depends on the precision of the time period
examined (e.g., Akhmedov and Zhuravskava 2004), it is possible that a significant effect will
emerge in the quarterly data. Indeed, possibly the most striking aspect of the results for the
nondurables is the large magnitude of the opportunistic cycle for private consumption for
countries with moderate and lower levels of the polity score. While earlier work has identified
such cycles in government spending, private expenditures have not followed these patterns. The
findings of Table 2---by separating out the type of private spending that should follow this cycle—show that the opportunistic cycle extends to this part of the economy as well, albeit with diminishing effects as the level of democracy increases.

Furthermore, the supplemental appendix shows that the impact of democratic development on private consumer spending is not due to conflating economic and political development. Even controlling for the interaction of economic development and elections, the interaction of the polity score and election year is significant at conventional levels. Likewise, the effect does not simply reflect the newness of a democracy. If we include separate interaction terms between the electoral year and newness as well as political development, the impact of political development remains significant and is actually higher than that of newness.\textsuperscript{18}

Democratic development has similar effects on reverse electoral investment cycles. As expected, the main effect of the election year is negative and significant, and the interaction between this factor and the polity score is significantly positive. In particular, the magnitude of the baseline effect of an election is 18 percentage points, with each one-point increase in the polity score abetting this decline in private fixed investment growth by 2 percentage points. Thus for a country with a polity score of 6, the impact of an election would be 6 percentage points. For all but the most consolidated democracies, specifically ones with polity scores of at least 8, the overall impact of elections remains statistically significant at p<0.05, two-tailed. Thus as

\textsuperscript{18} Specifically, we use Brender and Drazen’s (2005) definition of newness, which is whether a country has had at least four democratic elections. For comparability, development is also measured dichotomously, by whether the polity score is greater than five. The coefficient and standard error on the interaction for the polity score are -9.035 (4.753) while those for the interaction with newness are -1.601 (2.578).
expected, the size of the reverse electoral investment cycle is largest for the least developed
democracies and weakens as the level of political development increases. It is also worth
highlighting that Table 2 is the first evidence that the reverse electoral investment cycle extends
to developing countries at all (to the best of our knowledge); earlier work has shown it for panels
with large numbers of OECD countries (Julio and Yook 2012) or the OECD exclusively (Canes-
Wrone and Park 2012).

As with private nondurable consumption, the effects are not due to conflating economic
and political development. As shown in the supplemental appendix, the electoral impact of the
polity score remains significant even if an additional interaction is included between economic
development and the election year. Likewise, in analyses that account for newness using the
Brender and Drazen (2005) definition, reverse electoral investment cycles are still significantly
higher in magnitude in countries with lower levels of democracy.\textsuperscript{19}

The findings for the other GDP components are also consistent with the predictions. We
noted earlier that durable goods face countervailing pressures from opportunistic and reverse
electoral investment cycles, so that they may cancel each other out. Table 2 indicates this is the
case; the impact of elections for durables is lower in magnitude than that for consumer
nondurables and not at all significant. In other words, durable spending neither increases nor
decreases substantially as an election approaches, a pattern consistent with opportunistic and
reverse electoral investment cycles occurring simultaneously.

\textsuperscript{19} Using the analogous specification as for consumer nondurables, the coefficient and standard
error for the interaction between the election year and political development are 18.962 (7.886)
while that on the interaction between the election year and newness are -10.095 (4.702).
Consistent with earlier work, government spending follows an opportunistic cycle. In this case, however, the cycle abates with political development. At the base level, elections induce an increase in government spending of 10 percentage points. Then for each one-point increase in the polity score this effect diminishes by 1.5 percentage points, with a statistically significant impact extending until the polity score reaches 5.\(^{20}\) As presented in the supplemental appendix, the substantive results hold even controlling for the interaction of elections with per capita GDP, suggesting that democratic development has an impact that is independent of economic development.

Finally, total GDP does not appear to exhibit a significant opportunistic or reverse electoral business cycle. These results are consistent with both cycles occurring and canceling each other out. Moreover, the null effect conforms to earlier studies (e.g., Alt and Chrystal 1983; Schuknecht 1996), suggesting that the findings for the other GDP components are not simply a fluke of the data or specifications.

Appendix Table A presents the estimates for the control variables for the top half of Table 2. As anticipated, the G7 growth rate is associated with a significant increase in private consumption and investment. In addition, higher interest rates are associated with lower private expenditures on costly-to-undo investments. Notably, we have also analyzed the data without controls other than the country indicators, and these results are substantively similar, as shown in the supplemental appendix.

The bottom half of Table 2 presents the findings on electoral closeness or competitiveness. (As in the first half of the table, the analysis accounts for all controls and the

\(^{20}\) This finding is consistent with Katsimi and Sarantides (2012), who find that established democracies alter the composition but not the total amount of government spending.
interaction between political development and elections, but for space reasons we do not focus on these estimates given that they are substantively identical to those above.) Importantly, the competitiveness of the election does not substantially increase the electoral cycle for any of the dependent variables. For consumer nondurables, the impact is actually larger for the less competitive races, but the significance of the difference is less than p<0.05, two-tailed. The comparison is in the expected direction for private fixed investment and government spending, but not at all significant. As predicted, the impact of elections on consumer durables and total GDP is not significant for either level of competitiveness.

In the theoretical section, we discussed why competitiveness might not influence the magnitude of electoral cycles in developing countries. Among other factors, the fluidity of voters’ allegiances and voter inexperience can create uncertainty even when the outcome of a race is ultimately lopsided. In addition, and relatedly, the parties themselves are more fluid, with nontrivial probabilities of new parties forming and coalitions fracturing. For these reasons, the results on competitiveness in developing democracies are not surprising, although to the best of our knowledge new to the literature.

Consider as an example one of the observations in the data, the 1994 Belarus presidential race. In the end, Alyaksandr Lukashenka won by a margin of over 60 percentage points. However, as Frye (1997, 541) observes, “uncertainty over the electoral outcome” during the campaign was high. Many national politicians were plausible contenders. These contenders included Belarussian Communists as well as moderate reformers, creating uncertainty about the likely business environment in the near-term. Therefore, it seems reasonable that private fixed investment growth dropped almost 20 percentage points that year.
Because the results on competitiveness use a dichotomous cutpoint for whether a race is close, we have considered the possibility that they are sensitive to alternative measurement, including cutoffs based on a 5 percentage point difference, or in presidential systems by calculating the margin based on the first round if it was more competitive. In each case, the relative unimportance of competitiveness remains for the developing democracies.

4.1 OECD Comparison

The analyses thus far suggest reverse electoral investment and opportunistic cycles are substantial in developing democracies, but that for the most politically developed countries, no significant cycles exist. As discussed previously, none of private fixed investment, consumer nondurable spending, or government spending is associated with the timing of elections in the annual data for countries with polity scores of at least 8. Prior research suggests that cycles in government spending or private fixed investment are prominent with the examination of shorter time periods (Akhmedov and Zhuravskaya 2004; Canes-Wrone and Park 2012). Therefore, because some of the cycles have not previously been established for OECD countries, particularly with respect to consumer spending, we assess whether they hold once quarterly data is analyzed. For completeness, we include the results for the other GDP components as well.

Table 3 presents the key results. As before, for space reasons, the control variable estimates are presented in Appendix Table A. Also, as discussed previously, these analyses do not include interactions with the polity score given that the observations concern the highest levels of political development.

[Table 3 about here]

The top row of results concerns whether the electoral cycles extend to the OECD sample. Overall, Table 3 suggests that they do, at least when analyzing quarterly data.
For nondurable goods, the coefficient is significantly positive (p<0.05, two-tailed), suggesting that election-inspired government manipulation affects private consumer behavior. In particular, the estimates indicate that growth in private consumption of nondurables increases 0.36 percentage points in the pre-election quarter. On the one hand, the size is considerably smaller than that for the less developed democracies, for which the analogous growth was above 10 percentage points. On the other hand, given that the mean annual growth rate of nondurable consumption is 1.5 percentage points in the OECD sample, these estimates imply that the growth rate is around 25 percent higher in pre-election quarters than in other periods.

Notably, unlike with the developing democracies, this impact appears to be largely driven by close elections. In the second half of the table, where separate coefficients are estimated for elections with above- versus below-average competitiveness, the parameter estimates suggest that the former induce a growth in nondurable consumption of approximately 0.67 percentage points. In uncompetitive elections, by comparison, no significant cycle occurs. A possible reason for the difference between these findings and Table 2 is that electoral results are easier to predict in countries with higher levels of political development (e.g., Block, Ferree, and Singh 2003; Pop-Eleches 2014), so that incumbents facing a lopsided race have few incentives to manipulate the economy.

In keeping with this explanation, the impact of electoral cycles on government spending is also limited to close elections. When a competitive election is imminent, the annual change in government spending is 0.70 percentage points higher than in other periods. By comparison, when an election has lower than average competitiveness, the effect is closer to zero and not at all statistically significant. This finding on government spending comports with the literature (e.g., Schultz 1995; Aidt, Viega, and Viega 2011).
The role of electoral uncertainty is also evident for private fixed investment. As in earlier work (Canes-Wrone and Park 2012; Julio and Yook 2012), we find that in OECD countries reverse electoral investment cycles exist only for close races. More specifically, the second half of Table 3 shows that private fixed investment growth declines more than 1.5 percentage points in the pre-election quarter of a competitive race, but does not change significantly if there is low uncertainty about the electoral result. As with the effects for the opportunistic cycle, the magnitude is far lower than that for the less developed democracies in Table 2.

Finally, the findings for durable goods and total GDP are similar to those for the developing democracies. Regardless of whether a race is competitive, consumer durables and total GDP do not significantly change as the result of an impending election. This lack of significant change is consistent with countervailing pressures from opportunistic and reverse electoral investment cycles. Moreover, the difference between durable and nondurable goods comports with the theoretical expectations.

Overall, the results on OECD countries highlight that democracy does indeed entail the “price” of economic cycles (e.g., Block and Vaaler 2004). At least for competitive elections, consumer spending (for nondurables) and government expenditures increase in the run-up to an election and private fixed investment declines. The findings on consumer nondurables are particularly noteworthy, as earlier work has failed to find an opportunistic cycle in private spending, despite government efforts to boost private economic activity. However, in comparison to the evidence for countries with moderate levels of polity scores, the size of each type of cycle is relatively modest. Thus while elections are the underlying basis for the cycles, democratic development has the effect of weakening them.
5. Conclusion and discussion

This paper has analyzed how political development affects economic cycles in private investment, consumer spending, and government expenditures. In each case, the cycle is strongest for the least developed democracies, and diminishes as the level of political development increases. For instance, in the case of reverse electoral investment cycles, elections induce a decline in costly-to-undo investment due to the accompanying policy uncertainty, but democratic development serves to reduce this uncertainty and the associated decline. Accordingly, while elections are associated with a reduction in private fixed investment growth of over 15 percentage points in the least developed democracies, the analogous reduction is only 1.5 percentage points in the OECD member-nations.

Opportunistic cycles, whereby incumbents engender temporary expansions for electoral gain, also abate with democratic development. Notably, we find such cycles not only for government spending but also for private nondurable consumption. To the best of our knowledge, we are the first to show that incumbent efforts to manipulate the economy affect non-government spending. By separating out consumer spending that should not be affected by reverse electoral investment cycles, we see that the government manipulation affects private actors just as the opportunistic theories would predict. For OECD countries, the magnitude of this impact is much lower than that for the developing democracies, but in both cases, a statistically significant effect occurs.

Democratic development has other effects as well. In OECD countries, the electoral economic cycles occur only for close races. By comparison, in developing democracies, where voters’ allegiances are weaker and outcomes less predictable, the cycles are prominent even for less competitive elections. Therefore, although elections are a source of cycles in real economic
outcomes—in both the private and public sectors—democratic development ultimately reduces the scope and scale of these cycles.

The evidence has implications beyond elections per se. Previous work argues that policy uncertainty relates to the difficulty developing countries face in attracting capital investment (e.g., Rodrik 1991; Stasavage 2002). This paper, by providing an exogenous source of policy uncertainty and showing that it induces a decline in private fixed investment, supports this earlier idea. Moreover, the findings indicate that the impact will be greater the lower is the level of democracy. This last implication suggests that efforts to increase capital investment may benefit from strengthening democratic institutions.
Table 1. Democratic development and electoral cycles in economic output

<table>
<thead>
<tr>
<th>Nongovernment output</th>
<th>Electoral effect</th>
<th>Political Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private gross fixed capital formation</td>
<td>Decline</td>
<td><em>Reduces reverse electoral investment cycle</em></td>
</tr>
<tr>
<td>Consumer nondurables</td>
<td><em>Expansion</em></td>
<td><em>Reduces opportunistic cycle</em></td>
</tr>
<tr>
<td>Consumer durables</td>
<td><em>Countervailing cycles</em></td>
<td><em>No impact, assuming cycles cancel each other out</em></td>
</tr>
<tr>
<td>Government and total output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government spending</td>
<td><em>Expansion</em></td>
<td><em>Reduces opportunistic cycle</em></td>
</tr>
<tr>
<td>Total GDP</td>
<td><em>Countervailing cycles</em></td>
<td><em>No impact, assuming cycles cancel each other out</em></td>
</tr>
</tbody>
</table>
Table 2. Democratic development and electoral cycles in consumption and investment

**Political development**

<table>
<thead>
<tr>
<th></th>
<th>Consumer nondurables</th>
<th>Consumer durables</th>
<th>Private fixed investment</th>
<th>Government spending</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Election year</td>
<td>12.302**</td>
<td>4.665</td>
<td>-17.885**</td>
<td>9.706**</td>
<td>0.974</td>
</tr>
<tr>
<td></td>
<td>(6.050)</td>
<td>(3.592)</td>
<td>(8.402)</td>
<td>(4.420)</td>
<td>(1.727)</td>
</tr>
<tr>
<td>Polity × Election year</td>
<td>-1.540**</td>
<td>-0.456</td>
<td>1.985**</td>
<td>-1.470**</td>
<td>-0.110</td>
</tr>
<tr>
<td></td>
<td>(0.763)</td>
<td>(0.483)</td>
<td>(1.003)</td>
<td>(0.596)</td>
<td>(0.242)</td>
</tr>
<tr>
<td>Polity</td>
<td>-0.035</td>
<td>0.003</td>
<td>-0.814</td>
<td>0.912**</td>
<td>0.213</td>
</tr>
<tr>
<td></td>
<td>(0.442)</td>
<td>(0.463)</td>
<td>(0.735)</td>
<td>(0.410)</td>
<td>(0.214)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Number of observations</td>
<td>466</td>
<td>411</td>
<td>750</td>
<td>930</td>
<td>930</td>
</tr>
</tbody>
</table>

**Close versus uncompetitive elections**

<table>
<thead>
<tr>
<th></th>
<th>Consumer nondurables</th>
<th>Consumer durables</th>
<th>Private fixed investment</th>
<th>Government spending</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close election × Election year</td>
<td>13.252*</td>
<td>2.122</td>
<td>-23.583**</td>
<td>9.625**</td>
<td>1.515</td>
</tr>
<tr>
<td></td>
<td>(7.853)</td>
<td>(4.257)</td>
<td>(10.350)</td>
<td>(4.791)</td>
<td>(1.130)</td>
</tr>
<tr>
<td>Not close election × Election year</td>
<td>19.269**</td>
<td>4.586</td>
<td>-20.648**</td>
<td>9.568**</td>
<td>1.080</td>
</tr>
<tr>
<td></td>
<td>(7.963)</td>
<td>(4.810)</td>
<td>(10.155)</td>
<td>(4.796)</td>
<td>(1.093)</td>
</tr>
<tr>
<td>Close election</td>
<td>1.600</td>
<td>0.222</td>
<td>-1.872</td>
<td>0.492</td>
<td>-0.463</td>
</tr>
<tr>
<td></td>
<td>(1.632)</td>
<td>(1.490)</td>
<td>(2.478)</td>
<td>(1.061)</td>
<td>(0.636)</td>
</tr>
<tr>
<td>Control variables, Polity, and Polity × Election year</td>
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<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Number of observations</td>
<td>381</td>
<td>344</td>
<td>628</td>
<td>780</td>
<td>780</td>
</tr>
</tbody>
</table>

Notes: Standard errors in parentheses, *p < 0.10, **p < 0.05, two-tailed. Estimates are from panel corrected standard errors corrected for first-order autocorrelation. Appendix A presents results on control variables.
Table 3. OECD comparison of electoral cycles in consumption and investment

**Average impact of elections**

<table>
<thead>
<tr>
<th></th>
<th>Consumer nondurables</th>
<th>Consumer durables</th>
<th>Private fixed investment</th>
<th>Government spending</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-election quarter</td>
<td>0.416**</td>
<td>0.018</td>
<td>-0.911**</td>
<td>0.445*</td>
<td>0.126</td>
</tr>
<tr>
<td></td>
<td>(0.166)</td>
<td>(0.410)</td>
<td>(0.457)</td>
<td>(0.240)</td>
<td>(0.129)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Number of observations</td>
<td>1125</td>
<td>1125</td>
<td>1178</td>
<td>1178</td>
<td>1178</td>
</tr>
</tbody>
</table>

**Close versus uncompetitive elections**

<table>
<thead>
<tr>
<th></th>
<th>Consumer nondurables</th>
<th>Consumer durables</th>
<th>Private fixed investment</th>
<th>Government spending</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close election × Pre-election quarter</td>
<td>0.681**</td>
<td>0.527</td>
<td>-1.553**</td>
<td>0.699**</td>
<td>0.109</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.578)</td>
<td>(0.647)</td>
<td>(0.321)</td>
<td>(0.182)</td>
</tr>
<tr>
<td>Not close election × Pre-election Quarter</td>
<td>0.014</td>
<td>-0.490</td>
<td>-0.247</td>
<td>0.193</td>
<td>0.147</td>
</tr>
<tr>
<td></td>
<td>(0.237)</td>
<td>(0.576)</td>
<td>(0.640)</td>
<td>(0.344)</td>
<td>(0.186)</td>
</tr>
<tr>
<td>Close election</td>
<td>-0.198</td>
<td>-1.118*</td>
<td>-1.116</td>
<td>-0.541*</td>
<td>-0.235</td>
</tr>
<tr>
<td></td>
<td>(0.216)</td>
<td>(0.611)</td>
<td>(0.740)</td>
<td>(0.323)</td>
<td>(0.230)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Number of observations</td>
<td>1125</td>
<td>1125</td>
<td>1178</td>
<td>1178</td>
<td>1178</td>
</tr>
</tbody>
</table>

Notes: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, two-tailed. Estimates are from panel corrected standard errors corrected for first-order autocorrelation. Appendix A presents results on control variables.
## Appendix A. Control variable results

### Developing democracies

<table>
<thead>
<tr>
<th></th>
<th>Consumer nondurables</th>
<th>Consumer durables</th>
<th>Private fixed investment</th>
<th>Govt spending</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G7 Economy</strong></td>
<td>1.037**</td>
<td>0.682</td>
<td>2.612**</td>
<td>-0.218</td>
<td>0.615**</td>
</tr>
<tr>
<td></td>
<td>(0.252)</td>
<td>(0.393)</td>
<td>(0.680)</td>
<td>(0.406)</td>
<td>(0.206)</td>
</tr>
<tr>
<td><strong>Lagged GDP per capita</strong></td>
<td>0.331</td>
<td>-1.100**</td>
<td>-2.820*</td>
<td>-2.480**</td>
<td>-1.080*</td>
</tr>
<tr>
<td></td>
<td>(0.263)</td>
<td>(0.042)</td>
<td>(1.650)</td>
<td>(0.898)</td>
<td>(0.592)</td>
</tr>
<tr>
<td><strong>Interest rate</strong></td>
<td>---</td>
<td>-0.136**</td>
<td>-0.164*</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>(0.057)</td>
<td>(0.093)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Left govt</strong></td>
<td>0.796</td>
<td>0.685</td>
<td>-3.373</td>
<td>2.153</td>
<td>-0.035</td>
</tr>
<tr>
<td></td>
<td>(3.115)</td>
<td>(2.925)</td>
<td>(4.837)</td>
<td>(2.128)</td>
<td>(1.424)</td>
</tr>
<tr>
<td><strong>Right govt</strong></td>
<td>-0.620</td>
<td>0.607</td>
<td>-2.681</td>
<td>2.230</td>
<td>0.337</td>
</tr>
<tr>
<td></td>
<td>(4.303)</td>
<td>(3.270)</td>
<td>(4.116)</td>
<td>(2.016)</td>
<td>(1.251)</td>
</tr>
<tr>
<td><strong>Non-ideological govt</strong></td>
<td>3.060</td>
<td>0.052</td>
<td>4.981</td>
<td>0.360*</td>
<td>0.190</td>
</tr>
<tr>
<td></td>
<td>(3.060)</td>
<td>(2.571)</td>
<td>(4.307)</td>
<td>(1.985)</td>
<td>(1.172)</td>
</tr>
<tr>
<td><strong>Rational partisan theory</strong></td>
<td>-1.650</td>
<td>0.313</td>
<td>3.226</td>
<td>0.263</td>
<td>0.501</td>
</tr>
<tr>
<td></td>
<td>(1.993)</td>
<td>(2.013)</td>
<td>(3.056)</td>
<td>(1.650)</td>
<td>(0.852)</td>
</tr>
<tr>
<td><strong>Country indicators</strong></td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>466</td>
<td>411</td>
<td>750</td>
<td>930</td>
<td>930</td>
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</tbody>
</table>

### OECD countries

<table>
<thead>
<tr>
<th></th>
<th>Consumer nondurables</th>
<th>Consumer durables</th>
<th>Private fixed investment</th>
<th>Govt spending</th>
<th>Total GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G7 Economy</strong></td>
<td>0.488**</td>
<td>1.341**</td>
<td>1.873**</td>
<td>-0.098</td>
<td>0.939**</td>
</tr>
<tr>
<td></td>
<td>(0.069)</td>
<td>(0.212)</td>
<td>(0.232)</td>
<td>(0.102)</td>
<td>(0.067)</td>
</tr>
<tr>
<td><strong>Lagged GDP per capita</strong></td>
<td>0.045</td>
<td>-0.534**</td>
<td>-0.120</td>
<td>0.051</td>
<td>0.062</td>
</tr>
<tr>
<td></td>
<td>(0.032)</td>
<td>(0.118)</td>
<td>(0.185)</td>
<td>(0.039)</td>
<td>(0.043)</td>
</tr>
<tr>
<td><strong>Lagged interest rate</strong></td>
<td>---</td>
<td>-1.096**</td>
<td>-0.895**</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>(0.198)</td>
<td>(0.247)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Left govt</strong></td>
<td>-0.688</td>
<td>-2.264</td>
<td>1.240</td>
<td>0.791</td>
<td>0.631</td>
</tr>
<tr>
<td></td>
<td>(0.439)</td>
<td>(1.991)</td>
<td>(2.449)</td>
<td>(0.767)</td>
<td>(0.717)</td>
</tr>
<tr>
<td><strong>Right govt</strong></td>
<td>-0.304</td>
<td>-1.837</td>
<td>0.672</td>
<td>0.403</td>
<td>0.647</td>
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<tr>
<td></td>
<td>(0.448)</td>
<td>(2.010)</td>
<td>(2.452)</td>
<td>(0.742)</td>
<td>(0.717)</td>
</tr>
<tr>
<td><strong>Rational partisan theory</strong></td>
<td>-0.200</td>
<td>-0.445</td>
<td>-0.033</td>
<td>0.321</td>
<td>0.289</td>
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<td></td>
<td>(0.178)</td>
<td>(0.546)</td>
<td>(0.688)</td>
<td>(0.294)</td>
<td>(0.196)</td>
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<td><strong>Country indicators</strong></td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td><strong>Observations</strong></td>
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Notes: Standard errors in parentheses. * p < 0.10, ** p < 0.05, two-tailed. Estimates are from panel corrected standard errors corrected for first-order autocorrelation. Omitted government ideology category is Center government; in the OECD data, no observations exist for non-ideological governments.
References


