

Trade and the Timing of Elections¹

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ABSTRACT:

This paper reveals a previously unnoticed phenomenon in international political economy: the effect of international trade flows on national election timing. Endogenous election arguments have long presumed a role for economic performance in election timing but none have hypothesized or tested for international economic effects. Exports, which both transmit business cycles across borders and now constitute more than half of GDP in the most trade-exposed countries, should not fundamentally differ from domestic demand in inviting opportunistic governments to call elections, especially as their terms mature. Discrete-time and hazard analyses of election timing in thirteen OECD countries capable of opportunistic election timing reveal expansion in foreign demand for domestically produced goods and services, i.e. exports, as a strong predictor of elections. This relationship challenges traditional conceptions of sovereignty and raises implications for continued economic integration: freer movement of goods, services, and capital may imply more correlated business and, by extension, election cycles. Increased election clustering, a consequence also examined here, may in turn imply cycles of international conflict (when elections are imminent) and cooperation (when elections are distant).

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It is a common belief among politicians, journalists, and scholars alike that election-minded governments call elections when the economy is doing well. More rigorous inspection confirms this behavior for the large majority of parliamentary democracies that allow for the strategic dissolution of parliament and reveals systematic patterns in its causes, structural moderators, and effects. Opportunistic election timing, primarily in the latter part of a government's maximum term, has been shown to a) occur under both single-party (Balke 1990) and coalition (Lupia and Strom 1995, Diermeier and Stevenson 2000) governments, b) vary in government strength and prime ministerial dissolution-autonomy (Strom and Swindle 2002), c) reduce government popularity (Smith 2000, 2002), and d) be triggered by different macroeconomic variables under left and right-wing governments (Palmer and Whitten 2000). All of these studies, however, by presuming a closed economy, overlook what I argue is an important phenomenon in international political economy: the effect of international economic fluctuations on national election timing.

As countless sources have asserted, advanced industrial economies are highly integrated into the international economy. Exports now constitute over half of gross domestic product (GDP) in the most trade-exposed countries; governments have ceded or struggled to maintain monetary autonomy in an era of flexible exchange rates and mobile capital; exchange rates have been carefully managed (and now fixed) in many multilateral bodies such as the European Union; and at the same time international capital flows of portfolio and direct investment have reached record levels. By most indices, by the late 1990s international economic integration had surpassed its previous pre- First World War apex (Bordo, Eichengreen, Douglas 1999). In the most economically integrated region – Western Europe – observers have declared the emergence of a regional business cycle in which some member states' individual cycles are nearly perfectly

correlated (Artis and Zhang 1997, 1999). At these levels of economic interdependence might extra-national economic influences affect national election timing? More dramatically, might regional economic convergence imply election cycle convergence? If so, what implications would this have for domestic and international politics?

There are many channels by which the economy can improve an incumbent's reelection prospects with retrospective (Fiorina 1981), prospective (Kramer 1971; Fiorina 1981), egotropic (Kramer 1983), or sociotropic (Kinder and Kiewiet 1979, 1981) voters. Voters may be more sensitive to changes in inflation, unemployment, GDP, disposable income, or other economic variables as has been debated in the considerable literatures on economic accountability and economic voting models (Anderson 1995, Bartels and Zaller 2001, Lewis-Beck 1988, Nannestad and Paldam 1994). These concerns, however, are subordinate to the simple conviction of incumbents that elections held in better economic times are more likely to return them to office (cf. Crossman 1979). It is governments after all, not voters, who call elections. Governments pay close attention to public opinion polls and other indicators of their electorate's sentiment when deciding to call an election but in anticipating what future voter sentiment will be at the end of the campaign on election day, they consider the economy. Anticipated downturns or, nearly synonymously, exceptional booms that are unlikely to endure should therefore present a strong incentive for immediate dissolution for early elections. It is unclear which economic predictors most influence the government's decision to call elections but accounts of government decision-making leave little doubt that governments think that economic performance is critical to their electoral fates (cf., Butler 1995). Palmer and Whitten (2000) provide empirical evidence that governments of all political stripes respond to economic growth while left-wing governments avoid calling elections under high unemployment and right-wing governments

dislike elections under high inflation. As GDP growth is readily decomposed into its domestic and foreign components (i.e., exports) and has no partisan effect, this paper focuses on it.²

A central problem of studying the effect of economic expansion on election timing is the issue of endogeneity. Without causal lag models or multiple equations, it is difficult to determine whether it is indeed the economy that is affecting election timing or election timing that is influencing the economy. It is readily conceivable and consistent with political business cycle models (e.g., Rogoff 1990) that the proximity of mandatory elections may induce the government to stimulate the economy. Indeed, early empirical research on election timing often considered it the flip-side of the political business cycle. The capacity for governments to call elections raised the possibility of endogeneity bias in estimates of pre-election economic manipulation (Ito and Park 1988).³ Scholars who endogenized both alternatives found that causality runs in both directions between the timing of elections and the performance of the economy (e.g., Cargill and Hutchinson 1991 and Ito 1990, both for Japan) and sometimes only towards timing (Chowdhury 1993, for India).⁴ The selection of exports as the measure of cross-border influence is explicitly intended to circumvent this endogeneity problem.

Exports generally preclude reverse causality. Barring pre-election currency devaluations there is no way by which governments can induce trade expansions in the short term. Trade agreements and export credits, insurance and financing can all boost long-term exports but are

² Much has been written about the effect of trade on domestic politics. Scholars have asserted with varying degrees of support that trade influences (a) political cleavages in countries with different factor endowments (Rogowski 1989), (b) the wages of unskilled labor (Leamer 1996), (c) the size and number of nations (Alesina and Spolaore 1997), and (d) the size of governments in those countries (Rodrik 1996).

³ For a formal exploration of election timing and economic manipulation as a dynamic stochastic model see Kayser 2003.

⁴ Curiously, this literature has only focused on single countries, mostly Japan, and only one scholar (Ito 1991) has hypothesized a role for international economic factors. Ito finds little evidence for this conjecture, however, other than a surprising positive association between elections in the United States and economic growth in Japan.

too unwieldy to ensure export expansion prior to impending elections. Devaluation, on the other hand, is certainly more expedient but imposes politically unacceptable real income effects. By raising the price of imports relative to domestic goods they create an expansionary substitution effect but economists believe that this is outweighed by contractionary income effects, especially in the short-term (Agenor and Montiel 1996): devaluations reduce real wealth held in the local currency and more critically, shift income from wage earners who are likely to spend it to profit recipients who are not. Stein and Streb (1998, 1999) find a similar outcome within the context of a rational political business cycle model (a la Rogoff 1990), in which devaluations, understood as a tax on money balances, are delayed until after elections. Theory aside, empirical work tends to show that devaluations occur most frequently early in a term and very rarely shortly before elections (Edwards 1993; Frieden, Ghezzi, and Stein 2000). In short, because they are by identity a component of GDP and allay concerns about reverse causality, exports seem an ideal tool to measure international economic effects on election timing.

The implications of this relationship between exports and election calling, if substantiated, are striking. The sensitivity of election timing to expansions in foreign demand for domestic goods and services, i.e. exports, implies election clustering; moreover, as exports constitute an ever larger portion of GDP, rising business cycle correlations may drive a trend toward election cycle convergence. International business cycles offer a synchronous incentive for election calling by opportunistic incumbents in multiple states, thereby providing a mechanism for previously noted (cf., Tufte 1978, ch. 3) but unexplained election clustering. Political actors, though likely unaware of synchronization, would nevertheless generate *de facto* election coordination through the pursuit of their own political objectives. Of course, national

differences in international economic exposure, institutions, and political circumstances, imply an upper bound on election clustering well short of full convergence, but greater synchronization may nevertheless bear consequences for international politics.

Foremost among these consequences is the possibility of international cycles of conflict and cooperation. If governments are less amenable to international compromise preceding elections but more so afterwards, rising election synchronicity may create windows of opportunity for international agreements when multiple states are safely removed from election concerns as well as periods of intransigence prior to elections in which multiple states prioritize domestic interests (cf. Putnam and Bayne 1988). The abundance of endogenous timing states in Europe raises especially strong implications for the negotiation of European Union reforms and policy.

The remainder of this paper proceeds as follows. The following section examines the institutional and political prerequisites for what I term *premier timing*, i.e. the ability of the government to set its own election date, identifying a sample of thirteen suitable OECD countries. Note that *premier timing* is distinct from and a subset of *endogenous timing*, a category in which election dates are politically determined, regardless of means. I then proceed in Section Two, employing discrete-time and Cox hazard models, to test the hypothesis that exports influence domestic election timing. As expected, the influence of export expansion on election timing rises together with a government's time in office. Section Three suggests evidence of an important secondary effect: election cycles among the most economically integrated states, primarily those of Western Europe, are more highly correlated than those

among less economically connected states and appear to be rising. Finally, Section Four summarizes and concludes.

Premier Timing

Not all governments are able to call their own elections. Both constitutional provisions and political norms constrain political behavior, allowing opportunistic election calling in some states but preventing it in others. I construct the sample for this study by selecting the subset of the twenty-four member states of the Organization for Economic Cooperation and Development (OECD) that possess the institutional arrangements necessary for opportunistic election calling. The OECD is a natural universe of cases with which to work because it includes the most highly integrated industrialized economies that conveniently also collect a similarly defined array of economic data. The requirement that countries have the institutional ability for incumbents to set election dates strategically pares the sample down to the thirteen countries identified in Table 2.1.⁵

This sample constraint, that incumbents must be able to time their own elections, requires greater explanation. The most obvious implication is the elimination of countries with **fixed election-dates**; this effectively censors all presidential systems (United States) and non-presidential systems with fixed election dates (Norway, Sweden, and Switzerland). I exclude Sweden, a parliamentary democracy that allows early dissolution of parliament, because any parliament chosen by early elections can only serve out the remainder of the previous body's

⁵ Three OECD members -- Greece, Spain, and Turkey -- allow strategic election timing but have imperfect democratic records. Stable democracy in Greece and Spain since the mid-seventies allows their inclusion. Full military rule from 1980-83 and the continuing influence of the military in government disallows Turkey.

term. This is such a disincentive to early elections that none have been called since the implementation of the 1975 constitution.

[TABLE ONE ABOUT HERE]

Previous studies have termed elections held at legally required fixed intervals *exogenous elections* in order to distinguish them from *endogenous elections*, those whose dates are at least partly determined by domestic political processes. As this definition suggests, considerable variation exists among *endogenous timing* countries. Countries in which early elections require a failed vote of confidence – such as Germany – or are subject to approval by an independent head of state -- such as Belgium -- are combined in the same category with countries where prime ministers can call snap elections on a whim - such as the United Kingdom.

I therefore propose a further typological refinement: *premier v. non-premier timing*. Premier timing requires that the incumbent executive have the *de jure* and *de facto* ability to *initiate* dissolution and early elections either directly or through a parliamentary majority whereas the *non-premier* category includes countries in which early elections are limited to extraordinary circumstances or election dates are set by any actor other than the government. Power over dissolution is held by the head of state in many parliamentary democracies but where the president, governor-general, or monarch's role is primarily ceremonial – as is often the case – I have coded the country as *premier timing*. An excellent contrast in the roles of the head of state can be made between the United Kingdom, where the monarch has had only a ceremonial role in parliamentary dissolution, and Belgium, where the politically empowered monarch rejected a

government's resignation as recently as 1985.⁶ Thus, the United Kingdom is included and Belgium is not.

In limiting the sample to *premier timing* countries, I also remove all countries in which dissolution can only occur in **extraordinary circumstances** such as following a vote of no confidence or constitutional amendment. Germany has perhaps the most unusual system: dissolution may only follow the defeat of a vote of confidence introduced by the chancellor, i.e. the government must engineer its own defeat in order to call early elections. While this arrangement technically leaves the ability to time elections strategically within the chancellor's grasp, the extremely odd scenario of the governing coalition publicly voting en masse *against* confidence *in itself* is generally sufficient to prevent such an event from occurring.⁷

One final and more complicated subset of countries remains to be considered: **Semi-presidential systems**. Duverger (1980) first identified *semi-presidential* systems as governments where the president is popularly elected and holds considerable powers while a premier and cabinet, subject to parliamentary confidence, perform executive functions.⁸ The

⁶ King Baudouin refused Premier Wilfried Martens' bid for governmental resignation after a Cabinet session failed to resolve a split in his Christian Democrat-Liberal coalition. The monarchy continues to matter in Belgian politics. Belgium is additionally excluded because of recent coordination with Luxembourg to hold elections concurrently with those for the European Parliament.

⁷ Early elections actually occurred twice in post-war Germany. Helmut Kohl engineered exactly such a failed vote of confidence in himself on December 17, 1982 and invoked Article 68 of the German *Grundgesetz* to dissolve parliament and call early elections. This followed unique circumstances, however, and is unlikely to be repeated. Kohl had recently come to power via a constructive vote of no confidence and sought a popular mandate. The main opposition (SPD) believed that voter disapproval of such political maneuvering would benefit them and thus did not oppose early elections. The Federal Constitutional Court later found this use of the vote of confidence legal but restricted its use. The non-partisan Federal president could also have refused the request for dissolution but did not because of opposition support. A later attempt by Kohl to move up Federal elections by seven weeks in the fall of 1990 to capitalize on reunification euphoria was opposed by the SPD and failed. An early election also occurred in 1972 after the SPD/FDP *Bundestag* majority eroded. Chancellor Brandt, with agreement from the CDU/CSU and President Heinemann, called a vote of confidence knowing in advance that the opposition would be able to defeat it. It is important to note that both early elections could not have occurred without the cooperation of both the opposition and the federal president.

⁸ Shugart and Carey (1992: 23) later term such systems as *premier-presidential*.

hybrid nature of semi-presidential systems thus allows them to be either *premier* or *non-premier timing* countries depending on whether rival or cooperative parties hold the two top offices and the division of power between the president and prime minister. Single party control of both the presidency and premiership could allow for collusion over election timing even when the power of dissolution may not formally originate with the premier; similarly, *cohabitation* by rival parties precludes favorable election timing and may even allow *inopportune* timing. Five of the remaining sample countries are *semi-presidential* - Austria, Finland, France, Iceland, and Portugal; I classify those countries that behave like parliamentary democracies with a weak president as *premier timing*.^{9, 10}

Exports and Elections

⁹ Duverger also identified Ireland as semi-presidential, a classification that I reject on the grounds advanced by Shugart and Carey: the Irish president has no constitutional powers and exerts no political influence. (Shugart and Carey, 1992: 71)

¹⁰ I include Austria because its president fails to exercise political influence despite constitutional powers. The primary function of the Austrian president is to name prime ministers but this power has been largely useless in a system that has produced grand coalitions for much of the postwar period. The long-standing domination of Austrian politics by the ÖVP/SPÖ duopoly further eroded this power (Shugart and Carey, 1992) and probably will again after the recent implosion of the *Freiheit* party. Somewhat ambiguously, the Austrian constitution provides the premier with the power to dissolve parliament after "consultation" with parliament.

Finland is a president dominant system in which the president has reserve powers over foreign policy and government formation. The large number of small parties competing in Finland's fragmented political landscape further enhances the president's powers. The abundance of small parties provide her with the de facto ability to include or exclude most parties from government almost regardless of election results – Kekkonen excluded the Finnish Conservative party from every coalition he named after 1966 – and precludes the need for early elections. Frequent cabinet crises and government resignations also rarely leave the premier in a position to consider election timing. Thus, Finland is excluded.

In Iceland, like Austria, the president is surprisingly acquiescent to the prime minister and parliament. This weakness is also reflected in the fact that no partisan candidate has ever sought the office. Arend Lijphart (1984:189) attributes this to the unusual ease by which the constitution can be amended – by a pure majority rule within parliament. An assertive president is likely to have his formal powers curtailed if she were ever to try to use them. Thus Iceland functions quite similarly to the Danish constitutional monarchy on which its post independence constitution is modeled and is included in the sample.

The strength and independence of the presidency in France and Portugal disqualifies them from inclusion.

Having identified the appropriate sample, the question now is how best to test for international economic influences on election timing. Interest rates are an intuitively appealing means of measuring international economic shocks. The international co-movements in national discount rates generated by capital mobility and formal exchange rate arrangements during much of the sample period suggest a role for a regional exchange rate arrangements such as the European Monetary System's rate mechanism in production election clustering.¹¹ To the same degree that interest rate co-movements support an "international business cycle" they may also create synchronized incentives for strategic election timing.

Rate movements are nevertheless problematic for measuring cross-border effects on election timing: changes in domestic interest rates do not capture cross-border influences; changes in other countries' rates are causally distant from domestic reactions and subject to questions of which countries' rates to use. Equally as problematic, interest rate hikes are a lagging indicator of economic expansion, most often increasing *after* periods of election-inviting growth. Demanding that cause precede effect leaves only rate reductions as a, albeit long-lead, source of election opportunism. Rate cuts, however, most often indicate a weakening economy in need of several reductions before economic activity again accelerates. Although interest rate co-movements almost certainly undergird the international transmission of business cycles, no clear and reasonably immediate causal path exists to measure their effect on election calling.

Trade, on the other hand, or more precisely, exports, is more promising. As exports are by national income accounting identity a component of GDP, they provide a direct and

¹¹ The imposition of narrow bands of allowable exchange rate fluctuation among participating currencies in the European Exchange Rate Mechanism (ERM) in 1979 (2.25 percent; 6 percent for Italy) also tied European interest rates more closely together than normal pressures of capital mobility and investment would dictate. As a result, interest rates of ERM members (Belgium, Denmark, France, Germany, Ireland, Italy, Luxembourg, and the Netherlands) co-vary, encouraging simultaneous economic expansions or slowdowns among members and even some closely tied non-members.

immediate measure of cross border influence on domestic output. Exports also have the virtue of being resistant to reverse causation. Short of devaluing the national currency, it is unlikely that incumbent governments could influence foreign demand for imports before elections; and the consequences of currency devaluation – diminished living standards and higher inflation – are a dubious fillip to reelection prospects. Accordingly, I employ change in quarterly exports ($\Delta export$) as the key predictor in this analysis. As exports are nothing but foreign demand for domestically produced goods and services, they should influence incumbents who coordinate elections with growth in total (*foreign and domestic*) demand for domestic goods and services, i.e. GDP.

Also consider how exports can spread business cycles and elections under this mechanism. Economic expansion in a given country increases imports from trade partners, spreading booms and election calling incentives from one state to another. Booms sufficiently large to be unlikely to occur again in the remainder of a government's term or, conversely, anticipated downturns severe enough to last beyond the latest date of legally mandated elections can therefore provide an incentive for multiple governments to call elections before the opportunity sours. Naturally, as a government's remaining term wanes the threshold for what constitutes a sufficient election calling incentive diminishes together with the remaining calling opportunities and term time that would be surrendered by dissolution. Governments, of course, wish to call elections in the *last best* period possible while the economy is still expanding.

But how to test for export effects? Two methods, each with its respective advantages and deficiencies, present themselves. A discrete understanding of time would suggest a simple logit model predicting the occurrence or absence of elections in given periods but such an approach would not allow for true right censoring. How would elections that are clearly not opportunistic,

such as those necessitated by the end of a term, be treated? Coding them as non-elections biases estimates downwards; coding them as opportunistic elections, upwards; and removing them eliminates valuable information. The alternative method, understanding time as continuous spans and predicting election hazards, easily addresses this censoring problem but at the cost of some of its own. While hazard models with governments as subjects could simply censor obvious non-opportunistic elections, removing them from the risk-set without biasing estimation, time varying covariates would violate proportional hazard assumptions and ties – multiple elections happening at a given span – would affect estimation. Recognizing the shortcomings of each alternative, I employ the best variant of each.

Both analyses, discrete-time and hazard, draw on quarterly electoral and economic data from all thirteen sample countries covering the period of 1967:1 -- the start date for several IMF economic time series -- to 1998:4. 1967 is an appropriate initial observation date because it allows ample time for any possible synchronicity from the initial wave of post-war elections to dissipate. All data, except where otherwise specified, are from the International Monetary Fund's *International Financial Statistics* series. Detailed descriptions of all variables and data are available in the appendix.

Discrete-Time Analysis

Before we begin, the data require several decisions on admissibility. As mentioned above, discrete time analysis entails a problem with final quarter elections which are by definition mandated rather than opportunistic. Because final-quarter elections are imposed on a government, they are not directly attributable to macroeconomic performance. One could nevertheless argue that governments *indirectly* choose mandatory election by forgoing early

elections; opportunistic election timing may be as much a decision to avoid unfavorable periods as to exploit favorable ones; but the absence of final-quarter variation makes this empirically irrelevant. As a dummy for final quarter would perfectly predict elections in a binomial logit regression, I err on the side of caution – and possible underestimation of the true effect (type II error) – by omitting all final-quarter elections. Additionally, and less problematically, I also exclude non-democratic periods in Greece and Spain. In the end, as the following hazard analysis confirms, these data choices matter little as the results are robust.

[TABLE TWO ABOUT HERE]

The discrete-time logit analysis, presented in Table Two, proceeds as follows: I begin with the most parsimonious reasonable specification testing for the effect of changes in trade on the occurrence of elections and progressively add variables to address rival explanations, potential sources of bias, and errors of inference. To avoid the common heteroskedasticity problem with pooled time-series data induced by differing variances among cross-sections (countries), I adjust all standard errors for clustering on country, following White's (1980, 1982) procedure.

The rudimentary trade specification in Model 2.1 quickly disposes of the null hypothesis about trade: controlling for the proximity of mandatory elections and trade exposure, export expansion ($\Delta export$, the percentage change in exports over the previous quarter) is a positive and significant predictor of elections. The portion of a term that has elapsed (*elapsed*) is predictably

highly significant, as is, more surprisingly, export exposure (exp/gdp_{t-2}).¹² This buttresses the thesis that extra-national economic fluctuation influences the timing -- and by extension, outcome -- of domestic elections in premier-timing states.

Although encouraging, Model 2.1 fails to test fully my assumptions about incumbent behavior. If incumbents maximize both time in office and probability of re-election, calling an election in the last best period possible, then an interaction of *elapsed* and $\Delta export$ is the theoretically superior model. The probability that an increase in exports affects the occurrence of elections should increase as a government's remaining term wanes. Specification 2.2 confirms that this is indeed the case: the interaction of time in office and change in exports is significant at the .05 level and, as reflected by Schwartz's Bayesian Information Criterion (BIC), this model fits the data slightly better than its predecessor. The addition of an interaction term also reveals a more complicated relationship between exports and elections: export expansions are initially negatively associated with election probabilities when *elapsed* equals zero, and as the first partial with respect to $\Delta export$ reveals, they actually only increase the probability of elections in the final 59 percent of an incumbent's term.

This initially modest effect of export expansions on election calling gains strength as the government's term progresses, however. The coefficients from 2.2 associate a one percent increase in exports with a statistically insignificant 0.020 *decrease* (s.e. = 0.013) in the log odds of an election occurring when a government is young (*elapsed* = .2), an insignificant 0.009 *increase* (s.e. = 0.007) in middle age (*elapsed* = .5), and a highly significant 0.037 increase (s.e.

¹² GDP is lagged by two quarters to minimize possible colinearity with other GDP derived variables.

= 0.012) in old age (*elapsed* = .8).¹³ As expected, export expansions most strongly influence election timing toward the end of a government's term, first showing a statistically significant effect after approximately fifty-six percent of a maximum term has elapsed.

Graphically, and in probabilities rather than log odds, the overall relationship between exports, term age, and elections resembles Figure One, which plots the election probabilities predicted by Model 2.2 for a hypothetical country with the mean trade exposure for our sample, *export/gdp* = .218. The steep rise in the predicted election probability in the figure's upper right-hand corner preceded by an exceptionally flat relationship highlights the effect of time and trade. Export expansion raises election probabilities in approximately the final half of an incumbent's term but has no effect prior to that. As mandatory elections approach, however, this model predicts a strong positive effect for export expansion on the probability of elections. Conversely, holding the probability of elections fixed, the export growth threshold for any given probability of early elections diminishes as a term matures. Given an expiring term and imminent mandatory polls, most governments will accept even modest economic improvement as an impetus for calling elections. Thus, a 16.8 percent increase in exports --one standard deviation above the mean -- corresponds to a 6.4 percent probability of elections in a middle aged government (*elapsed* =.5) government, an 18.1 percent probability in a more mature government (*elapsed* =. 7) and a 41.6 percent probability in an aged government (*elapsed*=.9).

[FIGURE ONE ABOUT HERE]

¹³ Following Friedrich (1982), the standard error at a given value of *elapsed* is calculated as $[\text{var}(b1) + \text{elapsed}^2 * \text{var}(b3) + 2 * \text{elapsed} * \text{cov}(b1, b3)]^{1/2}$ where *b1* and *b3* are the coefficients for Δexport and the interaction of *elapsed* and Δexport , respectively.

As export growth varies seasonally, however, it is difficult to determine whether governments are reacting to actual expansions or just regular seasonal variation. Indeed the preponderance of early elections fall in the second (32.3%) and fourth (36.4%) quarters, the two periods which enjoy strong seasonal export expansion. I obviate this issue by seasonally adjusting the export data in the final five models. When interacted with the proportion of the term that has elapsed, growth in the non-seasonal component of exports reveals a noticeably stronger relationship with elections than did the unadjusted data.

Of course, politicians contemplating early elections likely monitor change in aggregate economic performance, not just exports, although in the most trade dependent states this distinction fades. A control for the domestic expansion of demand is therefore a natural extension of the model, addressing underspecification concerns and testing the effect of domestic demand expansion in its own right. A priori, one would expect changes in the domestic component of GDP to have a similar effect on election timing to that found above for exports. I test for this effect by decomposing GDP into foreign (exports) and domestic (GDP_d) demand for domestically produced goods and services.

Reversing the common GDP derivation, this is accomplished as follows.¹⁴ The standard national income accounting identity, $GDP \equiv C + I + G + NX$, defines gross domestic product as the sum of consumption (C), investment (I), government spending (G) and net exports (NX). Expressing net exports explicitly and representing exports with EX and imports with IM produces $GDP = C + I + G + EX - IM$; Imports, however, are composed of domestic consumption of foreign goods and services (C_f), investment (I_f), and government spending (G_f) so that $GDP = C + I + G + EX - (C_f + I_f + G_f)$ which, with some rearranging, becomes $GDP =$

$(C-C_f) + (I-I_f) + (G-G_f) + EX$; Understanding domestic demand, noted with the subscript d , as the difference of total and foreign demand then yields $GDP = C_d + I_d + G_d + EX$ which I reexpress as $GDP = GDP_d + EX$. Thus gross domestic product is readily decomposed into domestic (GDP_d) and foreign (EX) demand for domestically produced goods and services, and GDP_d is calculated as GDP net of exports, i.e. $GDP_d = GDP - EX$.

Extending Model 2.3 to include shifts in GDP_d confirms export expansion as a robust predictor of elections. Controlling for shifts in domestic demand – via both lagged and unlagged ΔGDP_d in Model 2.4 – leaves the interaction of export growth and term elapsed largely unscathed. Unsurprisingly, lagged ΔGDP_d is the stronger of the two regressors, actually reaching significance, but doing little to undermine the effect of interacted export growth. I explore growth in domestic demand for domestically produced goods and services in greater detail below.

One final possible source of bias in the estimated effect of exports could be the absence of controls for seasonal effects independent of economic output. As noted above, barring final quarter elections, a disproportionate number of elections fall in the second (32) and fourth (36) quarters relative to the first (19) and third (12). Including final quarter elections, i.e. mandatory elections induced by the expiration of a term, produces a similar distribution. If second and fourth quarters also enjoy above average export growth (despite seasonal adjustment), $\Delta export$ could be biased upwards. This is indeed the case. Adding quarter dummies in Model 2.5 reduces the effect of export growth on election timing as captured by the interaction variable but late-term export growth nevertheless remains a stubbornly robust predictor of elections.

¹⁴ Several macroeconomics texts cover this in greater detail in their discussion of national income accounting. See, *inter alia*, Mankiw (1990).

The final two models explicitly test the domestic demand component of GDP (*GDPd*) the complement of exports. Intuitively, growth in the domestic demand for domestically produced goods and services should have a similar effect to that of exports, its foreign demand counterpart, albeit lagged as *GDPd* components are recorded at the transaction time rather than when the goods cross a border.¹⁵ As expected, when interacted with elapsed term, growth in lagged domestic demand *increases* the probability of elections; a boom now predicts an election in the following quarter, especially as the mandatory election date approaches.¹⁶ Similarly, there is little contemporaneous effect: elections are unlikely in a quarter of expansion in domestic demand as governments will extend their terms until they anticipate lower or negative growth. These data confirm my priors of a local maximum effect not dissimilar to the foreknowledge effect found by Smith (2000). Governments call elections when they believe that economic performance has peaked and that further delay will only reduce their chance of reelection.¹⁷ Hazard estimation in the following section confirms this result.

In summary, export expansion is a robust predictor of elections and reveals similar behavior to its domestic demand counterpart. The implications of this result must not be

¹⁵ As discussed in the System of National Accounts (UN, 1968, § 6.131 – 6.135, revised 1982) and IFS (§ 7, introduction to monthly volume) data descriptions, Balance of Payment export data is taken from customs sources which record transactions as they cross a border. This represents a substantial lag relative to domestic demand data which is recorded at the time of transaction when ownership changes hands. National Account export figures would circumvent this time inconsistency but would entail losing nearly 40% of the quarterly observations in the panel. Customs based trade data is more complete as missing export data can be inferred from the import data of trade partners, as is often done with IMF Direction of Trade Statistics (DOTS) data.

¹⁶ The failure of the dummy variable *impute* to approach significance provides assurance that imputing quarterly GDP from annual data, where necessary, has no significant effect on the results. See data appendix. Omitting imputed quarterly *GDPd* observations strengthens the effect of lagged Δ *GDPd* and weakens that of unlagged Δ *GDPd*; neither changes sign although the latter loses significance.

¹⁷ An open question is what role electorally motivated economic manipulation may play. Unlike foreign demand (i.e., exports), which is largely insulated from pre-election manipulation, domestic demand is highly susceptible to government macroeconomic influence.

understated for it alters our fundamental understanding of presumed domestic election processes. Given the effect of exports on election timing, economic expansions may not only increase domestic election probabilities but those of trade partners as well. More specifically, booming economies import more, transmitting their expansion-cum-election incentive to neighboring states via trade. This implies, somewhat surprisingly, that elections -- a central act of national sovereignty -- may partly be induced by foreign economic fluctuations.

Hazard Analysis

As encouraging as the preceding results have been, discrete time analysis has several limitations. Most notably, final quarter elections cannot be properly right-censored, only omitted. Concerns about such omission on model estimation motivate the following recalculation employing hazard estimation and treating governments as subjects. For my purposes, a Cox hazard model is preferable to fully parametric proportional hazard models because it requires no distributional assumptions about the underlying baseline hazard (Weibull, Gompertz, Exponential, etc.) and more easily accommodates time-varying covariates.¹⁸

¹⁸ Hazard analysis does not liberate us from the constraints of the data, however. Most economic data is available only in a quarterly format that imposes multiple observations – one every quarter – on subject governments. The partial likelihood estimation in Cox models can easily manage the quarterly variation but the discrete quarterly coding of early elections – the relevant failure event – admits a new estimation problem: multiple elections after the same span of time, i.e., ties.

When ties occur, how one decides which election came first and how the risk pool should be adjusted can profoundly effect estimation results. For example, if two governments hold elections in the same quarter, one must decide whether the first election remains in the second election's risk pool. The most common methods for resolving ties are Breslow, Efron, exact marginal likelihood, and exact partial likelihood (a.k.a. "discrete" method for those in the SAS world). These methods apply one of two assumptions about time: exact marginal likelihood assumes ties occur from the grouping of continuous time data; exact partial likelihood, Breslow, and Efron assume that ties really occur at discrete times and then adjusts the partial likelihood relative to conditional probabilities that failures were from given risk pools. As I know that ties have arisen from the discrete grouping of continuous time elections, I employ exact marginal likelihood for resolving ties. This also avoids the coefficient bias toward zero that emerges from the Breslow and Efron methods as the number of ties increases (Allison 1995).

Survivor Function without covariates

Let us begin with a look at the time-span data. Intuition suggests that more governments should call elections opportunistically as mandatory elections approach. Expressed differently, the survivor function should drop off more dramatically as a government matures. Kaplan–Meier estimates both confirm this and provide unexpected insights into the data. Figure Two below shows the Kaplan–Meier survival estimates for governments of three different maximum term lengths (technically known as “constitutional inter-election periods” or CIEP) simply as a function of time, i.e. quarters in office.

[FIGURE TWO ABOUT HERE]

The Y-axis plots the survivor function, the estimated probability of surviving to or beyond the corresponding time on the X-axis. As new terms are defined as starting in the quarter after an election – largely for data management purposes – and we now measure intervals between observations rather than the values at discrete moments, data only run up to the penultimate quarter of a maximum term (CIEP – 1). In accordance with our assumption about government opportunism, governments of all three maximum term lengths experience a precipitous decline in survival probabilities as mandatory elections approach. Note that although these figures plot elections, not just terminations, this pattern poses a problem for the traditional government duration school (cf., Warwick 1994) which understands termination as the outcome of fixed attributes or stochastically distributed shocks. If opportunism does not influence election timing, why does election density spike shortly before mandatory elections?

Perhaps more surprising, this step comes relatively much earlier in longer terms. Governments with five-year maximum terms experience their greatest survival drop-off after serving 85 percent of their term, four-year terms after 87, and three-year terms after 92. This may suggest that maximum term length may be positively associated with opportunism; governments with longer terms may enjoy longer windows of election calling opportunity. Less than 25 percent of governments survive to their legal expiry date.

Cox Analysis

As mentioned above, a Cox hazard model's partial likelihood estimation best accommodates the time-varying covariates and violations of proportional hazards inherent to my data. I estimate the hazard of early elections in the same thirteen country OECD sample employed in the earlier discrete time logit analysis. Governments are now treated as the subjects and early elections are coded as failure events; final quarter elections are therefore automatically right-censored. Left truncation is perhaps more of a concern as many governments began before the 1967:1 to 1998:4 observation window. I circumvent this issue by including only those governments that began in or after the first quarter of 1967. One single-quarter government is also omitted, leaving 124 governments and 90 failure events (early elections). Note, however, that governments are defined as the periods between elections regardless of coalition composition.

[TABLE THREE ABOUT HERE]

Table Three displays the hazard coefficient estimates (not ratios) for six specifications. All models are stratified by CIEP (the maximum term length), employ White robust standard errors clustered on country, and resolve ties via exact marginal likelihood. Reassuringly, results differ little from those of the discrete-time analysis. Seasonally adjusted percentage change in exports remains a positive and significant predictor of early elections, but as theory predicts, only in the latter part of the term. As before, export growth is initially negatively, albeit not significantly, associated with early elections, only exhibiting a positive effect on election probabilities after approximately eleven quarters in the most fully specified models (3.3 and 3.4). Moreover, export growth is highly robust to the addition of domestic demand and quarterly controls, remaining significant in interaction with time at the one percent level. The percentage change in exports' complement, GDPd, exhibits a positive lagged relationship with early elections but now also rises to significance at the one percent level. Finally, note that export shifts have a greater effect on elections in Europe than in the full sample. Model 3.6 replicates Model 3.4 on a sample of 83 European governments suggesting that higher levels of European economic integration may magnify political sensitivity to external economic stimuli.

Examining the estimated baseline hazards may provide insight into the fundamental election-calling process. Earlier in this section, I examined the Kaplan-Meier survival estimates of governments of different maximum term lengths for evidence of election-calling opportunism. The preceding hazard estimates now provide the opportunity to reexamine the survival function's counterpart, hazard, in a (semi)parametric context, namely that of model 3.4. Although Cox models do not explicitly estimate baseline hazards, estimates thereof are easily obtained.¹⁹

¹⁹ The functional form of baseline hazards in most proportional hazard models is simply assumed. The genius of Cox models is that no such modeling assumption is necessary. In its simplest form, excluding time-varying covariates, Cox models estimate hazard as $h(\tau) = \lambda_0(t) e^{\beta_1 x_1 + \dots + \beta_k x_k}$ where λ_0 is the baseline hazard. Thus the natural log of the hazard is just the log of the baseline hazard, call this $\gamma(t)$, plus

Figure 2.3 plots the estimated baseline hazards for each of the three maximum inter-election periods (CIEP) as generated by model 3.4.²⁰

[FIGURE THREE ABOUT HERE]

For all three strata, election hazard spikes precipitously as the date of mandatory elections approaches. Election hazards are fairly stable for most of a government's term but increase dramatically late in their terms, paralleling Figure Two's survival estimates and Figure One's discrete-time election probabilities.

In conclusion, Cox hazard analysis confirms the relationship between exports and elections found in the earlier discrete-time analysis, showing export growth to be an increasingly strong predictor of elections as governments mature. Of course, this interpretation assumes opportunistic election-calling, an inference strongly supported by non-parametric survival estimates and Cox semi-parametric analysis alike. Interestingly, governments with longer maximum terms show a relatively earlier spike in election hazard, possibly suggesting a larger window for opportunism.

βX . Now if $\gamma(t) = \gamma$ we have reproduced the exponential model; $\gamma(t) = \gamma t$, the Gompertz model; and $\gamma(t) = \gamma \log t$, the Weibull model. This is why Cox models require no a priori assumptions about the form of the baseline hazard.

²⁰ Stratifying the sample in a Cox model, as I do, is equivalent to running separate regressions with the constraint that the coefficients remain equal. Differences between strata are thus attributed to the respective underlying baseline hazards. Baseline hazard estimates also assume a value of zero for all covariates, a feature that may raise interpretive complications. Zero may not be a theoretically reasonable value for export exposure, for example, in a model concerned with the effect of exports on election timing. I therefore center *L2expgdp* so that a zero value now represents its mean exports / GDP value of .227.

Election Clustering

If export booms are indeed inviting opportunistic elections, we should expect derivative empirical relationships. The most obvious implication may be election clustering. Current levels of economic interdependence imply that multiple states simultaneously experience trade booms and busts; we should consequently expect export expansions not only to predict elections but contemporaneous elections in multiple premier timing states. Second, increasing trade liberalization over the last couple of decades also implies a growing correlation of election cycles that should be most evident among the most economically integrated states. I find both of these patterns.

I test for the first expected relationship – concurrent elections – with a multinomial logit model refining *election* to distinguish between solitary elections, elections that fall in a quarter with no other country elections, and concurrent elections, elections that fall in the same quarter as those of another country. The new context demands a simpler specification. Interacting change in exports with elapsed term is no longer appropriate with a dependent variable partly determined by remaining time to expiry in *two* countries. $\Delta export$ – given international business cycles – captures variation in multiple countries but time remaining in a term differs considerably in each country. It would not be reasonable to expect the effect of export growth on the probability of an election occurring to increase as a government in a different country approached its expiry.

[TABLE FOUR ABOUT HERE]

The two multinomial logit models presented in Table Three show an impressive pattern. Where model 2.1 revealed export expansion as a strong predictor of elections, model 4.1 now

shows that export expansions are a much stronger predictor of some types of elections than others. Large export expansions invite concurrent elections in multiple states whereas a steady number of solitary elections, possibly induced by non-economic domestic events, continue with little heed to exports. This pattern differs very little between samples including and excluding final quarter elections.

[FIGURE FOUR ABOUT HERE]

Figure Four shows how the predicted probability of concurrent elections with another premier timing state, given a government with only twenty percent of its maximum term remaining and average export exposure ($exp/gdp = .218$), rises with the size of export expansions. To illustrate with approximate measures, a seventeen percent surge in exports -- approximately one standard deviation above the mean -- is associated with a seventy-two percent probability of no election, nine percent probability of a solitary election and nineteen percent probability of a concurrent election. A thirty percent increase in exports -- two standard deviations above the mean -- is associated with election probabilities of sixty-four, nine, and twenty-seven percent, respectively. As measures of export change in one country are an imperfect proxy for those in others, it is likely that these results even underestimate trade's true effect.

These findings have strong and novel implications for international political economy. The election clustering noted by Tufte may actually be a result of trade-transmitted international business cycles rather than the converse, as conventionally assumed. As I discuss below, election clustering among trade-exposed premier-timing countries may affect various political processes from international cooperation to regional integration.

Convergence?

A second implication of the thesis that external economic forces influence national election timing is a possible upward trend in election clustering. While a low “signal to noise ratio,” – economic opportunism is only one of a host of often particular and political determinants of election calling – is sure to preclude the emergence of fully coordinated elections, the rise in economic interdependence and the emergence of international business cycles, especially within Europe, over the last few decades nevertheless imply a waxing impetus toward election clustering. Are elections becoming more synchronized?

Of several possible methods of evaluating election cycle synchronization, I employ a correlation of each country-pair’s respective vectors of days from July 1 of each year to the next election. Measuring from the middle of each year to the next election provides a common benchmark and an equal number of observations. This approach also offers the simplicity of an election analog to business cycle correlation while the standardization employed in the calculation of correlation coefficients conveniently facilitates comparison across different variances.²¹

[TABLES FIVE A AND FIVE B ABOUT HERE]

Tables Five A and Five B present a full set of cross-correlations for all of the sample countries over a forty year window, 1956 to 1995. Given the low number of elections in the data we can expect the correlations to be relatively low but sensitive to small changes in the timing of an election. While little evidence of clustering appears in the full forty-year observation window (Table Five A), the second two decades (Table Five B), which now include a democratic Spain,

²¹ recall, $r_{xy} = \frac{Cov(x, y)}{s_x s_y} = \sum_i \frac{(x_i - \bar{x})(y_i - \bar{y})}{s_x s_y} = \sum_i \frac{(x_i - \bar{x})}{s_x} \frac{(y_i - \bar{y})}{s_y}$.

display distinct, albeit inconclusive, signs of clustering. As predicted, countries tend to have the highest election cycle correlations with their largest and most proximate trading partners. Figure Five highlights this phenomenon: diagramming the network formed by relatively strong country correlations ($r > .3$) in Table Five B reveals a pattern of high election cycle correlation between the most geographically propinquitous and trade connected countries in the sample.

[FIGURE FIVE ABOUT HERE]

[TABLE SIX ABOUT HERE]

Western Europe -- the largest cluster of economically integrated countries -- also has the most integrated election calendars while more distant, less economically connected states have few, if any, electoral ties. Indeed, with the exception of Greece, all of the European countries form an interconnected network with one another that excludes all of the non-European states. European states are also highly over-represented among the most highly correlated states. Of a total 78 country correlation dyads, 36 (46%) are intra-European; above the $r = .3$ cutoff, however, this figure rises to 83% (ten out of twelve). While the correlations on which these observations are based must have a large stochastic component and a few results defy expectation (e.g., Australia-Greece), they nevertheless suggest that the concentration and economic integration of premier timing states in Western Europe makes them the most susceptible to election clustering and convergence.

Table Six presents this pattern of election cycle convergence for three levels of correlation ranking countries from the most to the least interconnected. Again, a distinct core of relatively synchronous election cycles emerges in western Europe that is largely absent among more peripheral European states (Greece) and non-European states.

Could continuing economic integration be generating an upward trend in election clustering? Nowhere should this trend be stronger than in Europe, where the European Union has steadily reduced trade barriers, stabilized exchange rates, lowered barriers to capital mobility, and generated an increasingly synchronized European business cycle. Indeed, as Artis and Zhang (1997, 1999) show, European business cycles have converged after the introduction of the European Monetary System's European rate mechanism (ERM) in 1979. Figure Six, which plots the twenty-year moving-average election-cycle correlation between six European countries²² and the most connected country in Figure Five (Austria) produces remarkably similar results. A few years after the introduction of ERM, European election cycles – much like business cycles – began converging with one another while diverging from that of the United States; in short, *as European business cycles have converged, so have European election cycles.*

[FIGURE SIX ABOUT HERE]

Of course, these results are more suggestive than conclusive but interpreted in the context of the other findings, they provide reason to suspect an upward trend in election clustering, especially in Europe where the necessary institutional and economic conditions are most common.

Discussion

This paper has revealed some important, and some unrecognized, phenomena: (a) that governments able to time elections opportunistically do so, (b) that they respond to economic fluctuations regardless of whether they originate domestically or abroad, (c) that incumbents

²²Denmark, Iceland, Ireland, Italy, Netherlands, UK. This (including Austria) is the complete set of European states that have had democratic governments for the necessary time series length and are able to time their elections opportunistically. Thus, Spain and Greece are omitted. The value reported at each year represents the mean of six bivariate correlations between the European countries and Austria's cycle over the current and nineteen preceding years. The correlation mean with the US includes Austria as well.

maximize both time in office and reelection probabilities, calling elections toward the end of their terms prior to expected downturns or, often identically, during unusually strong positive shocks, and (d) that as a term matures, governments become increasingly opportunistic, responding to smaller shocks that they would have foregone prior in their terms. Several corroborating secondary effects also emerge including (e) a pattern of election cycle correlation among the most economically integrated states of Western Europe and (f) an upward trend in election cycle correlation among these states over time. If premier timing governments are indeed as opportunistic in their timing of elections as I suggest, then the distinction between endogenous timing (or more precisely, premier timing) and fixed timing states may be a far more important institutional dimension than previously thought.

Domestically, not only does premier timing matter for incumbency advantage and government behavior (credible dissolution threats may empower the government relative to the legislature), but also for the “electoral economy” of a state. Governments that are able to synchronize elections with exogenous opportunities, may have less of an incentive to manipulate their economies prior to elections. This paper underscores the need for political business cycle research to allow for opportunistic timing in countries where governments are able to set their own election dates. Two specific contributions of this essay offer special promise. The development of the premier-timing category and identification of OECD countries that fall within it marks a clear set of cases where opportunistic timing can be expected and traditional political business cycle models are most inappropriate. Second, the use of the domestic portion of GDP, domestic demand for domestically produced goods and services (GDP_d), rather than aggregate GDP provides a tool to measure the portion of economic output that governments can

directly influence. This might offer a more comprehensive and tractable alternative to political *budget* cycle analysis.

Internationally, the external economic effects on national election timing raises the prospect of election clustering among the most economically integrated states, most notably those of western Europe. In effect, the convergence of regional business cycles may imply the convergence of regional election cycles. Recent steps toward greater economic integration such as the European economic and monetary union, complete with a new regional central bank, only imply continued convergence which, in turn, may have its own consequences. If states approaching elections behave differently from those removed from immediate reelection concerns, incumbents facing imminent polls should emphasize short-term domestic interests over cooperation with foreign governments. A growing synchronization of election calendars thus implies international cycles of cooperation and conflict with elections preceded by discord and followed by *détente*. This phenomenon takes on added gravity within supra- and inter-national organizations such as the European Union where the European Commission may welcome the attendant opportunities to introduce unpopular EU initiatives away from member country elections.

By establishing that the calling of national elections is influenced by external economic ties, this paper raises some questions about globalization's political consequences. Many scholars have already questioned the effect of freer flows of goods, services, and capital on the ability of governments to set domestic policy; none have examined the effect on the electoral process itself. Institutional variation may be the final mile in predicting globalization's effects in different countries. Election-calling institutions should be central to this endeavor.

Appendix

Dependent Variables:

Election is coded one in quarters with an election and zero otherwise.

Melecgeo, multinomial and geographic election, is coded zero for no election, one for elections falling in quarters in which no other sample countries hold polls, two for elections in the same quarter as that of a country in a different region, and three for elections in the same quarter as that of another country in the same region. Regions are defined as Europe (AUT, DNK, GRE, ICE, IRE, ITA, NTH, SPN, UK), North America (only CAN), and Asia/Pacific (AUL, JPN, NZL).

Independent Variables:

$\Delta export$, in percentage, was calculated as the change from the previous quarter using goods export data from the IMF *International Financial Statistics* CD-ROM. Because several time series were incomplete, especially in the 1960s and 1970s, I augment them with data from the IMF's Direction of Trade Statistics (DOTS) data tape, cross-referenced with the published book series and UN trade data (International Trade Statistics Yearbook) for accuracy. I make many corrections to the tape data which employs inconsistent units and has numerous discrepancies. In the event of conflicting information, I use the printed IMF DOTS book's data. Missing: post 97 GRE.

$\Delta exportsa$, percentage change in seasonally adjusted exports from previous quarter. Adjusted using Pindyck and Rubinfeld routine with 12 quarter moving average.

Δgdp_d , percentage change in domestic demand for domestic goods and services from previous quarter. Note that gdp_d is simply the complement of exports, i.e. foreign demand for domestic goods, as explained in the text. Several countries only publish quarterly GDP figures for large (BEL, DNK, GRE, ICE, IRE, NZL) or small (NTH, SPN) parts of our observation period. For these cases – about a third of the observations – I impute quarterly GDP from annual data, setting the first quarter figure equal to annual GDP/x where $x = r^3 + 4r^2 + 6r + 4$ and r is the sample mean growth rate in quarterly GDP for the extant 1059 observations, 2.27 percent. *Impute*, described below, serves as an indicator for imputed quarterly Δgdp_d . GDP figures seasonally adjusted by reporting countries except for that of AUT, adjusted by the author. DNK, GRE, ICE, IRE also do not seasonally adjust quarterly GDP data but only provide extremely brief time series.

Exp/gdp_{t-2} measures exports as a percentage of GDP, lagged by two quarters to avoid colinearity problems with other export and GDP variables. It uses IMF IFS export data when available, otherwise it employs IMF DOTS "exports to world" data. Note that the IFS Annual GDP figures are incorrectly entered as quarterly data for several countries and had to be divided by four. GDP data is from the IMF International Financial Statistics (IFS) CD-ROM. All data are in nominal US dollars with GDP data converted from local currencies using exchange rates also taken from IMF IFS. Missing: pre 71 GER, post 93 GRE, post 93 ICE, post 93 IRE.

Finqtr is a dummy variable for the final quarter of a constitutionally mandated maximum inter-election period (CIEP) defined as time since last election (TSLE) divided by CIEP $\geq .95$ – i.e., one quarter in a five year term – and *election* = 1. Because TSLE -- measured in days -- includes the remaining post-election days in the previous election quarter, *tsle/ciep* will most often slightly exceed the simple product of the number of days in a quarter (~ 91) and the number of elapsed quarters in a term allowing *finqtr* to pick up final quarters of three, four and five year CIEPs. Note also that some countries, most notably the Netherlands, do not include the coalition formation period toward a government's term, thereby producing non-final quarters with and *elapsed* value greater than one. Five quarters had to be recoded for this reason: NZL1990:3, NTH1976:4, NTH1977:1, NTH1993:4, NTH1994:1.

Impute, a dummy indicating imputed quarterly GDP data as explained under Δgdp_d above.

Elapsed, time since last election (TSLE) divided by constitutionally mandated inter-election period (CIEP). This is a measure of the proportion of a government's maximum term length that has elapsed. When this variable reaches unity an election must be called. Elections should become more probable as *elapsed* rises. Complete time series.

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Table One: Thirteen Premier Timing Countries

Country	Symbol	Max Term (years)	Mean Δ export ²³	
			elec qtr	no elec
Australia	aul	3	0.12	2.54
Austria	aut	4	8.10	3.53
Canada	can	5	7.49	2.90
Denmark	dnk	4	3.06	2.29
Greece	gre	4	3.34	3.94
Iceland	ice	4	28.00	5.12
Ireland	ire	5	4.60	4.42
Italy	ita	5	4.51	3.62
Japan	jpn	4	7.88	3.23
Netherlands	nth	4	-0.27	3.66
New Zealand	nzl	3	1.14	2.89
Spain	spn	4	16.16	4.33
UK	uk	5	8.18	2.88

Source: Parliaments of the World (IPU), The World Encyclopedia of Parliaments and Legislatures (WEPL), and constitutions on-line (<http://uni-wuerzburg.de/law/>)

²³ 1967Q1 to 1998Q4; percent change over previous quarter.

Table Two: Elections and Exports

	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)	(2.6)	(2.7)
	Δexport	Δexport Interaction	$\Delta\text{export, s.a.}$	ΔGDPd Controls	Quarter Controls	ΔGDPd Interaction	ΔGDPd_{t-1} Interaction
elapsed	4.650*** (0.641)	4.252*** (0.684)	4.331*** (0.642)	4.356*** (0.617)	4.424*** (0.640)	4.936*** (0.688)	4.289*** (0.701)
exp/gdp_{t-2}	-0.006 (0.015)	-0.006 (0.015)	-0.005 (0.015)	-0.007 (0.014)	-0.009 (0.014)	-0.009 (0.014)	-0.011 (0.014)
Δexport	0.022*** (0.007)	-0.039** (0.019)	-0.083* (0.044)	-0.087** (0.037)	-0.083** (0.034)	-0.007 (0.014)	-0.007 (0.014)
elapsed* Δexport		0.095*** (0.034)	0.129** (0.062)	0.123** (0.053)	0.118** (0.050)		
ΔGDPd_{t-1}				0.042*** (0.008)	0.038*** (0.011)	0.039*** (0.011)	-0.073 (0.061)
ΔGDPd				-0.031 (0.021)	-0.032 (0.022)	0.077*** (0.027)	-0.032 (0.020)
impute				0.105 (0.267)	0.068 (0.278)	0.073 (0.282)	0.075 (0.311)
qtr2					0.538 (0.483)	0.552 (0.476)	0.531 (0.485)
qtr3					-0.442 (0.410)	-0.468 (0.416)	-0.441 (0.413)
qtr4					0.821** (0.353)	0.824** (0.355)	0.838** (0.355)
elapsed* ΔGDPd						-0.175*** (0.053)	
elapsed* ΔGDPd_{t-1}							0.173* (0.099)
constant	-5.186*** (0.506)	-4.946*** (0.482)	-4.937*** (0.472)	-4.977*** (0.429)	-5.281*** (0.477)	-5.592*** (0.524)	-5.152*** (0.549)
-2 logl'hood	603.82	598.37	605.37	596.41	597.35	597.84	579.55
BIC	633.15	635.04	615.37	655.06	660.00	660.48	660.20
N. Obs.	1530	1530	1530	1528	1528	1528	1528

Dependent variable is *election*. White robust standard errors, clustered on country, in parentheses.

*p<.1; **p<.05; ***p<.01. All models run using Stata 6.0 and omit final quarter elections.

Table Three: Cox Hazard Estimation

	3.1 base	3.2 $\Delta\text{expsa} * _t$	3.3 lag ΔGDPd	3.4 qtr controls	3.5 $\Delta\text{LGDPd} * _t$	3.6 Europe
exp/gdp_{t-2}	-0.011 (0.010)	-0.010 (0.010)	-0.012 (0.010)	-0.014 (0.011)	-0.017 (0.012)	-0.008 (0.007)
Δexpsa	0.002 (0.011)	-0.051** (0.024)	-0.055** (0.022)	-0.056** (0.022)	-0.008 (0.017)	-0.075*** (0.021)
$\Delta\text{expsa} * \text{time}$		0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)		0.007*** (0.002)
ΔGDPd	-0.027 (0.018)	-0.027 (0.019)	-0.028* (0.017)	-0.031* (0.017)		-0.019 (0.016)
ΔGDPd_{t-1}			0.043*** (0.010)	0.043*** (0.011)	-0.058* (0.034)	0.045*** (0.015)
ΔGDPd_{t-1} *Time					0.010*** (0.004)	
Impute	0.198 (0.230)	0.168 (0.222)	0.136 (0.254)	0.115 (0.247)	0.132 (0.280)	0.188 (0.218)
Qtr2				-0.792* (0.471)	-0.807* (0.469)	-1.370 (0.962)
Qtr3				0.212 (0.409)	0.155 (0.409)	-0.220 (0.476)
Qtr4				-0.502 (0.513)	-0.567 (0.551)	-1.211 (0.928)
Wald χ^2	7.89	16.66	29.68	64.93	33.22	371.47
Log likelihood	-210.42	-208.71	-205.56	-200.99	-200.66	-126.71
N. Obs.	1357	1357	1357	1357	1357	924
Failures	90	90	90	90	90	57
Subjects	124	124	124	124	124	83

White standard errors (clustered on country) in parentheses. Strata by CIEP. Exact marginal likelihood tie resolution. * p<.1; **p<.05; ***p<.01

Table Four: Concurrent Elections and Exports

	4.1		4.2	
	with final quarters		without final quarters	
	Solitary	concurrent	Solitary	concurrent
constant	-5.630*** (.560)	-7.707*** (.830)	-5.113*** (.520)	-6.881*** (.708)
elapsed	4.260*** (.698)	7.542*** (1.059)	3.503*** (.701)	6.036*** (.879)
Δexport	.008 (.013)	.035*** (.009)	.008 (.014)	.034*** (.009)
exp/gdp_{t-2}	.001 (.004)	-.010 (.020)	-.006 (.009)	-.007 (.023)
N. elects.	54	70	47	52
BIC		848.77		778.69
-2 Logl'hood		797.32		727.36
N. obs.		1555		1530

Dependent variable is melec2: 0=no election; 1=solo election; 2=concurrent election. White standard errors, clustered on country, in parentheses. *p<.1; **p<.05; ***p<.01

Tables Five A and Five B: Election Cycle Correlation

	1956-95												
	aul	aut	can	dnk	gre	ice	ire	ita	jpn	nth	Nzl	spn	uk
australia	1.000	-0.083	-0.144	-0.269	0.212	-0.115	0.021	-0.272	0.068	0.231	0.213	.	-0.122
austria	-0.083	1.000	-0.203	-0.142	-0.067	0.217	-0.171	0.479	-0.100	0.046	0.007	.	0.295
canada	-0.144	-0.203	1.000	0.065	0.054	-0.166	-0.121	0.115	0.081	-0.072	0.041	.	-0.099
denmark	-0.269	-0.142	0.065	1.000	-0.185	0.065	-0.001	-0.141	-0.051	-0.167	0.029	.	-0.115
greece	0.212	-0.067	0.054	-0.185	1.000	-0.041	0.027	0.075	0.061	-0.003	0.167	.	-0.223
iceland	-0.115	0.217	-0.166	0.065	-0.041	1.000	-0.221	0.092	0.054	0.166	-0.149	.	0.174
ireland	0.021	-0.171	-0.121	-0.001	0.027	-0.221	1.000	-0.036	-0.023	0.119	-0.196	.	-0.121
italy	-0.272	0.479	0.115	-0.141	0.075	0.092	-0.036	1.000	0.015	0.015	0.025	.	0.004
japan	0.068	-0.100	0.081	-0.051	0.061	0.054	-0.023	0.015	1.000	0.248	0.308	.	-0.172
netherlands	0.231	0.046	-0.072	-0.167	-0.003	0.166	0.119	0.015	0.248	1.000	-0.003	.	-0.263
new zealand	0.213	0.007	0.041	0.029	0.167	-0.149	-0.196	0.025	0.308	-0.003	1.000	.	-0.139
united kingdom	-0.122	0.295	-0.099	-0.115	-0.223	0.174	-0.121	0.004	-0.172	-0.263	-0.139	.	1.000

	1976-95												
	aul	aut	can	dnk	gre	ice	ire	ita	jpn	nth	nzl	spn	uk
australia	1.000	-0.299	-0.057	-0.211	0.312	-0.310	0.199	-0.351	-0.195	0.119	0.002	0.156	-0.216
austria	-0.299	1.000	-0.271	0.000	-0.233	0.471	-0.090	0.684	-0.007	-0.208	0.174	0.367	0.531
canada	-0.057	-0.271	1.000	-0.201	0.117	-0.175	-0.203	-0.130	0.319	-0.137	0.197	-0.166	-0.358
denmark	-0.211	0.000	-0.201	1.000	-0.160	0.383	-0.086	-0.337	0.038	-0.061	0.131	-0.433	-0.251
greece	0.312	-0.233	0.117	-0.160	1.000	-0.268	-0.214	-0.175	-0.031	0.259	0.181	0.085	-0.405
iceland	-0.310	0.471	-0.175	0.383	-0.268	1.000	-0.061	0.265	0.146	-0.068	-0.148	-0.085	0.325
ireland	0.199	-0.090	-0.203	-0.086	-0.214	-0.061	1.000	0.046	-0.107	0.337	-0.327	0.099	0.118
italy	-0.351	0.684	-0.130	-0.337	-0.175	0.265	0.046	1.000	0.110	-0.166	0.023	0.324	0.685
japan	-0.195	-0.007	0.319	0.038	-0.031	0.146	-0.107	0.110	1.000	0.237	-0.213	-0.113	-0.109
netherlands	0.119	-0.208	-0.137	-0.061	0.259	-0.068	0.337	-0.166	0.237	1.000	-0.156	0.317	-0.213
new zealand	0.002	0.174	0.197	0.131	0.181	-0.148	-0.327	0.023	-0.213	-0.156	1.000	-0.098	-0.082
spain	0.156	0.367	-0.166	-0.433	0.085	-0.085	0.099	0.324	-0.113	0.317	-0.098	1.000	0.254
united kingdom	-0.216	0.531	-0.358	-0.251	-0.405	0.325	0.118	0.685	-0.109	-0.213	-0.082	0.254	1.000

Table Six: Countries with the Most Correlated Elections

1976-95

Country	r > .3	r > .4	r > .5	Correlated with (in declining r)
Austria	4	3	2	ITA, UK, ICE, SPN
Italy	3	2	2	UK, AUT, SPN
UK	3	2	2	ITA, AUT, ICE
Iceland	3	1	0	AUT, DNK, UK
Spain	3	0	0	AUT, ITA, NTH
Netherlands	2	0	0	IRE, SPN
Ireland	1	0	0	NTH
Denmark	1	0	0	ICE
Canada	1	0	0	JPN
Japan	1	0	0	CAN
Australia	1	0	0	GRE
Greece	1	0	0	AUL
New Zealand	0	0	0	-

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
elapsed	1558	.4122208	.2613002	0	1.08
Δ export	1622	3.408527	13.29098	-45.62044	87.60525
Δ export, sa	1622	3.002872	9.032187	-33.93267	60.50919
expgdp _{t-2}	1609	21.77745	12.15493	3.91	78.16
Δ GDPd	1618	1.840759	5.681651	-27.86275	49.76033
Δ GDPd _{t-1}	1607	1.806125	5.657499	-27.86275	49.76033

Figure One: Elections and Exports

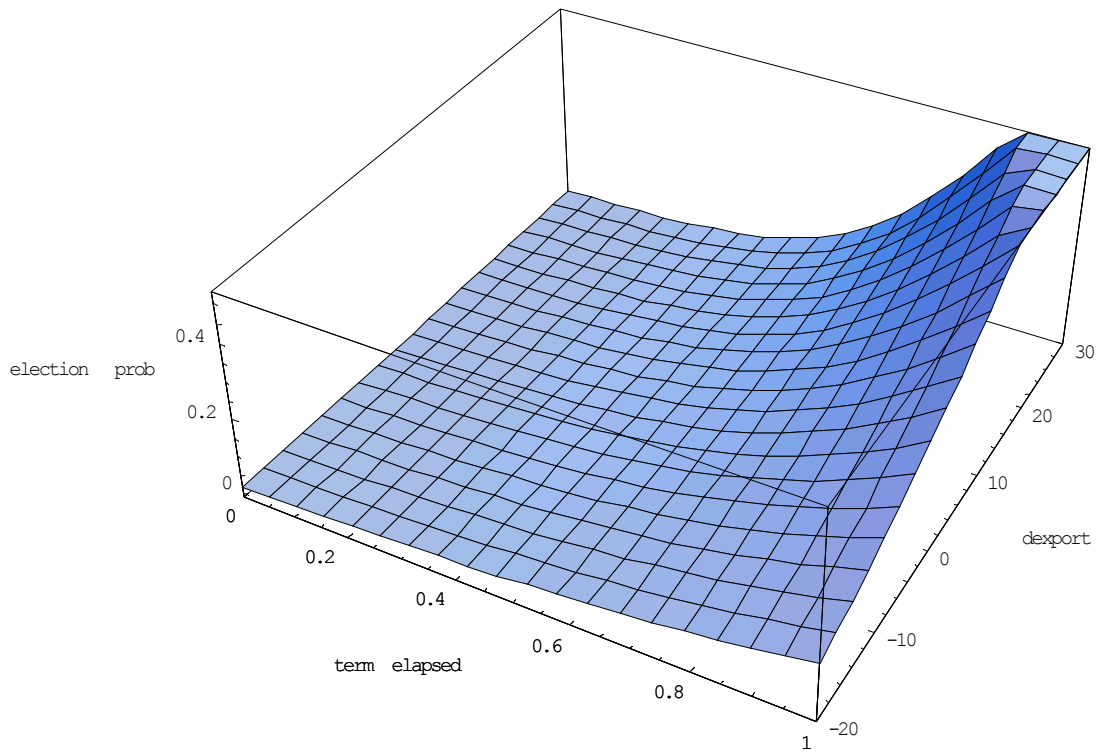


Figure Two: Survival Function Estimates

Kaplan-Meier survival estimates, by ciep

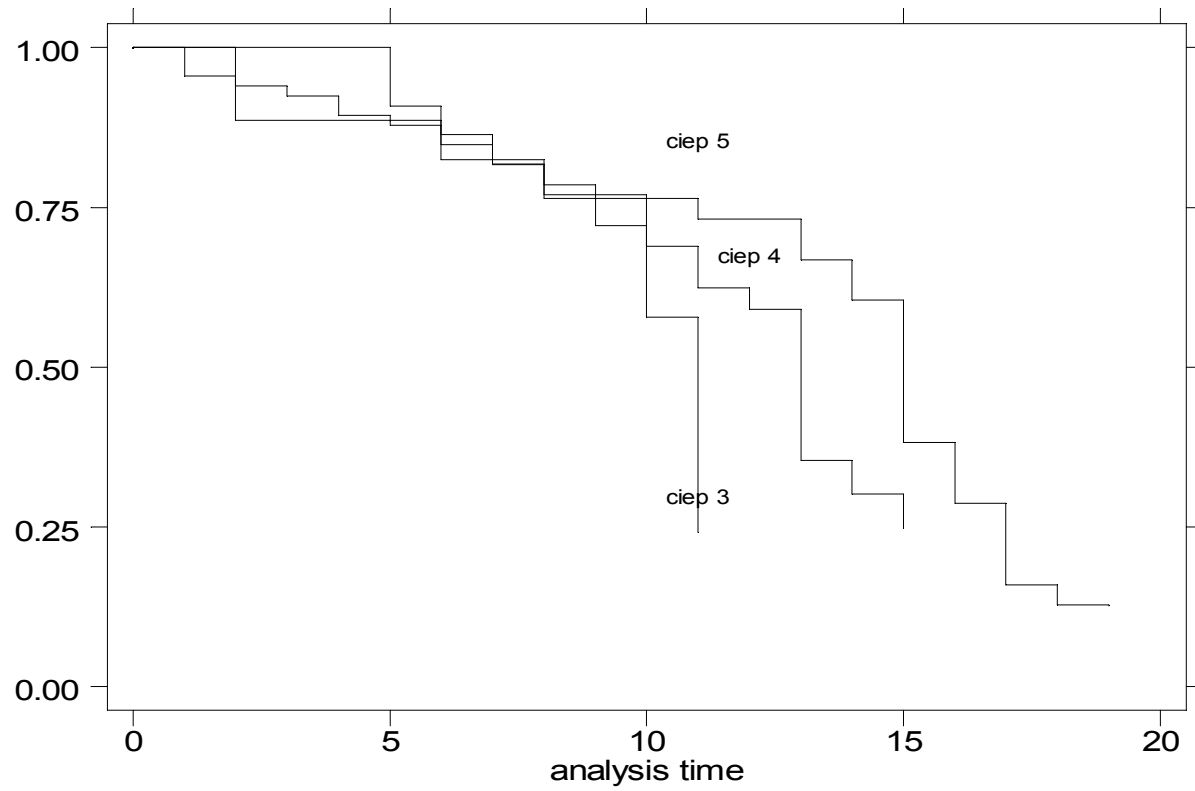
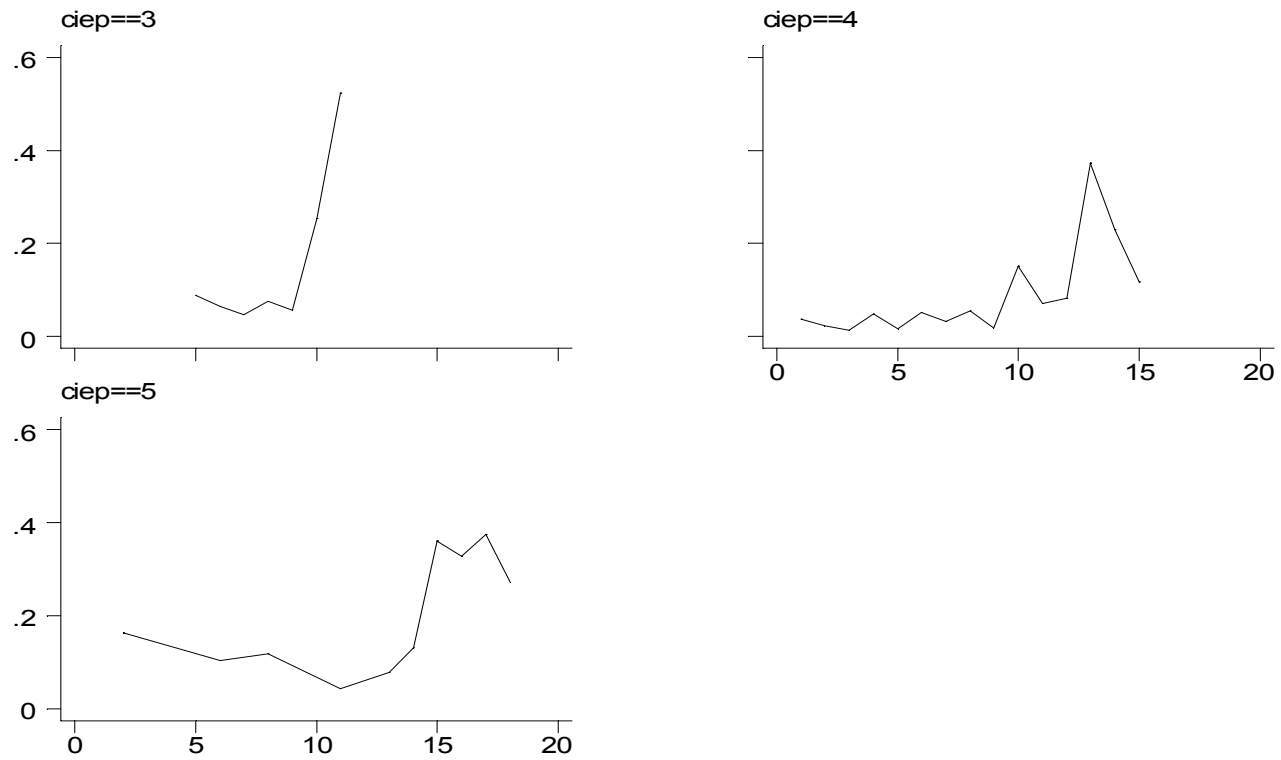
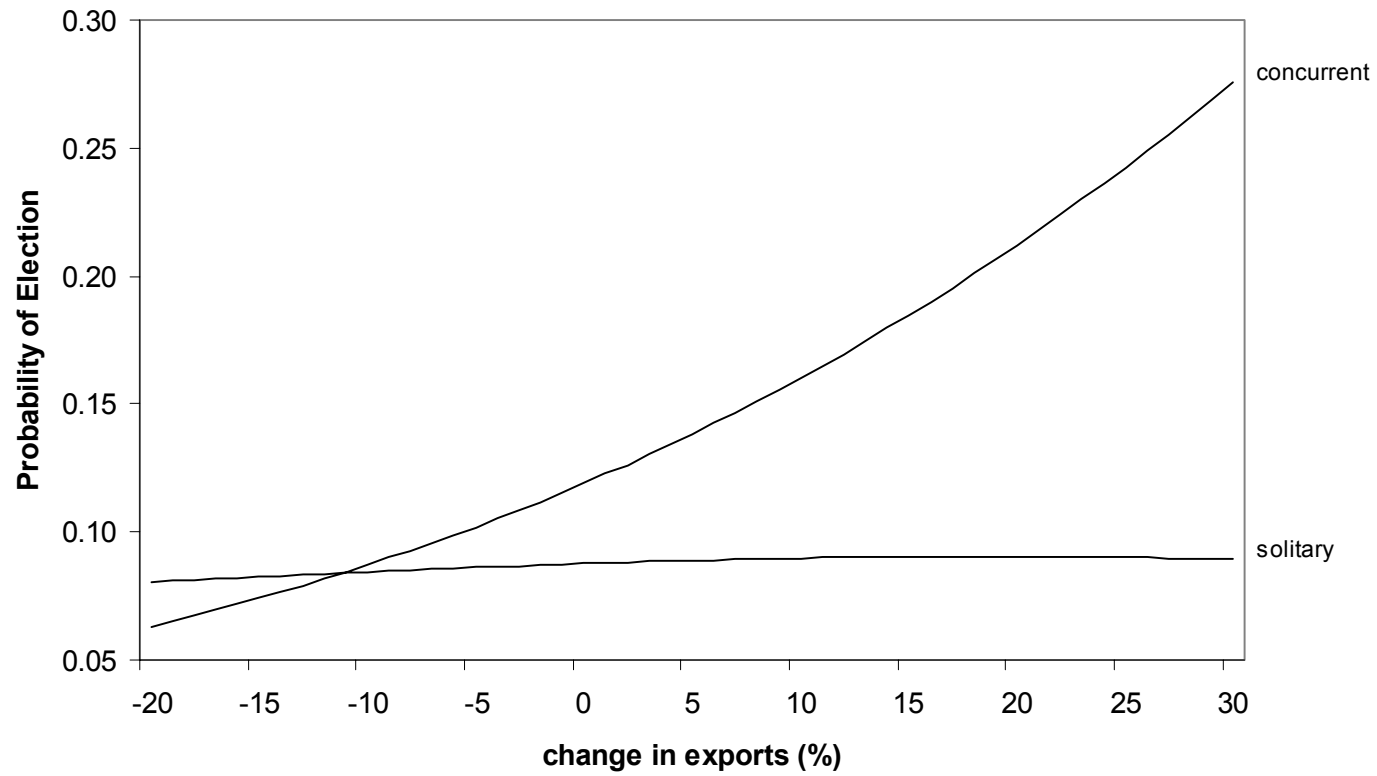


Figure Three: Model 2.3.4 Baseline Hazard Estimates by CIEP



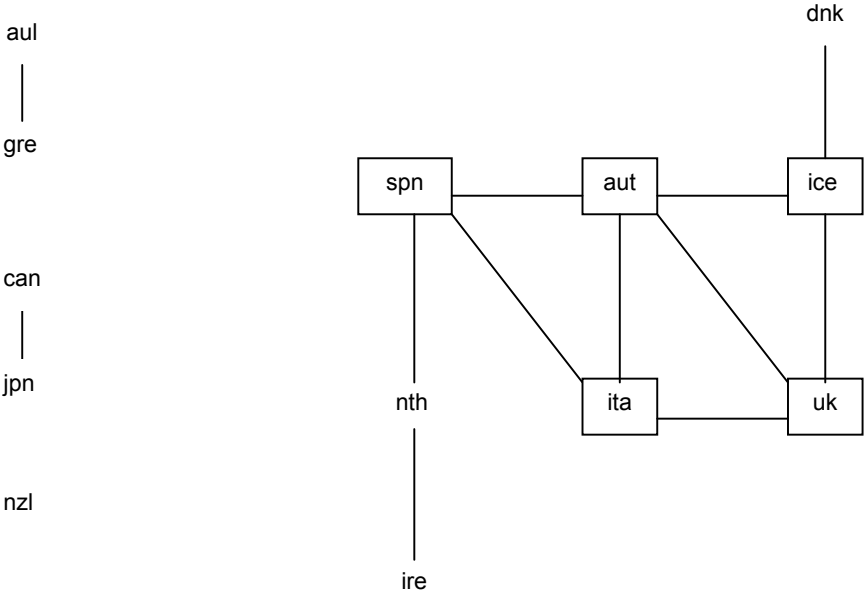
Graphs ^t by CIEP

Figure Four: Trade and Concurrent Elections²⁴



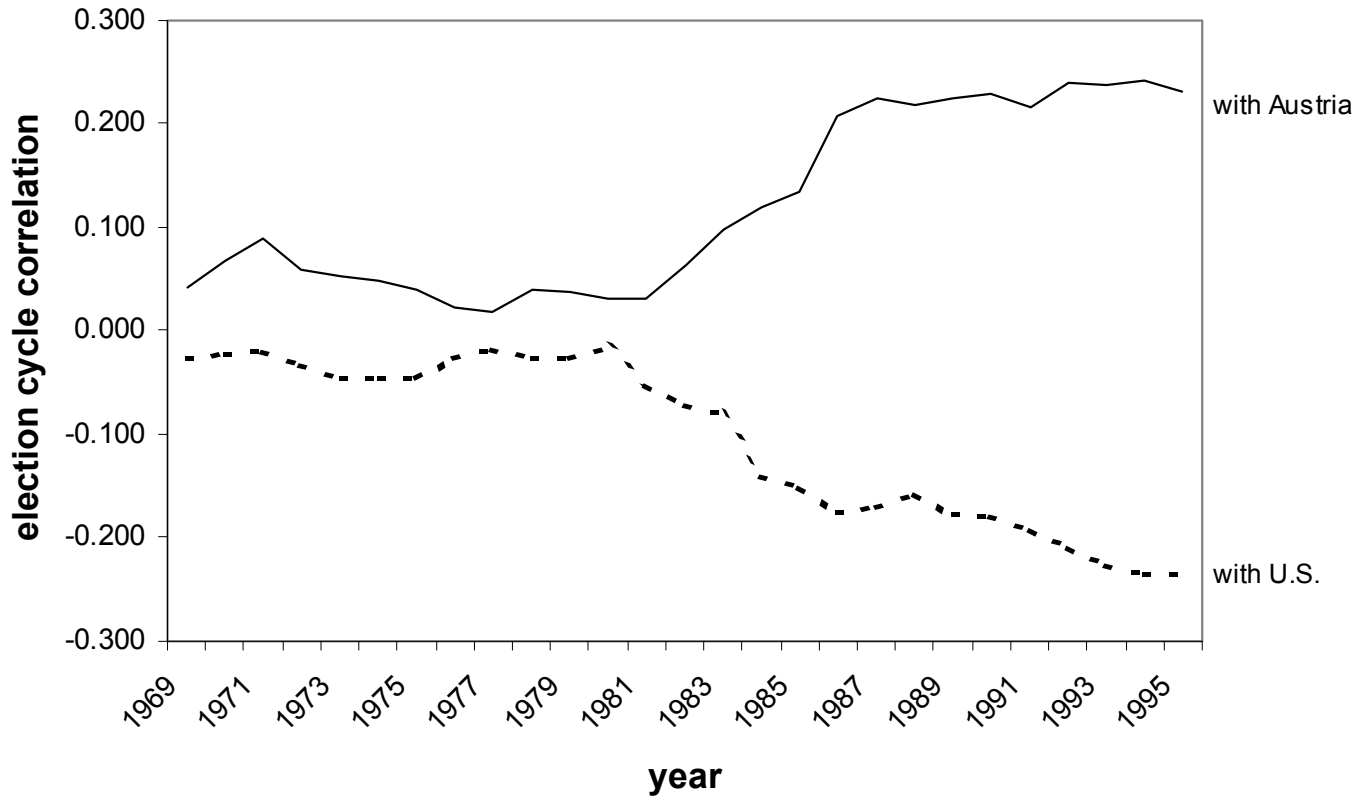
²⁴ *Elapsed* is fixed at .80; *expgdp_{t-2}* is set at the sample mean, 21.8.

Figure Five: Strong Election Correlations²⁵



²⁵ $r > .3$

Figure Six: Election Cycle Convergence?
Mean Election Cycle Correlation of Seven European Countries with Given Country²⁶



²⁶ 20-year moving average. Austria, Denmark, Iceland, Ireland, Italy, Netherlands, United Kingdom. Greece and Spain omitted because of short democratic histories. No country correlated with itself. Each year represents the end of a 20-year moving window.