Elections, Uncertainty, and Economic Outcomes*

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Abstract

Various theories predict an opportunistic political business cycle, whereby incumbents induce short-term economic expansions in the pre-election period, yet empirical studies do not find such cycles in real economic outcomes like gross domestic product (GDP). We consider how elections and the uncertainty associated with them should affect different components of GDP, and test the predictions on two datasets dating back to 1975: one with quarterly data for 16 OECD countries and a second with annual data for 56 non-OECD democracies. Three major findings emerge. First, GDP portions that relate closely to opportunistic theories, such as private consumption of nondurables, indeed exhibit opportunistic cycles. Second, electoral uncertainty induces a decline in GDP portions composed of costly-to-undo investments, and this cycle is greater the lower the level of political development. Third, both types of cycles depend on electoral competitiveness in OECD countries, but in developing democracies are significant even in uncompetitive elections.

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Various theories predict an "opportunistic political business cycle," whereby incumbent politicians induce temporary economic expansions in the pre-election period. The original theories assume voters irrationally reward short-term economic performance (e.g., Nordhaus 1975; Tufte 1978). Later work incorporated voters who rationally assess incumbents through their ability to manipulate the economy (e.g., Rogoff and Sibert 1988; Persson and Tabellini 1990). Yet despite the wealth of theory, empirical studies have generally failed to find significant evidence of opportunistic cycles in real economic outcomes. While politicians may succeed in manipulating budgetary expenditures and other policy instruments, at least under certain circumstances, the efforts do not produce real change in outcomes such as gross domestic product (GDP) (e.g., Keech 1995; Drazen 2000; Franzese 2002). These findings are particularly surprising for developing countries given that they experience substantial cycles in budgetary spending, which itself comprises a substantial portion of GDP (e.g., Ames 1987; Block 2002; Brender and Drazen 2005).

Recently, several works have argued that there exists an additional electoral business cycle that could help explain the dearth of evidence for opportunistic cycles. This alternative theory suggests that as elections approach, macroeconomic performance should actually decline in certain portions of the economy due to the policy uncertainty induced by the elections (e.g., Canes-Wrone and Park 2012; Julio and Yook 2012). In particular, the policy uncertainty encourages the delay of costly-to-undo investments, such as capital expenditures, but not other types of private spending. In support of this argument, Julio and Yook (2012) analyze a set of over 100,000 firms, and show that capital expenditures decline in pre-election periods. Likewise, Canes-Wrone and Park (2012) examine a set of ten OECD countries, and find that growth in nongovernment fixed capital formation experiences decreases significantly in the pre-

election period. They term this pattern a "reverse electoral business cycle," and in related work on housing markets, a "reverse electoral investment cycle" (Canes-Work and Park 2014).

The logic of the reverse electoral investment cycle theory allows that private spending not involving costly-to-undo investments, such as private consumption of nondurable goods, may follow the patterns predicted by the opportunistic cycle. However, previous research does not investigate whether this is the case. Nor does it examine whether reverse electoral investment cycles even exist in developing countries, despite the fact that the theory should apply at least as strongly to less developed countries. Indeed, given that political uncertainty is generally higher in countries with lower levels of political and economic development (e.g., O'Donnell 1996; Lupu and Riedl 2012), reverse electoral investment cycles should be stronger in these countries if the theory is correct.

The following paper analyzes these and related questions about the relationship among electoral cycles, uncertainty, and economic outcomes. Theoretically, we consider how elections and the uncertainty associated with them should affect different components of GDP. We focus particularly on the comparison between private consumption and investment, given that government spending has been the subject of a good deal of prior work (e.g., Brender and Drazen 2005; Schultz 1995). In contemplating the role of uncertainty, we discuss not only the average impact of elections but also how the level of democracy and the expected closeness of a particular race should affect the incentives of government and private actors.

We then test the theoretical implications with two datasets that span 1975-2012, the first of which has quarterly data for 16 OECD countries and the second of which has annual data for 56 non-OECD democracies. The OECD has quarterly data on the private consumption of nondurable goods and various categories of private irreversible investment. For the developing

countries, we constructed a comparable (annual) dataset using the United Nations National Accounts Official Country Data, World Bank Developing Indicators, and other sources. While the available data for developing countries is annual rather than quarterly, the large number of panels combined with the length of the time series facilitates examining over 200 unique electoral cycles.

Three major findings emerge. First, private consumption on nondurable goods exhibits the canonical opportunistic political business cycle. This is the case in the quarterly OECD data, as well as for developing democracies in the annual data. As the election approaches, expenditures on these items increase significantly. Second, developing democracies, like OECD ones, experience an election-related decline in private fixed investment. Moreover, consistent with the idea that uncertainty induces the pre-election decline, we find that less consolidated democracies experience higher pre-election declines. Finally, the impact of electoral competitiveness appears to differ in OECD versus developing countries. In the former, only highly competitive elections produce the reverse electoral investment cycles or opportunistic cycles in government spending. By comparison, in developing nations, even less competitive elections induce these cycles in economic outcomes.

The paper is organized as follows. The first section reviews existing theories, develops predictions that link them to different portions of GDP, and theorizes about how the level of political development should affect the hypothesized electoral cycles. The second section describes the two datasets, the specifications, and methods. The third section then presents the results, both for the OECD analysis and that on developing democracies. Finally, the fourth section concludes by discussing the implications for understanding how elections, and policy uncertainty more broadly, affect different types of economic outcomes.

Theories and predictions

In the canonical opportunistic business cycle (OBC), incumbent politicians enact policies that expand the economy in the pre-election period (e.g., Nordhaus 1975; Tufte 1978). The original Nordhaus model, as well as many subsequent theories, assumes elected politicians can affect the money supply via monetary policy (e.g. MacRae 1977). Other theories focus instead on fiscal policies, particularly ones that have an immediately noticeable impact on voters such as transfer payments and tax cuts. (e.g., Keech and Pak 1989; Drazen 2000). Theoretically, either type of policy instrument is associated with pre-election growth in GDP. The original inflation-based models assume non-prospective actors respond to unexpected inflation by boosting wages and hiring, thereby spurring economic growth. Personal consumption, in particular, will rise as wages and employment increase (e.g. Nordhaus 1989, 17; Hibbs 1989).

The impact of fiscal adjustments such as increased transfer payments on GDP is even more straightforward. First, because government spending is a significant component of GDP, economic growth should increase with budgetary expenditures in the short-term if all other components are held constant. Second, if voters believe that the transfers or tax cuts will not necessarily require them to forgo future consumption, due to lack of fiscal transparency and/or a belief that compensatory spending cuts or tax increases will be borne by others, then personal consumption should rise (e.g., Blomberg and Hess 2003; Alt and Lassen 2006). The opportunistic models thus suggest at least two portions of GDP that should increase as elections approach: personal consumption and government spending.

By comparison, the reverse electoral investment (REI) cycle theory focuses on the portions of GDP involving costly-to-undo investments, otherwise known as irreversible investments. These investments are ones that would be impossible or quite expensive to reverse, once undertaken. For instance, consider a firm that is deciding whether to construct a plant to

produce solar panels. Once the plant is constructed, it cannot easily be used for other purposes without expensive modifications. According to the REI theory, the policy uncertainty that inherently arises from an election can induce the firm to postpone the decision over whether to construct the plant, assuming the costs of delay are lower than the utility from learning the electoral result. For instance, if the major parties hold different positions on solar energy, and there is uncertainty about who will win the election, the firm might rationally choose to delay the decision, assuming the election is not too far away (Canes-Wrone and Park 2012; Julio and Yook 2012).[1]

GDP includes several types of private irreversible investment, including gross fixed capital formation and consumer durables. Gross fixed capital formation encompasses the net acquisitions of fixed assets such as new construction, equipment, and machinery. Consumer durables, which consist of goods expected to last at least three years, include items ranging from cars to refrigerators to toys. At one extreme, automobiles are a canonical costly-to-undo investment as they lose a good deal of value once driven away from the place of purchase, and there is anecdotal evidence of car purchases being affected by policy uncertainty.[2] By comparison, the durability and reversal costs of toys would seem to have more in common with nondurables than automobiles, and it is difficult to envision toy purchases being delayed due to the policy uncertainty associated with an upcoming election.

[1] This theory builds heavily on the broader literature on investment under uncertainty, which suggests that economic uncertainty may induce firms and consumers to postpone irreversible investments (e.g., Cukierman 1980; Dixit and Pindyck 1994; Bloom 2009).

[2] For an example from the 1992 British elections see, e.g., Simon Beavis, "Uncertainty over Investment and Election Brake Car Industry," *Guardian*. March 3, 1992, 11.

Taken together, the opportunistic and reverse electoral investment cycle theories suggest that the impact of elections will vary across different components of GDP. For private irreversible investment such as gross fixed capital formation, elections will induce a slowdown. For government spending and most of private consumption, elections will encourage a temporary expansion. One category, private consumption of durable goods, faces countervailing pressures. The opportunistic theory predicts personal consumption should rise while the reverse electoral investment cycle theory predicts that consumption of durable goods should fall. Theoretically, it is not clear which effect should dominate. However, if both theories are correct, a distinction should emerge between nondurable and durable goods. Elections should induce a greater increase in personal consumption of nondurables than in durables, if durable consumption even increases.

The level of democracy and political uncertainty

Thus far the discussion has not distinguished among levels of political development. Yet the underlying assumptions for each class of theories indicate that level of democracy should affect the magnitude of the electoral cycle. In countries that are less democratic, incumbent governments have fewer institutionalized checks and balances and can therefore more easily manipulate fiscal and monetary policy (e.g., Guillaume and Stasavage 2000; Block, Ferree, and Singh 2003; Lupu and Riedl 2012). Separately, fiscal manipulation is more likely to be rewarded in less developed countries due to lower fiscal transparency (Alt and Lassen 2006) and/or less experienced voters (e.g., Shi and Svensson 2006). Consistent with these arguments, several studies show that opportunistic cycles in budgets and/or deficits are higher in countries with less democratic experience and lower levels of economic development (e.g., Schuknecht

1996; Brender and Drazen 2005; Shi and Svennson 2006).[3] Generally, an underlying assumption is that the elections are democratic enough that the incumbent government might lose office. In a truly autocratic state, where the election is nothing but a sham, the government does not need to manipulate the economy in order to bolster its chances of staying in office. However, among countries that are at least partially democratic, so that the election result is not a foregone conclusion, we should expect smaller opportunistic cycles as a democracy becomes more consolidated. This should be the case not only for government spending, but also private consumption of nondurables.

Reverse electoral investment cycles are also likely to vary with the level of political development. As Lupu and Riedl (2012, 1344) discuss, there are "*vastly greater* levels of uncertainty in developing democracies" due to uncertainty about whether leaders will be constrained by formal institutions, economic performance, and whether the regime will even remain democratic (emphasis theirs). While these features of developing democracies are not limited to election periods, the policy uncertainty associated with elections will be higher in countries in which leaders are not constrained by formal institutions. A new leader could easily change property rights, regulations, and civil liberties upon taking office. Therefore, a company that is deciding, for instance, whether to build a factory in a country, may decide to wait until after the election to assess the likely business environment for the next few years. Likewise, if a country is already only partially democratic, a newly elected party might try to force new restrictions that make the country more autocratic, creating heightened policy uncertainty in the run-up to the election (e.g., Block, Ferree, and Singh 2003; Mainwaring 2003).

[3]Similarly, Persson and Tabellini's (2003) evidence for electoral fiscal cycles is from a panel that includes a substantial percentage of developing countries.

Because the policy uncertainty associated with elections will be greater in developing democracies, we expect a larger pre-election decline in irreversible investment. Again, this association presumes a minimal level of democracy. If an election is nothing more than an autocratic government's public relations effort (e.g., Magaloni and Kricheli 2010), then it will not entail policy uncertainty. Thus among countries that are at least partially democratic, so that 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 the level of political development.

Electoral competitiveness

According to both opportunistic and reverse electoral business cycle theories, electoral competitiveness—by which we mean the closeness of a particular election-- should influence the strength of the 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). In a noncompetitive election, where 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. Moreover, the negative post-election effects of the manipulation could have reputational consequences for future races. Consistent with these arguments, Schultz finds that as the popularity of British governments increases, they become less likely to increase transfer payments in the quarter before running for reelection. Price (1998) agrees with Schultz's analysis as it pertains to popular incumbents, but argues that unpopular ones who are likely to lose may also view the costs of manipulation as higher than the benefits. Price accordingly

expects that as the competitiveness of a race increases, opportunistic cycles should increase, regardless of whether the incumbent or opposition is leading.

Research suggests that electoral competitiveness also influences the magnitude of reverse electoral investment cycles. As the electoral outcome becomes less predictable, the policy uncertainty associated with an election will increase. Consequently, the competitiveness 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).

The works on electoral competitiveness analyze OECD countries and/or a broad cross-section without accounting for the level of political development, and we expect that opportunistic and REI cycles will depend on competitiveness in OECD countries. However, there are reasons to think the pattern may be weaker in less consolidated democracies. When a democracy is less developed, political 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 (Kitschelt et al. 1999; Miller et al. 1998; Reisinger et al. 1995; Toka 1998). Correspondingly, it is often the case that new political parties emerge when an election is coming, while seemingly strong and stable political parties fracture into two or more parties (Elster et al. 1998; Geddes 1995; Grofman et al. 2000; Lewis 2000; Mair 1997). Voter inexperience further contributes to the volatility of electoral outcomes (e.g., Block et al. 2003). In sum, policy platforms and voters' alignments are less stable than in more consolidated democracies.

This fluidity has implications for both opportunistic and reverse electoral investment cycles. For the former, the fluidity means that incumbents cannot be confident that a seemingly

lopsided race will continue to be so. Therefore, the incentives to manipulate the economy in seemingly uncompetitive contexts will be higher than in lopsided races in OECD countries, while the costs of manipulation will be lower given the relative lack of checks and balances. Likewise, for reverse electoral investment cycles, the lower predictability of partisan affiliations and party positions provides firms an incentive to hold back on costly-to-undo investments until the political uncertainty associated with the election resolves, not only when the race appears to be close but also when it does not. We therefore expect that in less consolidated democracies, opportunistic and REI cycles will exist even for elections that are relatively uncompetitive.

Data and specifications

We have put together two databases, one centered on quarterly data from 1975-2012 in 16 OECD countries, and the second with annual data for the same years from 56 non-OECD democracies that span various levels of political and economic development.

OECD countries

We include all member nations for which the OECD has quarterly data on the GDP components of private spending over nondurable versus durable goods, private gross fixed capital formation (GFCF), or government expenditures. The countries include recent members such as the Czech Republic and Israel as well as longstanding members such as the Netherlands and United States. The complete set consists of: Australia, Belgium, Canada, the Czech Republic, Denmark, Germany, Finland, France, Israel, Italy, Luxembourg, the Netherlands, New Zealand, Norway, the United States, and United Kingdom. Nations are included only for the years in which they are members, and consequently the time series for the Netherlands is much longer than that for Israel.

For each type of GDP expenditure, we use seasonally adjusted data and analyze the real annual growth rate. Thus for instance, in quarter *q* and year *t* for country *i*, *Nondurable Goods* equals the percentage real increase in private spending on nondurable goods between year *t* and *t-1* in quarter *q*.[4] *Durable Goods*, *GFCF*, and *Government Spending* are calculated similarly. In addition, we also analyze *Total GDP* in an effort to compare our findings with those of previous research. Again, the variable is based on year-over-year real growth for a given quarter *q*.

Appendix Table A provides descriptive statistics on the OECD variables. As the relationships among the standard deviations, means and ranges indicate, there are few outliers in the OECD data. Still, because there are a number of outliers in the developing democracies data, we winsorise the data at the 1 percent level in all analyses in order to maintain consistent procedures throughout the paper. Winsorisation at the 1 percent level is a standard means of handling outlying observations (e.g., Julio and Yook 2012), and all major results hold without the procedure, as shown the on-line appendix.

Among the countries in Table 1, almost all are parliamentary systems or ones in which the legislative assembly elects a president; the only presidential system is the United States (e.g., Beck et al. 2001).[5] The elections of interest are therefore parliamentary except for the US, for which presidential elections are analyzed. Because these data are quarterly, we can analyze the

[4] For the OECD countries, we use the 2010 consumer price index of each local currency to convert the nominal expenditures to real ones.

[5] Although Beck et al. (2001) codes France as a parliamentary system due to the limited formal powers of the president, others classify it as semi-presidential system given the larger informal powers associated with the office (e.g., Shugart and Carey 1992). Elections for the legislative assembly almost always follow the presidential elections by one month, so the analysis is not substantially affected by focusing on the parliamentary elections.

pre-election period relatively precisely, and as Akhmedov and Zhuravskaya (2004) point out, this precision increases the possibility of detecting an opportunistic cycle. In particular, the main analyses specify 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 in all other quarters. In the supplemental appendix, we show the results from alternative specifications that also include indicators for other pre- and post-election quarters.

The main analyses accordingly consist of five regressions, where the dependent variables are Nondurable Goods, Durable Goods, GFCF, Government Spending, and Total GDP, and the key independent variable is Pre-election Quarter. Equation [1] formalizes this specification for each country *i* in year *t* and quarter *q*:

[1] GDP component $_{itq}$ = *f*(Pre-election quarter$_{itq}$, Controls$_{itq}$)

Equation [1] treats all elections similarly, and therefore estimates the average impact of an election on each of the five main dependent variables.

The average electoral effect is of theoretical and empirical interest, but the theoretical predictions also suggest that the impact should vary according to level of electoral competitiveness, by which we again mean the closeness of a particular election. The literature highlights the challenges associated with measuring this concept across electoral systems. In particular, the closeness of an election can be influenced by whether the system is parliamentary or presidential, has first-past-the-post or proportional representation, or has minimum threshold requirements, among other factors. We therefore use a measure that emphasizes within-country variation, as in Julio and Yook (2012). At the same time, we follow a standard practice in basing the measure on vote shares (e.g., Blais 2006, 120; Cox, Rosenbluth, and Thies 1998).

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 competitive elections as ones in which the difference is smaller than the median. The variable *Competitive Election* is therefore an indicator for whether the election has above- or below-average competitiveness, and *Uncompetitive Election* is an indicator based on the inverse coding. 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.

The median level of competitiveness varies considerably across countries. At one extreme it is less than four percentage points in the Netherlands while at the other extreme is over fifteen percentage points in Luxembourg. Appendix Table A provides descriptive statistics on the vote gap along with the indicator Competitive. The vote margin ranges from a veritable tie to over twenty-five percentage points, with a mean of nine percentage points. Note that by definition, the binary indicator Competitive equals 1 for approximately half of the observations.

To test for whether the impact of elections varies between relatively competitive versus uncompetitive elections, we estimate one effect of the pre-election period for cases where Competitive Election equals 1, and a second where it equals 0, controlling for the main effect. Formally, we adjust Equation [1] in the following manner:

[2] $\text{GDP component}_{itq} = f(\text{Competitive election}_{itq} \times \text{Pre-election quarter}_{itq}, \text{Uncompetitive election}_{itq} \times \text{Pre-election quarter}_{itq}, \text{Competitive election}_{itq}, \text{Controls}_{itq})$

As Equations [1] and [2] indicate, numerous control variables are included to account for various factors that previous research suggests might affect growth in output and/or one of the individual GDP components. Specifically, the controls include:

Government conservatism. To account for the ideology of the government, we use the Database of Political Institutions (DPI) coding of whether the head executive—whether s/he be a president or prime minister-- is ideologically to the left (3), right (1) or center (2) (Beck et al. 2001). The DPI is a standard source of government ideology (e.g., Leblang 2003; Bjornskov 2005).[6]

Rational Partisan Theory. Alesina, Londregan, and Rosenthal (1993; see also Alesina, Roubini and Cohen 1997) argue that a "partisan business cycle" exists in which turnover between left- and right-wing governments produces post-election economic effects. The theory assumes that left-wing governments tend to favor higher output and employment over reducing inflation, while right-wing governments prefer the alternative. In addition, all elections involve some uncertainty about the victor and there is a tradeoff between unemployment and inflation in keeping with the Phillips curve. Consequently, a shift in government from the right (left) to the left (right) produces a short-term unexpected increase (decrease) in inflation, temporarily increasing (decreasing) output. We follow earlier work by assuming this post-election impact occurs in the second through fifth quarters that follow an electoral victory. The coding of whether a partisan turnover occurs is based on Government Conservatism, so that Rational Partisan Theory equals -1 in the post-election quarters given turnover from a left- to right-wing government, 1 in these quarters given a reverse switch, and 0 in all other circumstances.

[6] Some research categorizes "center" governments similarly to ones that the DPI classifies as non-ideological (e.g., Kingstone and Young 2009). For now, we adopt this strategy while consulting other databases as secondary sources.

G7 Economy. Previous research uses the growth rate of the G7 to account for world economic growth, and we adopt this approach (e.g., Alesina, Roubini, and Cohen 1997; Canes-Wrone and Park 2012). The G7 include Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. The growth rate is based on the real year-over-year GDP growth in quarter *q* from a weighted average among the seven countries.

GDP per capita. Previous work identifies GDP per capita as an important predictor of government and nongovernment expenditures (e.g., Brown and Hunter 1999; Jensen 2008). Because population data are not available quarterly, we use annual data on real GDP per capita from the World Development Indicators of the World Bank. The variable is arguably a more critical control for the developing democracies, where GDP per capita is apt to change substantially in a short period of time. For purposes of comparability, we include it in the OECD analyses as well; however, the results are robust to excluding it in either case.

Interest rate. Analyses of investment and durable goods typically control for interest rates, as long-term purchases can readily involve borrowing (e.g., Julio and Yook 2012). Therefore, in the examination of GFCF and durable goods, we control for the real interest rate. Quarterly data on real interest rates are available from the OECD on member countries, and we make use of these data. 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 GFCF and durable goods regressions. However, the substantive results for other dependent variables are robust to including this control, as the on-line appendix details.

Country indicators. Finally, we control for the average within-country effect by including a series of country indicators that equal 1 if an observation concerns the given country and 0 otherwise.

Developing democracies

The non-OECD democracies span Africa, Asia, Eastern Europe, and Latin America. Specifically, they include Albania, Bangladesh, Belarus, Benin, Bhutan, Bolivia, Botswana, Brazil, Bulgaria, Cape Verde Islands, Colombia, Costa Rica, Croatia, Djibouti, Ecuador, El Salvador, Ethiopia, Fiji, Gambia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, India, Kenya, Kyrgyzstan, Macedonia, Madagascar, Malawi, Malaysia, Mali, Mauritius, Mongolia, Mozambique, Namibia, Nepal, Nicaragua, Niger, Pakistan, Panama, Peru, Philippines, Romania, Russia, South Africa, Senegal, Sierra Leone, Solomon Islands, Sri Lanka, Suriname, Thailand, Ukraine, Uruguay, and Zambia. From the potential set of non-OECD countries the dataset is limited by two requirements. First, the analysis demands at least two successive years of data on government spending, durable goods, nondurables, or private fixed investment. Second, we require countries to be at least partially democratic. As in Epstein et al. (2006) and Persson and Tabellini (2003), this minimum threshold of democracy is set at a score of 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 high-end and autocracies the lowest negative integers. The rankings are determined by the level of political competition, constraints on executive power, and executive selection.[7] Because some countries with available economic data are not in the POLITY data series, we use the Freedom House scores as an additional determinant of whether a country is at least partially democratic (Freedom House 2014). In

[7] See Marshall and Gurr (2012) for details.

particular, Freedom House provides a three-level characterization of whether a country is free, partially free, or not free, and we require that the country be at least partially free.[8]

For the dependent variables on GDP components, where possible we use the World Bank World Development Indicators (WDI). The WDI include data on government spending, private gross fixed capital formation, and total GDP.[9] In addition, the WDI contain national consumer price indices, enabling the creation of dependent variables based on the real annual percentage change in the various economic outcomes. For example, Government Spending Growth for country *i* in year *t* equals the real annual percentage change in government spending between year *t* and *t-1*.

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, we use the UN category "Alcoholic Beverages, Tobacco and Narcotics" as a proxy for nondurables and "Transport" as a proxy for durables. As Engle and Wang (2008) note, beverages and tobacco are classic nondurable goods, while transport equipment is a durable good. The UN transport category unfortunately combines not only the purchase of vehicles but also transport services, the latter of which is obviously not a durable.[10] However, no UN consumption category is purely composed

[8] The Freedom House ratings are based on the range of civil liberties and political rights afforded to citizens. See Freedom House (2014) for further details.

[9] Government spending is calculated from the sum of government consumption and government gross fixed capital formation, where the latter equals total GFCF minus private GFCF.

[10] See http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=5 (accessed March 12, 2014) for further details on the composition of all categories of spending.

of durables, and these proxies enable the comparison of one category composed purely of nondurables with one that encompasses a canonical irreversible investment. As with the other GDP components, the dependent variables for nondurables and durables are based on the real annual percentage change between the current year *t* and *t-1* within a given country *i*

The developing democracies analysis therefore involves five dependent variables that are analogous to the quarterly OECD analysis. For simplicity, we retain the names Nondurable Goods, Durable Goods, GFCF, Government Spending, and Total GDP for both datasets, while recognizing that the measurement and periodization differ. In order to highlight the difference in time periods, the annual data are subscripted simply by year *t* rather than *qt*.

The difference in periodization also has implications for estimating the impact of elections. Unlike with the OECD data, we cannot specify the pre-election quarter in isolation. Following the practice of earlier studies that examine electoral business cycles with annual data (e.g., Block, Ferree, and Singh 2003; Persson and Tabellini 2003), the main specifications use the year of the election as a key independent variable. *Election Year* accordingly equals 1 if the election occurs in that calendar year and 0 otherwise. In addition, we have analyzed alternative specifications that include the year before the election year, and find substantive similarly results, which are presented in the web appendix.

The other key independent variables concern the level of political development and competitiveness. To measure political development we use the previously described POLITY scores of Marshall and Gurr (2012). This variable, *Polity*, reaches a maximum of 10 within the data as well a minimum of 1, where political competition and executive constraints are only partially democratic. The theoretical predictions suggest that the impact of electoral uncertainty should vary according to the level of political development, and therefore we include an

interaction term between the election year and the polity score, as well as account for the main effect of the score.

Specifically, the following equation is analyzed for each GDP component in country *i* and year *t*:

[3] GDP Component$_{it}$ = *f*(Election year$_{it}$, Polity$_{it}$ x Election year$_{it}$, Polity$_{it}$, Controls$_{it}$).

Because Equation [3] includes an interaction with political development, the coefficient on the main effect of the election year reflects the impact of an election when the polity score equals 1, the minimum level. The impact for observations with a higher score is obtained from adding this baseline effect to the product of the coefficient on the interaction term with the higher score.[11]

Competitiveness is measured identically to the OECD data, so that it is based on within-country variation in the level of competitiveness within the years of the data. As before, we estimate one coefficient for competitive elections (Competitive election$_{it}$ x Election year$_{it}$) and a second for uncompetitive ones (Uncompetitive election$_{it}$ x Election year$_{it}$), controlling for the main effect. The median level of competitiveness within a given developing democracy can be fairly high because countries with lower levels of political development tend to have more lopsided victories, as well as because the time series for some of the countries is short. Therefore, as an alternative analysis we have coded all elections as uncompetitive with vote margins higher than 15.49 percentage points, the highest median in the OECD data. The results are substantively similar with this alternative coding.

[11] We have also analyzed models that do not control for the level of political development. If Equation [3] removes the polity variables, we find substantively similar results in terms of the average impact of elections. Full details are given in the on-line appendix.

The controls are identical to those for the OECD analysis, and measured similarly with two minor exceptions. First, the real interest rate data are from the WDI rather than the OECD.stat database. Second, Rational Partisan Theory is necessarily coded for annual rather than quarterly observations. The variable accordingly equals 1 in the year after the election if the government switched from right- to left-wing, -1 in the post-election year if the government switched from left- to right-wing and 0 otherwise.

Appendix Table B provides descriptive statistics on all of the variables for the developing democracies. In addition to the aforementioned larger vote margins, at least one other issue is of note. Specifically, the ranges of the dependent variables suggest some outlying observations. To ensure that the results are not driven by outliers, we have winsorized the data at the one percent echelons, as in Julio and Yook (2012). If instead we analyze the unwinsorized data, the major findings increase in statistical significance and magnitude, suggesting that the outliers are occurring in ways that are consistent with the theoretical predictions.

Methods and specifications

The panel structure of the dataset lends itself to several methods. A standard one in political science is panel corrected standard errors (Beck and Katz 1995), and for purposes of comparability, the main text focuses on this model. There is evidence of first-degree autocorrelation,[12] and in keeping with the recommendations of Beck and Katz, we assume a

[12] Applying the Wooldridge (2002, 282-283) test for panel data to Equation [1], the null of no first-order autocorrelation is rejected at $p<0.05$, two-tailed, for all dependent variables other than government spending, where the null is still rejected at $p<0.10$, two-tailed. Applying the same test to Equation [3], there is again evidence of significant autocorrelation in most cases although the null is at only $p=0.15$ for

common coefficient of correlation.[13] Also as standard, we assume the disturbances are heteroskedastic by panel and contemporaneously correlated across panels.

Given that another common approach to analyzing panel data is fixed effects, we have also applied a fixed effects model that corrects for first-degree autocorrelation. The results are robust to this choice of specification, and perhaps not surprisingly, are nearly identical to those with panel-corrected standard errors. (Full details are given in the on-line appendix.) Finally, we have also considered the possibility that elections are endogenously called within the parliamentary systems, and that this endogeneity may be influencing the findings. Using the specification test of Wooldridge (1995) to assess the endogeneity of the election variables, the results suggest elections can be considered statistically exogenous ($p>0.10$, two-tailed), with two exceptions.[14] Both exceptions involve the developing democracies data, and even in these cases, which are for total GDP and durable goods, the substantive results remain with a two-stage least squares specification. The results on endogeneity are consistent with Alesina, Roubini, and Cohen (1997), which suggests that in most parliamentary democracies there is not a significant relationship between the performance of the economy and the calling of elections. Further details are the endogeneity tests are provided in the on-line appendix.

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government spending. If this analysis assumes away the possibility of autocorrelation, the substantive results remain.

[13] 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 the main analyses of the OECD and developing democracies data.

[14] See the on-line appendix for further details.

Results

OECD Countries

Table 1 presents the key results for the OECD data, for all five dependent variables. For space reasons, results on the control variables are detailed in Appendix Table C.

[Table 1 about here]

The first row of findings is from the analysis of Equation [1], which estimates the average impact of all elections. As is immediately apparent, this impact varies markedly across the different GDP components. While total GDP appears unaffected by electoral cycles, we find significantly divergent patterns across personal consumption, investment, and government spending.

For nondurable goods, where opportunistic models predict a positive effect and the REI theory has no prediction, the coefficient is significantly positive ($p<0.05$, two-tailed). The magnitude suggests that on average, growth in private consumption on nondurables increases approximately 0.35 percentage points in the pre-election quarter. Given that the mean annual growth rate of nondurables is approximately 1.5 points, as shown in Appendix Table A, the coefficient on the pre-election quarter indicates that the growth rate rises by around 25 percent more in pre-election quarters than in other periods.

Notably, this impact for nondurables appears to be largely driven by competitive elections. In the second row of results of Table 1, 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 0.7 percentage points. In uncompetitive elections, by comparison, no significant electoral cycle occurs. Thus, as expected, it is only when governments have a strong incentive to manipulate the economy that we observe opportunistic cycles in private spending.

Consistent with this finding, the impact of government spending also varies significantly between competitive and noncompetitive elections. When a competitive election is imminent, the annual change in government spending is almost one percentage point higher than in other periods. By comparison, when an election has lower than average competitiveness, the magnitude of the effect is close to zero and not at all statistically significant. These results comport with Schultz's (1995) findings on transfers in Britain, and suggest that the lack of evidence for electoral cycles in government expenditures in other OECD countries may be due to the fact that researchers have typically failed to distinguish between lopsided and close races. In sum, the results indicate that incumbents will increase expenditures to aid their electoral fortunes when facing competitive races, and as expected, this manipulation is associated with a temporary increase in nondurable consumption.

The parts of GDP associated with irreversible investment, which include private fixed investment and durables, exhibit different behavior. As predicted by the reverse electoral investment cycle theory, private fixed investment declines in the pre-election period. The average reduction is statistically significant, although as with nondurables and government spending, driven by the competitive elections. More specifically, the second half of Table 1 shows that private fixed investment growth declines more than 1.5 percentage points in the pre-election quarter of a competitive election, but does not change significantly if there is relatively low uncertainty about the electoral result.

We noted earlier that durable goods face countervailing pressures from opportunistic and reverse electoral business cycle theories. However, given that the reverse electoral investment cycle theory applies to durables but not nondurables, the opportunistic cycle should be more prominent in the latter. Table 1 indicates that this is the case, as the impact of elections is lower

in magnitude than that for nondurables and not at all significant regardless of whether competitiveness is accounted for. In other words, durable spending neither increases nor decreases significantly as an election approaches, a pattern consistent with opportunistic and reverse electoral business cycles occurring simultaneously.

The results for the control variables are detailed in Appendix Table C. No major surprises emerge. The G7 growth rate is associated with a significant increase in private consumption and investment, as expected, and does not affect government spending. Investment is negatively associated with the interest rate. Perhaps surprisingly, the conservatism of the regime does not have a significant impact on government spending. One possible reason is that conservatives tend to favor certain types of government programs, such as defense, while left-wing governments favor other types of programs, such as economic support. Finally, lagged per capita GDP, the proxy for the level of economic development, only has a significant impact on durable goods. Because the countries all have reasonably high levels of economic development, the lack of an impact elsewhere is not surprising; the control is included primarily for comparability purposes with the subsequent analysis of developing democracies.

In sum, the results on OECD countries highlight that elections and the uncertainty associated with them do not have a constant impact across the economy. While total GDP does not significantly increase or decrease as an election approaches, components closely associated with opportunistic theories, such as nondurable consumption and government spending, experience expansions. Meanwhile, components associated with irreversible investment, such as private fixed investment or durables, decline significantly or fail to increase. As predicted, these patterns relate to the competitiveness of the election; when the outcome is relatively certain,

neither the opportunistic or reverse electoral business cycles are apparent. By comparison, competitive elections induce each type of cycle.

Non-OECD democracies

The theoretical discussion suggested that the level of political development may influence both opportunistic and reverse electoral business cycles. If the chief executive faces few constraints, government transparency is low, and/or freedom of speech is curtailed, incumbents will have a freer hand to create temporary economic expansions whatever the longer-term consequences. Similarly, as power becomes less subject to the oversight of other branches and the media, then the policy uncertainty associated with (actual) elections will be greater, inducing larger reverse electoral investment cycles. Accordingly, among countries that are at least partially democratic, we should expect smaller opportunistic and reverse electoral business cycles as the level of democracy increases.

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

[Table 2 about here]

The coefficients on the main effect of Election Year represent the impact when Polity equals one, the lowest value within the data. The estimates on the interaction between Election Year and Polity then reflect how this impact changes as the level of political development increases. For each regression with a significant impact on Election Year, there is also a significant opposite impact of the interaction term, suggesting that the size of the cycle declines as the country becomes more of a consolidated democracy.

Take the first column of results, for nondurables. The coefficient on Election Year is highly significant and much higher in magnitude than the analogous one for the OECD analysis. For countries with a polity score of one, and therefore a lower level of political development, an

election year induces an opportunistic cycle of 14 percentage points. For each one-point increase in the polity score, however, this impact goes down by approximately 1.8 percentage points, so that for a country with a polity score of four, the estimated magnitude of the electoral cycle is approximately seven percentage points. The overall impact remains significant at conventional levels for all polity scores up to seven. On the one hand, the lack of a significant cycle for countries with the highest scores seems at odds with the findings for the OECD analysis, where opportunistic cycles in nondurables were present for fully consolidated democracies. However, because evidence for opportunistic cycles is more likely with more precise time periods (e.g., Akmedov and Zhuravskaya 2004), it is not surprising that the evidence would be stronger in a quarterly dataset.

Possibly the most striking aspect of the results for nondurables is the large magnitude of opportunistic cycles in the less developed countries. While earlier work has identified similar cycles in government spending, real economic outcomes such as total GDP have not followed these cycles, a particularly peculiar finding given that budgetary spending can be a substantial portion of total GDP in these countries. Table 2 helps to rectify this seeming inconsistency, by showing that in the portions of the private economy where government efforts should have the largest effect, opportunistic cycles are indeed significant.

Table 2 also shows that the impact of political development is not simply capturing the level of economic development. The second half of the table demonstrates that even controlling for the interaction of economic development and elections, the effect of political development on the electoral cycle remains. Moreover, there is not a significant effect of the interaction between elections and economic development; indeed, in supplemental analysis we find this is the case even if we exclude the polity variables, so that the impact of economic development is analyzed

without controlling for political development. In sum, opportunistic cycles in nondurables are seemingly unaffected by the level of economic development, but significantly influenced by the degree to which the country is a consolidated democracy.

Government spending and to a lesser extent, durables, follow similar patterns. At the base level of political development, government spending growth increases by ten percentage points. For each one-point increase in the polity score, this effect diminishes by 1.5 percentage points. Likewise, for durables, consumption growth increases by 13 percentage points for the least politically developed democracies, with this impact abetting by 1.7 percentage points for every point in the polity score. Again the effects do not appear to be driven by the level of economic development although the impact of nondurables, which is only marginally significant to begin with ($p=0.10$, two-tailed), loses even marginal significance once the interaction between economic development and elections is included.

In the category purely composed of irreversible investment, private fixed investment, the evidence for the reverse electoral investment cycle is strong. When the polity score equals one, private fixed investment growth declines seventeen percentage points, with this impact going down in magnitude by 1.7 percentage points per one-point increase in polity score. For all but the most consolidated democracies, specifically ones with scores of at least eight, the overall impact of elections is statistically significant at $p<0.05$, two-tailed. Thus as with the other GDP components, the electoral cycle is strongest for the least developed democracies, and weakens as the level of political development increases. Unlike with the other economic outcomes, however, in this case the impact of political development is more difficult to disentangle from that of economic development. When each is interacted with Election Year, neither interaction is

significant; however, either interaction included individually significantly decreases the magnitude of the pre-election decline in irreversible investment.

The final column of results, on total GDP, suggests that the findings are not a fluke of the data or specifications. Just as earlier studies have typically failed to find electoral cycles in total GDP (e.g., Alt and Chrystal 1983; Schuknecht 1996), we do not find them either. This is despite the fact that much of GDP is experiencing a significant opportunistic cycle. What Table 2 shows is that the opportunistic cycles occurring in private consumption and government spending are canceled out by a reverse cycle in irreversible investment.

Table 3 presents the results on competitiveness for developing democracies.

[Table 3 about here]

The findings are starkly different from those with the OECD data. For most of the GDP components in Table 3, significant effects exist not only for competitive but also uncompetitive elections. Moreover, competitiveness does not even appear to increase the magnitude or significance of the relevant electoral cycle.

In the theoretical section, we discussed that the closeness of races might matter less for developing democracies. The fluidity of voters' partisan allegiances as well as of parties' own alliances and positions can create political uncertainty even when elections seem relatively lopsided *a priori*. Moreover, higher executive discretion affords incumbent governments a greater ability to manipulate the economy, and lower transparency reduces the costs associated with this action. Accordingly, lower electoral competitiveness may not dissuade governments from increasing spending in election years, or businesses from delaying investments until the election is resolved.

While the strength of the results for uncompetitive elections is therefore consistent with expectations, the lack of difference between competitive and uncompetitive ones is less so. We have considered alternative measurements of competitiveness—including cutoffs based on a five or ten percentage point difference between the victor and opposition, as well as setting maximum and minimum levels of within-country medians—and the relative unimportance of competitiveness remains. In future drafts, we plan to consider yet additional measures of competitiveness, and probe more deeply into the contexts in which the uncompetitive elections are engendering such significant opportunistic and reverse electoral business cycles.

Conclusion

This paper provides evidence for two countervailing electoral cycles in economic outcomes. First, there is a robust opportunistic cycle in the parts of GDP where theory suggests it should be strongest, namely private consumption of nondurables and government spending. Second, there is a reverse electoral investment cycle in costly-to-undo investments, which decline in the pre-election period. Each of these cycles relates to the political uncertainty surrounding the election. For the opportunistic cycle, uncertainty enhances the incumbent party's incentives to manipulate the economy and bolster their chances of winning. For the REI cycle, uncertainty creates incentives to delay irreversible investments until after the uncertainty (at least partially) resolves.

The examination of not only OECD but also developing democracies data establishes that different types of political uncertainty affect the electoral cycles. In the OECD countries, the cycles are present only for competitive elections but not relatively uncompetitive ones. By comparison, in the developing democracies, competitiveness does not have a significant impact, yet the level of democratic consolidation does. The OECD data are quarterly while the non-

OECD data are annual, and it is possible that we would find a significant impact of competitiveness for the more consolidated non-OECD democracies with a finer periodization of these data. At the same time, the strong impact of political development indicates that for less consolidated democracies, this factor may matter more than the closeness of any particular race.

The evidence that uncertainty affects economic outcomes has implications beyond electoral cycles. Previous work has argued that political uncertainty reduces capital investment in developing countries (e.g., Rodrik 1991; Stasavage 2002), Our results, by providing an exogenous source of uncertainty and showing that it induces a decline in private fixed investment, not only support this earlier idea but also indicate that the impact will be greater the lower the level of democratic consolidation. In OECD countries, too, the results are consistent with the broader argument that policy uncertainty reduces investment, although for these countries the observed effect is much shorter-lived and smaller in magnitude.

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Table 1. OECD Analysis of Electoral Cycles in Consumption, Investment, and Government Spending

Average impact of elections

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Pre-election quarter	0.363**	-0.014	-0.981**	0.448*	0.114
	(0.169)	(0.410)	(0.457)	(0.234)	(0.129)
N	1138	1138	1179	1179	1179
ρ	0.597	0.674	0.741	0.647	0.794
Wald test of joint significance	$\chi^2_{(17)}$=104.48	$\chi^2_{(18)}$= 113.72	$\chi^2_{(16)}$=93.39	$\chi^2_{(16)}$=232.62	$\chi^2_{(16)}$=397.97
	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)

Competitive versus uncompetitive elections

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Competitive x Pre-election quarter	0.670***	0.425	-1.667**	0.695**	0.084
	(0.219)	(0.583)	(0.649)	(0.314)	(0.182)
Uncompetitive x Pre-election quarter	0.053	-0.384	-0.270	0.200	0.147
	(0.244)	(0.569)	(0.638)	(0.337)	(0.185)
Competitive	-0.195	-1.010*	-1.016	-0.502	-0.242
	(0.214)	(0.612)	(0.737)	(0.317)	(0.229)
N	1138	1138	1179	1179	1179
ρ	0.599	0.667	0.737	0.647	0.787
Wald test of joint significance	$\chi^2_{(19)}$=109.74	$\chi^2_{(21)}$=124.87	$\chi^2_{(18)}$=99.23	$\chi^2_{(17)}$=37.97	$\chi^2_{(17)}$=226.14
	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)

Notes: Standard errors below coefficients. Estimates are from panel corrected standard errors with an AR(1) correction. * reflects p<0.10, two-tailed, ** reflects p<0.05, two-tailed, and *** reflects p<0.01, two-tailed. All specifications control for Per Capita GDP, Regime Conservatism, Partisan Business Cycle, Per Capita GDP, and a full set of country indicators. Also, the analyses of Durable Goods and Private Fixed Investment control for Real Interest Rate. Results on controls are given in Appendix Table C.

Table 2. Developing Democracies Analysis of Electoral Cycles in Consumption, Investment, and Government Spending

Political development

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Election year	13.969**	12.726*	-17.008**	9.900**	0.959
	(6.819)	(7.740)	(7.947)	(4.403)	(1.633)
Election year x Polity score	-1.773**	-1.694*	1.783*	-1.493**	-0.102
	(0.883)	(0.993)	(0.964)	(0.590)	(0.230)
Polity score	-0.146	0.472	-0.540	0.829**	0.299
	(0.460)	(0.542)	(0.758)	(0.403)	(0.194)
N	379	222	750	911	911
ρ	-0.101	-0.001	0.161	-0.012	0.167
Wald test of joint significance	$\chi^2_{(26)}$=797.23	$\chi^2_{(19)}$=155.99	$\chi^2_{(35)}$=523.28	$\chi^2_{(37)}$= 93208.65	$\chi^2_{(34)}$= 5883.25
	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)

Political versus economic development

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Election year	14.558*	12.191	-18.048**	9.899**	0.831
	(7.518)	(7.580)	(8.047)	(4.434)	(1.617)
Election year x Polity score	-1.773**	-1.694*	1.459	-1.494**	-0.170
	(0.884)	(0.995)	(0.961)	(0.591)	(0.246)
Polity score	-0.145	0.464	-0.492	0.829**	0.310
	(0.461)	(0.539)	(0.751)	(0.401)	(0.194)
Election year x Lagged GDP per capita	-0.271	0.193	1.480	0.002	0.300
	(0.779)	(0.563)	(0.950)	(0.564)	(0.218)
Lagged GDP per capita	2.160	-1.520	-2.540	-2.240**	-1.070*
	(1.890)	(1.730)	(1.730)	(0.908)	(0.576)
N	379	222	750	911	911

Notes: Standard errors below coefficients. Estimates are from panel corrected standard errors with an AR(1) correction. * reflects p<0.10, two-tailed, ** reflects p<0.05, two-tailed, and *** reflects p<0.01, two-tailed. All specifications control for Per Capita GDP, Regime Conservatism, G7 Growth, Partisan Business Cycle, and a full set of country indicators. Also, the analyses of Durable Goods and Private Fixed Investment control for Real Interest Rate. Full results on the controls are given in Appendix Table D.

Table 3. Developing Democracies, Analysis of Electoral Competitiveness

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Competitive x Election year	14.590*	15.440*	-18.966*	8.896*	1.564
	(8.922)	(8.346)	(10.355)	(4.946)	(2.076)
Uncompetitive x Election year	18.687**	11.164	-17.028*	11.353**	1.874
	(9.218)	(9.136)	(8.993)	(4.651)	(1.906)
Competitive	1.708	-2.807	-2.786	0.565	-0.314
	(2.145)	(1.935)	(2.297)	(1.119)	(0.565)
N	316	193	627	765	765
ρ	-0.069	-0.004	0.147	-0.013	0.139
Wald test of joint significance	$\chi^2_{(28)}$=636.54	$\chi^2_{(22)}$=805.33	$\chi^2_{(31)}$= 9864.67	$\chi^2_{(38)}$= 11914.70	$\chi^2_{(36)}$= 329.68
	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)

Notes: Standard errors below coefficients. Estimates are from panel corrected standard errors with an AR(1) correction. * reflects p<0.10, two-tailed, ** reflects p<0.05, two-tailed, and *** reflects p<0.01, two-tailed. All specifications control for Per Capita GDP, Regime Conservatism, G7 Growth, Partisan Business Cycle, and a full set of country indicators. Also, the analyses of Durable Goods and Private Fixed Investment control for Real Interest Rate. Full results on the controls are in the supplemental on-line appendix.

Appendix Table A. Descriptive Statistics OECD Countries

	Obs.	Mean	Std. Dev.	Min.	Max.
Nondurable goods (% change)	1138	1.480	2.490	-9.984	14.317
Durable goods (% change)	1138	1.249	7.222	-26.905	44.546
GFCF (% change)	1179	1.996	8.735	-36.363	48.332
Government spending (% change)	1179	2.511	3.439	-23.523	41.585
GDP (% change)	1179	2.246	3.176	-11.242	20.734
Pre-election quarter	1486	0.068	0.253	0	1
Vote margin	1486	9.384	7.053	0.020	27.710
Competitive election	1486	0.518	0.500	0	1
Government conservatism	1486	1.903	0.946	1	3
Rational partisan theory	1486	0.003	0.357	-1	1
G7 Economy	1486	2.186	1.778	-5.160	5.890
Lagged GDP per capita	1486	34.721	13.260	9.934	87.717
Interest rate	1486	6.339	3.124	0	17.070

Appendix Table B. Descriptive Statistics, Developing Democracies

	Obs.	Mean	Std. Dev.	Min.	Max.
Nondurable goods (% change)	379	5.443	27.432	-65.720	469.379
Durable goods (% change)	238	5.971	12.474	-41.303	101.432
Private fixed Investment (% change)	914	9.531	33.262	-77.560	440.730
Government spending (% change)	911	5.197	14.223	-53.469	83.4790
GDP (% change)	911	4.458	7.697	-43.755	73.392
Election year	991	0.221	0.415	0	1
Vote margin	830	23.312	20.804	0.010	100
Competitive election	830	0.408	0.492	0	1
Polity score	991	6.958	2.199	1	10
Government conservatism	991	2.041	0.767	1	3
Rational partisan theory	991	-0.005	0.289	-1	1
G7 Economy	991	2.237	1.667	-3.813	5.111
Lagged GDP per capita	991	2.054	1.783	0.122	11.376
Interest rate	807	7.554	16.481	-97.812	97.474

Appendix Table C. Results for control variables, OECD analysis in Table 1

Average Impact of Elections

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Government conservatism	-0.181*	-0.203	0.273	0.185	-0.007
	(0.106)	(0.321)	(0.409)	(0.165)	(0.124)
Rational partisan theory	-0.194	-0.549	-0.107	0.330	0.282
	(0.177)	(0.549)	(0.687)	(0.289)	(0.195)
G7 Economy	0.527***	1.389***	1.897***	-0.099	0.936***
	(0.068)	(0.207)	(0.231)	(0.100)	(0.066)
Lagged GDP per capita	0.054	-0.400***	-0.083	0.051	0.056
	(0.033)	(0.113)	(0.185)	(0.039)	(0.044)
Interest rate	---	-0.763***	-0.781***	---	---
		(0.195)	(0.249)		
Country indicators	Included	Included	Included	Included	Included
N	1138	1138	1179	1179	1179
P	0.597	0.674	0.741	0.647	0.794
Wald test of joint	$\chi^2_{(17)}$=104.48	$\chi^2_{(18)}$= 113.72	$\chi^2_{(16)}$=93.39	$\chi^2_{(16)}$=232.62	$\chi^2_{(16)}$=397.97
significance	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)

Competitive versus uncompetitive elections

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Government conservatism	-0.166	-0.149	0.311	0.224	3.93e-04
	(0.105)	(0.318)	(0.406)	(0.164)	(0.124)
Rational partisan theory	-0.192	-0.535	-0.080	0.337	0.287
	(0.177)	(0.548)	(0.685)	(0.288)	(0.195)
G7 Economy	0.525***	1.391***	1.927***	-0.092	0.942***
	(0.067)	(0.205)	(0.230)	(0.099)	(0.066)
Lagged GDP per capita	0.054	-0.400***	-0.081	-0.054	0.061
	(0.034)	(0.111)	(0.018)	(0.039)	(0.043)
Interest rate	---	-0.790***	-0.796***	---	---
		(0.194)	(0.247)		
Country indicators	Included	Included	Included	Included	Included
N	1138	1138	1179	1179	1179
P	0.599	0.667	0.737	0.647	0.787
Wald test of joint	$\chi^2_{(19)}$=109.74	$\chi^2_{(21)}$=124.87	$\chi^2_{(18)}$=99.23	$\chi^2_{(17)}$=37.97	$\chi^2_{(17)}$=226.14
significance	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)	(p<0.01)

Notes: Standard errors below coefficients. Estimates are from panel corrected standard errors with an AR(1) correction.
* reflects p<0.10, two-tailed, ** reflects p<0.05, two-tailed, and *** reflects p<0.01, two-tailed

Appendix Table D. Results for control variables, developing democracies analysis in Table 2

	Nondurable Goods	Durable Goods	Private Fixed Investment	Government Spending	Total GDP
Government conservatism	0.531	-0.665	-0.567	0.014	-0.317
	(1.274)	(0.896)	(2.247)	(0.770)	(0.414)
Rational partisan theory	3.487	2.466	-0.170	-1.220	-0.0968
	(2.672)	(1.943)	(3.133)	(1.505)	(0.729)
G7 Economy	1.201*	1.079*	2.476***	-0.238	0.657***
	(0.417)	(0.378)	(0.662)	(0.420)	(0.207)
Lagged GDP per capita	2.090	-1.480	-2.220	-2.240**	-1.010*
	(1.86)	(1.710)	(1.750)	(0.905)	(0.577)
Interest rate	---	-0.157	-0.038	---	---
		(0.204)	(0.098)		
Country indicators	Included	Included	Included	Included	Included
N	379	222	750	911	911
P	-0.101	-0.001	0.161	-.0115	0.167
Wald test of joint significance	$\chi^2_{(26)}$=797.23 (p<0.01)	$\chi^2_{(19)}$=155.99 (p<0.01)	$\chi^2_{(35)}$=523.28 (p<0.01)	$\chi^2_{(37)}$= (p<0.01)	$\chi^2_{(34)}$= 5883.25 (p<0.01)

Notes: Standard errors below coefficients. Estimates are from panel corrected standard errors with an AR(1) correction.
* reflects p<0.10, two-tailed, ** reflects p<0.05, two-tailed, and *** reflects p<0.01, two-tailed