Electoral Cycles and Democratic Development^

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Abstract
We examine the relationship between political development and electoral economic cycles, particularly with respect to private investment and consumption. Three major findings emerge. First, political development reduces reverse electoral investment cycles, whereby the policy uncertainty associated with elections engenders a decline in irreversible investment. Second, we show that opportunistic cycles, in which incumbents induce short-term expansions, affect private consumption. Again, however, this impact weakens with political development. Finally, the competitiveness of a race matters differently in OECD versus developing democracies; in the former, only close elections produce electoral cycles while in the latter even less competitive races have these effects. Thus while democratic elections are a fundamental source of economic cycles, democratic development weakens them.

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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 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 not been fully examined. A couple of studies that look at government fiscal policies show that elections have a larger impact on these policies in less economically developed countries [Shi and Svensson (2006)] and in new democracies versus established ones [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, this work does not examine the impact for a democracy that is not fully consolidated.

This paper fills these gaps in the literature 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 some portions of the economy should increase due to incumbent actions that aim to produce short-term expansions [e.g.,. Tufte (1978); Keech (1995)]. We begin by theorizing about 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

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1 Related work finds electoral cycles in electricity supply and billing [Min and Golden (2014)].
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 not only examine the overall effect, but also how it 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.

**Theoretical framework**

The reverse electoral investment cycle theory focuses on “irreversible” investments, which are ones 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

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2 This theory builds on the broader theoretical literature on investment under uncertainty [e.g., Cukierman (1980); Bernanke (1983); Dixit and Pindyck (1994); Bloom (2009)].
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.\textsuperscript{3} Stated more generally, the pre-election period will be associated with a decline in the portions of the economy dominated by irreversible investment [e.g., Canes-Wrone and Park (2012); Julio and Yook (2012)]. Within gross domestic product (GDP), categories of irreversible investment include private gross fixed capital formation, such as construction and equipment, and consumer durables, such as automobiles and furniture.\textsuperscript{4}

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, p. 1344) discuss, there are “\textit{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 routinely 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 features reduce the policy uncertainty surrounding elections.\textsuperscript{5} Consider

\textsuperscript{3} Consistent with this reasoning, research suggests that preferential trade agreements reduce policy uncertainty and increase economic activity by making tariff policy more predictable [(Hollyer and Rosendorff 2012)].

\textsuperscript{4} Romer (1990) shows that economic uncertainty affects consumer purchases of durable goods.

\textsuperscript{5} For space reasons, we cannot possibly review the extensive literature on democratic development. For an excellent review, see, e.g., Keefer and Vlaicu (2008).
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 effort [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 the opportunistic business cycles to be inversely correlated with the level of democracy. Recall that these cycles are caused by incumbent manipulation of the economy in the pre-election period 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.⁶ Correspondingly, the lack of constraints can reduce fiscal transparency, which makes fiscal manipulation easier to conceal and hence more appealing [e.g. Alt and Lassen (2006)]. Of course, in a truly autocratic state, where the election is nothing but a sham, the government does

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⁶ In keeping with this argument, Treisman and Gimpelson (2001, p. 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.
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 (e.g., that their personal taxes will not rise proportionately) then 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, p. 17); Hibbs (1987)]. Despite the implications of the opportunistic cycle for consumer spending, however, existing studies have not established that consumer or private spending more broadly exhibits such an electoral cycle [(e.g., Franzese 2002a)].

Table 1 summarizes the predictions of the different 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, a good deal of earlier work 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 will examine the subject more thoroughly than earlier work has; 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

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7 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.
experiencing a reverse 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.

**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 [see also Frey and Schneider (1978)]. 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.⁸

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, even as 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

⁸ See also Franzese (2002b, Chapter 3) for evidence that electoral cycles in public debt are more prominent when an incumbent government’s replacement risk increases.
reverse electoral investment cycles will exist even for electoral races that are relatively uncompetitive.

**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.

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
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 democracies data are dominated by OECD countries, we exclude ones that are in the OECD during the years of the study.  

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 and Israel 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.

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10 These procedures produce the following set of countries: 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.

11 The complete set consists of: Australia, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Israel, Italy, Luxembourg, the Netherlands, New Zealand, Norway, the United States, and United Kingdom.
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 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. For instance, in quarter $q$ and year $t$ for country $i$, Nondurable Goods equals the real increase in private spending on nondurable goods between year $t$ and $t-1$ in quarter $q$.

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. 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 the private consumption of durables versus nondurables, and 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

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12 The data are seasonally adjusted, and the 2010 local currency consumer price index is used.

13 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.
classic nondurable goods while furniture and equipment are durable ones.\textsuperscript{14} We include these
data even if the WDI lack data for a GDP component for that country just as we include the WDI
data even if the UN lacks data for that country; our general strategy was to include as much data
as possible.

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.

\textbf{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 $t$:

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

(1)

The election period is measured by \textit{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

\textsuperscript{14} See \url{http://unstats.un.org/unsd/cr/registry/registry.asp?Cl=5} (accessed March 12, 2014) for
further details on the composition of all categories of spending.
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. The coefficient on the main effect of Election Year therefore reflects the baseline impact of an election, and the impact according to the polity score is obtained by adding this baseline effect to the product of the polity score and coefficient on the interaction term. For example, the impact of an election for a polity score of 5 equals the sum of the coefficient on Election Year plus the product of 5 multiplied by the coefficient on the interaction Polity × Election Year. 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, p. 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 government 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.\footnote{We use 2012 Database of Political Institutions [see 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 we drop some observations when analyzing electoral closeness. We do update the series, however, given that it ends in 2010.} 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, the variable \textit{Close Election} is an indicator for whether the vote gap is above the median for that country within the years of the data, and \textit{Not Close Election} is an indicator based on the inverse coding. Note that by definition, these binary indicators equal 1 for approximately half of the observations.
To test for whether the impact of elections varies between relatively 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 it equals 0 (i.e., where Not close election equals 1), controlling for the main effect. Formally, the following equation is analyzed:

\[
\text{GDP component}_{it} = f(\text{Close election}_{it} \times \text{Election year}_{it}, \text{Not close election}_{it} \times \text{Election year}_{it}, \text{Close election}_{it}, \text{Polity Score}_{it}, \text{Polity Score} \times \text{Election year}_{it}, \text{Controls}_{it})
\]  

Thus if competitiveness influences the size of an electoral cycle, the coefficient on the interaction Close Election \( \times \) Election Year should be significantly greater than that on Not Close Election \( \times \) 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.

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 [see 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 (i.e., a shift from *Left* equaling 1 to *Right* equaling 1), 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 the examination of 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 substantive results are robust to including this control in other regressions too, as 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 the 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.\textsuperscript{16} 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 \textit{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.

The quarterly nature of the data also has implications for several control variables. 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 2\textsuperscript{nd} through 5\textsuperscript{th} quarters following the election. All other controls are available only annually.

\textbf{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,\textsuperscript{16} The only exceptions include France, which always equals at least an 8, and a subset of years for which Belgium equals 8 and the Czech Republic equals 9.
and in keeping with Beck and Katz, a common coefficient of correlation is assumed. 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 be influencing 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), 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.

17 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.

18 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.
**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.

[Table 2 about here]

The coefficient on the main effect Election Year represents the baseline effect of an election, while that on the interaction Election Year × 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 significant for all of the economic outcomes for which they were predicted to be, including private consumption of nondurables 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. 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.19

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. More specifically, 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 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)].

Again, as with private nondurable consumption, the effects are not due to conflating economic and political development. As shown in the supplemental appendix, the electoral

19 More 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).
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.20

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, as the impact of elections is lower in magnitude than that for consumer nondurables and not at all significant, either for lower or higher levels of the polity score. 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.

As 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. 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.

20 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).
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 with the first half of the table, the analysis still accounts for all controls as well as the interaction of political development and elections, but for space reasons we do not focus on these estimates as 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, p. 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 is not surprising 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 between the victor and opposition, or by calculating the vote margin in presidential systems by whether the first or last round was more competitive. In each case, the relative unimportance of competitiveness remains for the developing democracies.

**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 ones, no significant cycles exist. As discussed previously, none of private fixed investment, consumer nondurables, or government spending is correlated 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, and as discussed previously, these analyses do not include interactions with the polity score given that all of 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 Franzese (2002b, Chapter 3) and Schultz (1995).

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 electoral cycle is relatively modest. Thus while democratic elections are the fundamental source of the cycles, democratic development weakens them.

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 consumption of nondurables. To the best of our knowledge, other work has not shown that incumbent efforts to manipulate the economy affect economic outcomes other than those that are direct measures of the government behavior itself. However, 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. Thus while 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 the difficulty developing countries face in attracting capital investment relates to policy uncertainty [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>Reduces reverse electoral investment cycle</td>
</tr>
<tr>
<td>Consumer nondurables</td>
<td>Expansion</td>
<td>Reduces opportunistic cycle</td>
</tr>
<tr>
<td>Consumer durables</td>
<td>Countervailing cycles</td>
<td>No impact, assuming cycles cancel each other out</td>
</tr>
<tr>
<td>Government and total output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government spending</td>
<td>Expansion</td>
<td>Reduces opportunistic cycle</td>
</tr>
<tr>
<td>Total GDP</td>
<td>Countervailing cycles</td>
<td>No impact, assuming cycles cancel each other out</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>
<td>Included</td>
<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, *** p < 0.01. Estimates are from panel corrected standard errors corrected for first-order autocorrelation. Appendix Table A presents results on the 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>
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<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. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, two-tailed. Estimates are from panel corrected standard errors corrected for first-order autocorrelation. Appendix Table A presents results on the 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>G7 Economy</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>Lagged GDP per capita</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>Interest rate</td>
<td>---</td>
<td>-0.136**</td>
<td>-0.164*</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.057)</td>
<td>(0.093)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left govt</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>Right govt</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>Non-ideological govt</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>Rational partisan theory</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>Country indicators</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>466</td>
<td>411</td>
<td>750</td>
<td>930</td>
<td>930</td>
</tr>
</tbody>
</table>

### Control variable results, 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>G7 Economy</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>Lagged GDP per capita</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>Lagged interest rate</td>
<td>---</td>
<td>-1.096***</td>
<td>-0.895***</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.198)</td>
<td>(0.247)</td>
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<td>Left govt</td>
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<td>-2.264</td>
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<td></td>
<td>(0.439)</td>
<td>(1.991)</td>
<td>(2.449)</td>
<td>(0.767)</td>
<td>(0.717)</td>
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<tr>
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<td>-0.304</td>
<td>-1.837</td>
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<td>0.403</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>
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<td>(0.178)</td>
<td>(0.546)</td>
<td>(0.688)</td>
<td>(0.294)</td>
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Notes: Standard errors in parentheses.* p < 0.10, ** p < 0.05, *** p < 0.01, 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


