INTERNATIONAL IMPACTS ON DOMESTIC POLITICAL ECONOMY:
A CASE OF JAPANESE GENERAL ELECTIONS

Takatoshi Ito

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ABSTRACT

The objective of this paper is twofold. First, this paper emphasizes that in a parliamentary system, such as in Japan, election timings become endogenous, in that good economic performances tend to trigger elections. Second, impacts of international factors, such as foreign exchange reserves and elections of the United States, on domestic economic performances will be examined in the context of political business cycles. This paper finds only a limited link between economic performance and international variables, except one that upcoming elections in the United States tend to cause a higher rate of growth in Japan. Evidence suggests that although blatant policies, such as a beggar-thy-neighbor policy, were not adopted, a more subtle international cooperation, in the form of Japanese expansion to pull up the United States economy, have been used.

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The objective of this paper is twofold. First, this paper emphasizes that in a parliamentary system, such as in Japan, election timings become endogenous, since good economic performances may trigger elections. Second, international factors, such as foreign exchange reserves and elections of the United States, will be examined in the context of political business cycles.

In the literature of political business cycles, a majority of studies, following a seminal work by William Nordhaus (1975), implicitly or explicitly, assumes the Presidential system, where the election timings are fixed. Applying a political business cycles model to countries with a parliamentary system must allow for the possibility of early elections. That is, election timing becomes an endogenous variable. There is a growing number of papers that consider endogenous election timings. See Thomas Cargill and Michael Hutchison (1988, 1989), Takashi Inoguchi (1979, 1983), Takatoshi Ito and Jin Hyuk Park (1988), Takatoshi Ito (1990), Masaru Kohno and Yoshitaka Nishizawa (1990), Kenneth Rogoff and Anne Sibert (1988) and Marco Terrones (1989).[1]

Among others, Ito (1990) proposed a theoretical framework and empirical tests to distinguish the following two hypotheses: (i) the government manipulates an economy in anticipation of elections (elections cause cycles); and (ii) the opportunistic government waits for a period of good economic performances to call a general election (booms trigger elections). They found strong evidence that the Japanese government (or Liberal Democratic Party) has not manipulated the economy in anticipation of upcoming elections, but has taken advantage of surprise upturns in

economic performances. Put differently, it is more likely that the Japanese government will call a general election if the growth is higher and inflation is lower in the current quarter, other things being equal.\2\

This paper improves upon Ito and Park (1987), Ito (1990) and Cargill and Hutchison (1988) in four respects. First, international aspects are considered in this paper. The existing literature deals exclusively with domestic variables. Second, the popularity function is revised so that the fitted value traces the actual experience better. Third, a specification of the probit function, estimating the election probability depending on economic performances, is improved so that the probability of election is bound to go to unity as the House of Representative term becomes full. This constitutional constraint was not modeled in the previous studies. Fourth, samples are extended to include the election of February 1990, while previous studies included only up to the 1986 election.

Political business cycles have become popular both among economists and political scientists. (See Alberto Alesina (1988), Douglas Hibbs (1987), William Nordhaus (1989), E. Tufte (1978) and Thomas Willett (1989) for good surveys.) However, international factors have been relatively ignored in existing work. (A notable exception is Willett (1988).) As recent developments in macroeconomics show, international aspects cannot be ignored if plausible policy options and constraints are to be considered.

Three examples would motivate an open politico-economic model. First, suppose that the government is interested in high growth and low inflation. One old trick to increase production and employment without causing inflation is to depreciate the currency causing export booms (beggar-thy-

neighbor policy). However, there is a counter-argument against the beggar-thy-neighbor policy as an effective tool for growth, that it, the exchange rate depreciation tends to result in imported inflation before the J-curved export expansion helps domestic growth.\3\ In either case, the exchange rate may be manipulated in anticipation of coming elections. Second, in small open economy under fixed exchange rates, but without capital flows, like Japan in the 1950s and 1960s, the foreign exchange reserve was an important constraint. If foreign reserves become low, the government is essentially forced to brake the economy to curb imports. Third, international factors could be understood from a slightly different angle. Suppose that the government of Japan may be pursuaded by the United States to take a "locomotive" role when elections in the United States nears. Since, an economic expansion of the major trading partner would bring growth with little political and economic costs, this kind of persuasion, if successful, may be more beneficial for a country being pulled by a locomotive than the beggar-thy-neighbor policy described above. In the era of policy coordination, such instances may not be as uncommon as one might think. In 1978, it was highly publicized that the United States asked Japan and Germany to become the engines leading world growth.

The rest of this paper consists of four sections. The next section describes how international factors should be modeled in a political business cycle model. Several conjectures are proposed and formulated into testable implications. Section Three gives an overview of the experience of the postwar Japanese election cycles. Section Four is devoted to formal tests of implications presented in section Two. The last section

summarizes results.

This paper finds only a weak link between election (timings) and international variables, except one that upcoming elections in the United States tend to cause higher growth in Japan. Evidence suggests that although blatant policies, such as a beggar-thy-neighbor policy, were not adopted, a more subtle international cooperation, in the form of Japanese expansion to pull up the United States economy, have been used.

I. International Aspects in Political Business Cycles.

The government in most political business cycles models is assumed to obtain higher growth and lower inflation in order to raise reelection probabilities. In the existing literature, policy instruments toward these goals consist of monetary and fiscal policies. However, various policy measures with respect to export and import offer other possibilities.

First, consider a small open economy under a fixed exchange rate regime with strict capital controls, such as Japan before 1971. As the country's economy booms, imports grow faster than exports, drawing down the foreign exchange reserves. Sooner or later, the foreign reserve constraints force the government to improve monetary or fiscal restraints or both. In that sense the level and movement of foreign reserves is a better leading indicator for upcoming policy instruments and the direction of the economy.\4\

Thus, this logic implies the first conjecture: In a small open economy under a fixed exchange rate regime with strict capital controls, elections coincide with higher growth and a declining foreign exchange reserve.

External shocks may overwhelm domestic management in the small open economy which largely depends on foreign trade. A small open economy without primary resources is subject to international disturbances. Export booms may occur without the government manipulating growth or the exchange rate, and recessions of the trading partners adversely affect business conditions. (In the 1960s, Japan was said to catch a cold when the United States sneezes. In the late 1980s, the causality in the relationship is said to be reversed. Anyway, U.S. political business cycles may spill over to Japan through a trade link.) Exports are greatly influenced by business conditions of major trading partners. Imports are subject to prices of oil and other primary commodities. In the short run, a business climate may be more influenced by foreign factors than domestic policies.

Moreover, in an era of policy coordination, policies of major industrial countries may be coordinated so that the governments help each other in world economic management. Suppose the United States asks Japan to expand so that export from the United States will increase with little fear of inflation in the United States. This is essentially the "locomotive" theory the United States tried to sell to Japan and Germany in 1978. If this friendly persuasion is used before every Presidential election, Japanese economic performances are affected accordingly.

These considerations suggest the second conjectures: Japanese economic performances, i.e., growth and inflation, are affected by the Presidential elections of the United States. Put differently, there is an international spillover of political business cycles. This conjecture includes two alternative scenarios: the domestically motivated U.S.

political business cycle affects Japan; or the Japanese government being persuaded by the United States to expand in order to help the U.S. economy.

If external shocks come frequently, the small-country government may want to just wait for favorable external shocks to call an election. This reinforces a case for the opportunistic government behavior (in the sense of Ito and Park (1987)). Hence, the positive correlation between export and election timing is the third conjecture. (This conjecture applies to both fixed and flexible exchange rate regimes.)

Under the flexible exchange rate regime, the exchange rate may become an additional policy instrument. If the manipulative government manages to depreciate its own currency, an export-led boom could be obtained. If the opportunistic governent tends to take an opportunity of a currency depreciation and an export increase, then the same correlation would result. Hence, the fourth conjecture is that the currency tends to depreciate before elections and appreciate after elections. This conjecture is more likely if the opportunistic government chooses election timings depending on an autonomous currency fluctuation. For if the manipulative government intends to move the exchange rate by a substantial margin before and after an election, then this would become subject to arbitrage operations in the efficient market.

In summary, U.S. election timings as well as export, import, and exchange rate behavior would be examined in relation to the Japanese election timings and economic performances in order to gain some insights on the four conjectures. In the next two sections, various attempts will be made along these conjectures.

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II.   Postwar Elections in Japan, An Overview

II.A.   Political System in Japan

The House of Representatives has dominant power in the Japanese bicamel parliament (the Diet): Conflicts over the nomination of Prime Minister, the budget legislation and the treaty ratification should be resolved in the House of Representatives' favor, according to the Constitution.\5\ Moreover, all Prime Ministers since the 1950 and the majority of cabinet members are traditionally chosen from members of the House of Representatives.

The Liberal Democratic Party (LDP), formed in 1955 by merging the Liberal and Democratic Parties, has been dominant in the House of Representatives. Since its formation, the LDP alone has controlled the majority of the House of Representatives with an exceptional period from 1983 to 1986, when the New Liberal Club (which was a spin-off of the LDP, existed from 1976 to 1986) joined as a minor partner of the coalition government.

Although the LDP has controlled a majority, and that was most of the time expected, the winning margin is a concern for the LDP. Since the allocation of committee chairpersons to parties are decided according to the share of seats in the House of Representatives, a big winning margin means more chairpersons, and thus an easy management of the legislative orders and procedures.

This paper exclusively deals with thirteen general elections between 1955 to 1990. There are three possibilities to trigger general elections. First, at the end of the four-year term, the general elections have to be called. But in all but one (December 1976) occasion, early elections were

called. Second, if the House of Representatives passes a resolution of non-confidence in the cabinet, then the Prime Minister has to dissolve the House of Representatives unless the cabinet resigns for the renomination. This occurred in 1980. (The passage of a resolution was due to an absence of some LDP members at the voting time. Since the passing of the non-confidence resolution was largely not planned, this election is dummied out in some of empirical investigations below.) Third, the Prime Minister can just call the election before the full term. This case applies to eleven out of the thirteen elections. Clearly, the timing of elections has been used as an important decision variable of the LDP.

When the Prime Minister, in consultation with LDP senior members, chooses the timing of general elections, the most advantageous timing is judged from political and economic variables. Although the newly-elected Prime Minister and LDP members want to enjoy as long a tenure as possible, it is important to grab the right timing for the next elections as the end of a four-year term nears. If the government waits too long, then some unexpected political and economic events detrimental to the incumbent party might happen and the popularity might not recover before the end of the four-year term. This is a problem of optimal stopping in a sequential decision process. (See Ito (1990; section 3) for such a theoretical framework.) Important empirical questions in such a framework include how much economic variables influence the timing of elections and whether the government still wants to manipulate the economy. (Terrones (1989) theoretically shows that grabbing a right moment substitutes for manipulation.)

Elections of the House of Councilors take place every three years (a

half of the Upper House is reelected every three years, while a member has a six-year term). In two occasions (June 1980 and July 1986), both House elections took place on the same day. Since many voters who favor LDP are said to be less motivated to come to the poll, a same-day (dojitsu) election, or a "double election," in which voters may cast two important ballots with a fixed transactions costs, works in favor of LDP. In fact, the LDP won with a sizable margin in the two double elections. Thus, a Dojitsu dummy variable will be applied in estimating a popularity function.

II.B. Economic Behaviors around Election Timings

First of all, let us review growth and inflation in postwar Japan. Figure 1 shows time-series of annual GNP growth and CPI inflation rates (changes over the preceding four quarters), with election quarters being indicated by vertical lines, in Japan. It is obvious that many elections coincided with at or near peak GNP growth cycles prior to 1974. The relationship is not apparent after the mid-1970s. As for the inflation behavior, there is no clear-cut relationship with election timings.

Figure 1 about here

Table 1 (panels A - E) shows changes of various economic variables before, at, and after elections (without the full-term election of 1980:2). The change from T-5 to T-1, that from T-1 to T, and that from T to T+4, respectively, defines PRE-election quarters, at the ELE-ction quarter, and PoST-election quarters of each election quarter (T). Table 1-A shows the GNP growth rate and Inflation rate around elections. Up to the mid-1970s, Real GNP shows a very strong increase at election quarters, as well as PRE

quarters. The CPI inflation rates of the ELE-ction quarters are lower than PRE quarters and especially than PoST quarters. These findings are consistent with both the opportunistic and manipulative government views.

Table 1-B shows the changes in receipts from abroad (Export) and payments to abroad (Import) in the GNP statistics. Table 1-C shows the changes in Export and Import in the balance of payments (IMF formula). There is no obvious pattern in the movement of export and import before and after election quarters. However, both export and import at the election quarter tend to be less than before or after. As conjectured earlier, if an export drive, whether it was manipulated or by accident, was used to generate economic growth, it should show up in higher export growth in ELE and PRE quarters than PST quarters. This is not the case.

The movement of foreign exchange reserves and the yen/dollar exchange rate around elections are summarized in Table 1-D. Again, there is no pattern of foreign exchange reserves and exchange rate movements around election quarters. We have no evidence for a conjecture that foreign reserves are drawn down before an election but restored after the election through a possible recession.

Table 1-E shows the interest rate movement around the election time. It does not show any systematic pattern before and after elections. In particular, the official discount rate, which has a signaling role as well as its original role, had been raised substantially before 1979 and 1990 elections. However, the move of raising the official discount rate was reported to be opposed by the Ministry of Finance, the Bank of Japan raised the rate in order to stop a potential inflation.\6\

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      Table 1 (A-E) about here
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From a different international causality perspective, a political
effect of U.S. elections on Japanese economic behavior (the second
conjecture) is examined in Table 2.   This table shows changes in the four
major Japanese economic variables around elections in the United States.
There is no evidence for a hypothesis that Japan was a locomotive for the
United States. However, Japanese exports tend to be less in one-year prior
to the United States presidential elections. This occurs even though the
United States may be stimulated for the election.   Hence, it is not a
declining demand problem.   It is more likely that Japan hold back exports
in order not to offend the American voters and politicians by a high volume
of exports in "sensitive" times.

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       Table 2 about here
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In sum, by casual observations on economic performances in the pre-,
at and post-election periods, there is some evidence that the Japanese
election timings are correlated with high growth and low inflation. There
is little evidence that high growth and low inflation are achieved through
exchange rate management, export drive, or interest rate manipulation. In
particular, there is no evidence that the beggar-thy-neighbor policy was
employed to gain better economic performances for elections, or conversely,
no evidence that the exchange rate appreciation was engineered to hold down
inflation.   However, Japanese exports are found to be lower before the
election and higher after the election.

III. Empirical Investigation

III.A. Popularity function

First, the popularity function is examined. The seat share won by the LDP in the House of Representatives elections is regressed on the GNP growth rate, GNPD; CPI Inflation rate, INFL; in addition to a constant, trend (linear and quadratic) and a DOJITSU (same-day election) dummy variable:

$$SEAT_t = a + b_1*T + b_2*T*T + c*GNPD_t + d*INFL_t + e*DOJITSU_t$$

Judging economic performance by growth and inflation, it has to be judged how long (prior to the election) lags the model should allow. Theoretically, it depends on the length of voters' relevant information set in their decision of rewarding the incumbent, or of judging the quality of the incumbent. Different specifications with respect to the length of the past information of growth and inflation are examined. Specification and results are shown in Table 3-A.

Table 3 about here

With a one-quarter information set, coefficients of the growth and inflation rates have expected signs and most of them are statistically significant. With a one-year information set, the result is similar, as shown. Using information with two years (not shown), the growth coefficients become insignificant in the linear trend version.

However, the magnitude of these coefficients is rather small. Although different specifications yield different results, the following rough estimates give a ballpark figure. Suppose that the growth rate is 2

percentage points (in annualized rate) higher, then the LDP share becomes about one percentage point (5 persons) higher. Similarly, if the inflation rate is higher by 2 percentage points, then the LDP share becomes one percentage point lower.

A specification with a quadratic trend term is also tried because the specification with a linear trend tends to underestimate LDP's share in recent elections. (The decline in the LDP share seems to have stopped in the 1980s.) The quadratic term seems to be significant. However, the inflation coefficient tends to become insignificant with a quadratic trend term. This implies the following: It is a judgemental decision whether a rise (or at least a stop of a decline) in the support for the LDP in the 1980s is due to inflation or a change in the trend.

Because of the relatively small degree of freedom, one might suspect that the result may not be robust. One specification to save the degree of freedom is to regress the popularity on the trend and dummy variables first, and then to regress the residual on the economic variables. The results, Table 3-B, show that economic variables are also significant in that regression.

In sum, the estimated popularity function implies that the Japanese voters respond positively to higher growth and lower inflation in the election quarter (or up to one year information) and reward the LDP (incumbent) accordingly in the election.

III.B. Policy Reactions: Elections on Economic Performance

In this section, we examine whether the foreign reserves have any significant effect on growth and whether prospects of elections have any

predictable effects on growth. First, the cross correlation between the (ratio of) foreign reserve to its economic size and GNP is examined (Table 4-A). Growth is regressed on lagged growth, current and lagged reserves, and the election variables, TSLE, that it the number of quarters elapsed since the last election. The lags, 1, 2, and 8 of the reserves ratio are taken because the 8th lag in autocorrelation reveals the highest correlation:

$$GNPD_t - a + b_0*RES_t + b_1*RES_{t-1} + b_2*RES_{t-2} + b_8*RES_{t-8}$$
$$+ c_1*GNPD_{t-1} + c_2*GNPD_{t-2} + d_1*TSLE_t + d_2*TSLE_t*TSLE_t$$

where RES is the ratio of official foreign reserves (in dollars) to GNP (nominal GNP converted to dollars by the average yen/dollar rate over the preceding three years). The possibility of prospective elections are considered by the TSLE variable and its squared term. Including directly an election dummy variable would possibly cause a problem since it may be the case that high growth triggers the election but not the other way around.

As Table 4-B shows, an increase in the foreign reserves ratio tends to decrease economic growth. The conclusion does not depend on whether an entire period is considered or only the the fixed exchange rate regime is considered. This is contrary to our conjecture, in that the foreign reserves acted as a brake on Japanese economic growth. There is a reason for this counter-intuitive result. That is, the regression suffers from a simultaneous equation bias, the foreign reserve is also dependent on growth. Higher growth, which stimulates imports, would lower foreign reserves under the fixed exchange rate regime. Hence, the regression seems

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due to increased demand for Japanese exports to the United States. The U.S. economy becomes a locomotive for the Japanese economy. However, we have established in Table 2 that Japanese exports go down rather than up before the U.S. elections. Moreover, the lower Japanese inflation cannot be explained by the U.S. locomotive.

Second, the Japanese will increase growth just before the U.S. election, presumably to be a "locomotive" for the U.S. economy. To be a locomotive, growth has to be attained by the Japanese domestic demand stimulation rather than by exports. This observation combined with the fact that inflation goes down at the same time suggests that the yen had been appreciated to help keep inflation down. This is just the opposite of the "beggar-thy-neighbor" policy, which may be a first thought on the international aspect of elections, a result of a special kind of policy coordination.

III-C. Economic Performances on Election Timing

The last set of regressions measure impacts of various economic variables, including external variables, on the probability of elections are examined by estimating a probit function. When the government under the Parliamentary system sees high growth and low inflation, it may decide to call a general election. In addition to variables that are relevant to current economic conditions, variables that help predict economic conditions in coming quarters should be included in the probit function, since decisions to call an election depend on its judgement on how the economy will evolve from the current to the next quarter.

$$ELEC_t = a + b*GNPD_t + c*EXPGR_t + d*INFL_t + e*TSLE16_t + f*RES_t + u_t$$

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where ELEC is a probability of election; EXPGR is a growth rate of real exports in GNP statistics; TSLE16 is 1/(16.001-TSLE). TSLE16 is included so that the probability of election goes to (very close to) one automatically when the number of quarters since the last election becomes 16 (that is, the full term).[7] If TSLE itself is used, as in Ito and Park (1987) and Ito (1990), the predicted probability of election does not necessarily becomes one when TSLE goes to 16. In this sense, the use of TSLE16 imposes the constitutional constraint on the probit function.

Results are shown in Table 6. We find that influences of GNP growth and CPI inflation on the probability of elections are statistically significant. However, the magnitude is not necessarily very strong. Having export growth in place of, or in addition to, GNP growth does not improve estimates. The ratio of foreign reserves to the economic size does not improve the estimates.

Table 6 about here

IV. Concluding Remarks

In this paper, the Japanese experience of general elections were examined in connection with external impacts. The analytical tools are basically the same as Ito (1990). However, many improvements, major and minor, in specifications have been made: First, the quadratic trend in the voting function was introduced to increase accuracy in predicting the LDP's winning share. Second, the TSLE16 variable was introduced in the probit function of election timing to impose the constitutional constraint on the probit function. Third, major improvements on the specification were made

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to include international variables.

Voters are found to respond positively to high growth and low inflation. Reflecting this response, general elections tend to be called at a quarter when growth and inflation is higher, given that the full term (16 quarters since last elections) nears. However, we find no systematic influence of international variables, such as foreign reserves and exchange rate movements, on the timing of elections, or the Japanese economic performance. However, we found a surprising result in that there are significant impacts of US election timings on the Japanese economic performances. In the era of international coordination, there will be more international spillovers of elections. We have established a first piece of evidence on the importance of this link. This will hopefully lead to a fruitful direction of future research in political business cycles.

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References

Alberto Alesina "Macroeconomics and Politics" in S. Fischer ed.
Macroeconomics Annual. 1988, Cambridge MIT Press, 1988: 13-52.

Cargill, Thomas F., and Michael M. Hutchison, "Political Business Cycles
in a Parliamentary Setting: The Case of Japan," Federal Reserve Bank of
San Francisco, working paper no. 88-08, 1988.

Cargill, Thomas F. and Michael M. Hutchison, "Central Bank Response
to Election Cycles in a Parliamentary System: The Bank of Japan,"
mimeo, University of Nevada, January 1989.

Hibbs, Douglas A., Jr., The American Political Economy: Macroeconomics and
Electoral Politics in the United States Cambridge, MA: Harvard
University Press, 1987.

Inoguchi, Takashi, "Political Surfing over Economic Waves: A Simple Model of
the Japanese Political Economic System," paper presented at the 11th
World Congress of the International Political Science Association,
Moscow, August 11-18, 1979.

Inoguchi, Takashi Gendai no Nihon Seiji Keizai no Kozu, (in Japanese, tr.,
Contemporary Political Economy in Japan], Tokyo, Japan: Toyo Keizai
Shinposha, 1983.

Ito, Takatoshi and Jin Hyuk Park, "Political Business Cycles in the
Parliamentary System," Economics Letters, 27, 1988: 233-238.

Ito, Takatoshi, "The Timing of Elections and Political Business Cycles
in Japan" Journal of Asian Economics, vol. 1, no. 1, 1990: 135-156.

Kohno, Masaru and Yoshitaka Nishizawa, "A Study of the Electoral Business
    Cycle in Japan: Elections and Government Spending on Public
    Construction," *Comparative Politics*, January 1990: 151-166.

Kosai, Yutaka, *The Era of High-speed Growth*, University of Tokyo
    Press, 1986.

Nordhaus, William, "The Political Business Cycle" *Review of Economic Studies*,
    vol. 42, April 1975: 169-190.

Nordhaus, William, "Alternative Approaches to the Political Business Cycle,"
    Brookings Papers on Economic Activities, no.2, 1989: 1 -68.

Patrick, Hugh and Henry Rosovsky, eds. *Asia's New Giant*, The Brookings
    Institution, 1976.

Rogoff, Kenneth and Anne Sibert, "Equilibrium Political Business Cycles,"
    Review of Economic Studies, 55 January 1988: 1-16.

Terrones, Marco E., "Macroeconomic Policy Cycles under Alternative Electoral
    Structures" mimeo, University of Western Ontario, April 1989.

Tufte, E., *Political Control of the Economy*, Princeton: Princeton University
    Press: Princeton, 1978.

Willett, Thomas D., ed., *Political Business Cycles: the Political Economy
    of Money, Unemployment and Inflation*, Durham: Duke University Press,
    1989.

Willett, Thomas D. "National Macroeconomic Policy Preferences and
    International Coordination Issues," *Journal of Public Policy*, vol. 8,
    no.3/4, 1988: 235-263.

Notes

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1. Takashi Inoguchi (1979, 1983) was the first to state an hypothesis that the Japanese government chooses election timing depending on economic performance. He called it the "surfing" hypothesis, implying the government riding on natural business waves. Ito and Park (1988) and Ito (1990) devised an econometric test to differentiate the opportunistic and manipulative government behaviors in the probit function of election timings. They found that the Japanese government tended to wait for good economic performances to call elections. They have also tested whether monetary and fiscal policies were manipulated in the anticipation of elections, but have not found any evidence. Terrones (1989) shows in a theoretical model that parliamentary governments engage in less manipulations in the economy, much in agreement with various studies by Inoguchi, Ito and Park.

Thomas Cargill and Michael Hutchison (1988, 1989) investigated a similar problem, and obtained an opposite conclusion: no support for the opportunistic hypothesis, but for the manipulative behavior. They argue that after 1975, the Bank of Japan caused a systematic downward shift in

the interbank rate preceding Lower House elections.

Kohno and Nishizawa (1990) studied the behavior of public construction starts series from 1955 to 1984, showing that the monthly share of public construction starts within the fiscal year shows that it has spikes in the election months. This is taken to be a result of particular manipulation for the elections.

2. However, Cargill and Hutchison (1988) and Kohno and Nishizawa (1990) obtained results conflicting with Ito and Park (1987) and Ito (1990). Cargill and Hutchison estimated the simultaneous equation system with election timing (0-1 variable) and GNP growth as endogenous variable. With two-stage estimation, they showed that election timing affects GNP growth, but the election probability is not affected by GNP growth. This is an opposite conclusion of Ito and Park (1987) and Ito (1990). Several reasons for the conflict have not been suspected. First, specifications are different, the inflation variable is not used in Cargill and Hutchison. Second, Ito and Park (1987) and Ito (1990) did not use the two-stage estimation in the GNP growth equation. Hence, in place of the fitted value of (probability of) election in the GNP equation which was used in Cargill and Hutchison, Ito used Time elapsed since last election, or the ex post probability of election. Third, the instrumental variables must be different. Fourth, dummy variables are different.

As for the results of Kohno and Nishizawa (1990) on the fiscal policy front, they have used a particular variable related to government expenditure. As their empirical results stand, some puzzles may arise. Why do Japanese voters believe (or so believes the imcumbent) that a particular

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spike in the "share of the monthly construction starts in the fiscal year"
is a good signal, because any one could see that an increase in the share
this month has to be compensated by a decrease in another month, since the
budget for this is fixed in the beginning of the fiscal year.

3. For this observation, I acknowledge Willett (1988) and his comments at
the conference.

4. This statement fits well with conventional wisdom regarding the
Japanese economy in the 1950s and 1960s. See Yutaka Kosai (1986) and Hugh
Patrick and Henry Rosovsky (1976; chapter 3).

5. As a result of the 1989 election, the LDP lost the majority in the House
of Councilors. The House of Representatives nominated Toshiki Kaifu, LDP,
for Prime Minister, while the House of Councilors nominated Takako Doi,
Socialist, for Prime Minister. After the conference committee convened,
the House of Representatives decision prevailed according to the
Constitution.

6. On December 19, 1989, major newspapers reported that raising the
discount rate is certain. Then the Minister of Finance angrily gave an
interview that he would not allow the Bank of Japan to raise the discount
rate. The Governor had to deny the possibility in public. However, the
discount rate was raised within ten days after this fiasco.

7. I thank Satoru Kanoh and Robert Engle for their suggesting this
improvement.

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Table 1. Changes before, at, and after general elections in Japan

A.   Economic Performance (Real GNP growth and CPI inflation)

Variable \timing Quarter	Real GNP PRE	ELE	PST	CPI PRE	ELE	PST
52: 4	NA	NA	NA	2.28	-4.01	11.03
55: 1	NA	NA	NA	1.21	0.40	0.10
58: 2	7.27	13.68	7.76	0.50	7.01	0.43
60: 4	10.36	16.88	12.2	4.70	-1.63	9.42
63: 4	9.04	14.21	8.9	9.15	-1.34	4.71
67: 1	12.21	10.94	11.0	4.15	7.97	5.21
69: 4	12.69	17.99	7.2	6.74	4.59	7.67
72: 4	8.35	9.82	4.8	5.06	4.81	15.95
76: 4	4.70	1.13	6.0	9.40	9.74	6.43
79: 4	5.17	5.12	3.9	3.55	6.87	7.47
83: 4	3.59	2.09	5.6	1.48	4.59	2.37
86: 3	2.57	3.02	4.8	0.90	-1.98	0.49
90: 1	4.68	4.07(e)	NA	2.64	0.00(e)	NA
Average	7.33	9.00	7.26	4.39	3.70	6.02

Notes:
"PRE" refers to the average change from T-5 to T-1, in annualized %
"ELE" refers to the change from T-1 to T, in annualized %
"PST" refers to the average change from T to T+4 in annualized %
"(e)" is an estimate as of April 1990.
Election of 80:2 is eliminated because of it was not planned.

Table 1 (con'd)
B. Export and Import in National Accounts

Variable	Export (GNP,Yen)			Import (GNP,Yen)		
\ timing	PRE	ELE	PST	PRE	ELE	PST
Quarter						
52: 4	NA	NA	NA	NA	NA	NA
55: 1	NA	NA	NA	NA	NA	NA
58: 2	9.48	-23.04	13.60	-13.46	-21.02	27.01
60: 4	14.56	2.30	4.48	26.33	7.41	27.93
63: 4	5.24	15.54	26.91	26.46	21.78	3.99
67: 1	22.17	-3.24	14.60	18.28	17.54	17.24
69: 4	23.19	15.26	16.59	18.22	12.44	19.82
72: 4	4.76	20.49	3.01	15.61	18.06	23.25
76: 4	16.99	18.82	5.07	7.39	7.27	-1.34
79: 4	8.64	30.66	13.32	16.17	-1.60	-9.21
83: 4	5.07	17.79	16.73	-6.75	31.86	6.12
86: 3	-6.63	-7.64	7.01	3.30	-6.62	10.12
90: 1	14.12	3.59(e)	NA	24.16	24.80(e)	NA
average	10.70	8.23	12.14	12.34	10.17	12.50

Notes: "Export" and "Import" is Income from Abroad and Payments to abroad in Naitonal Accounts (SNA).

C. Export and Import (IMF, in Dollars)

Variable	Export (IMF, $)			Import (IMF, $)		
\ timing	PRE	ELE	PST	PRE	ELE	PST
Quarter\						
52: 4	NA	NA	NA	NA	NA	NA
55: 1	NA	NA	NA	NA	NA	NA
58: 2	NA	NA	NA	NA	NA	NA
60: 4	NA	NA	NA	NA	NA	NA
63: 4	NA	NA	NA	NA	NA	NA
67: 1	23.42	-23.14	17.19	21.13	36.13	18.28
69: 4	19.75	17.00	21.73	24.71	7.06	20.65
72: 4	24.38	31.68	28.42	38.76	39.68	81.95
76: 4	34.42	13.06	17.19	20.00	2.80	6.81
79: 4	7.42	14.56	30.74	55.47	-6.89	12.07
83: 4	8.73	19.71	8.08	-1.07	27.87	-2.67
86: 3	23.11	18.87	4.63	5.89	-32.93	24.08
90: 1	-5.35	12.57(e)	NA	23.41	-14.35(e)	NA
average	16.99	13.04	18.29	23.54	7.42	23.03

Notes: "Export" and "Import" is respectively merchandize export and import in the Balance of Payments Statistics of IMF format.

Table 1 (continued)
D. **Foreign Exchange Reserve and Exchange Rate**

| Variable \ timing | Foreign Exchange Reserve | | | Exchange (yen/$) Rate | | |
Quarter	PRE	ELE	PST	PRE	ELE	PST
52: 4	NA	NA	NA	--	--	--
55: 1	NA	NA	13.68	--	--	--
58: 2	-14.76	56.59	53.89	--	--	--
60: 4	37.13	40.04	-18.53	--	--	--
63: 4	10.81	-5.87	6.44	--	--	--
67: 1	-1.56	0.57	-5.48	--	--	--
69: 4	36.69	33.47	25.82	--	--	--
72: 4	23.19	45.50	-33.31	--	0.39	-8.85
76: 4	24.26	2.78	37.60	-2.31	3.44	-15.84
79: 4	-13.35	-79.06	24.13	13.49	36.11	-11.71
83: 4	2.63	-2.35	7.41	-6.31	-13.67	5.03
86: 3	22.98	89.08	74.01	-32.15	-33.46	-5.63
90: 1	-13.07	-53.70	NA	14.18	13.56	NA
average (55-90)	10.45	11.55	17.02	-2.62	1.07	-7.40
average (58-67)	7.90	22.83	9.08			

Notes: "Foreign Exchange Reserve" is official reserve at the end of the quarter. "Foreign Exchange Rate" is an average over the quarter.

E. **Change in the Interest Rates**

| | Discount rate (Bank of Japan) | | | Short-term Interest Rate | | |
Quarter	PRE	ELE	PST	PRE	ELE	PST
58: 2	0.73	-0.73	-0.73	--	--	--
60: 4	0.00	0.00	0.36	--	--	--
63: 4	-1.46	0.00	0.73	--	--	--
67: 1	0.00	0.00	0.73	--	--	--
69: 4	0.41	0.00	-0.25	--	--	--
72: 4	-1.00	0.00	4.75	-0.100	0.100	8.750
76: 4	-1.00	0.00	-2.25	-1.710	-0.110	-0.860
79: 4	1.75	1.00	1.00	1.535	1.668	1.765
83: 4	0.00	-0.50	0.00	-0.512	-0.226	-0.121
86: 3	-1.50	0.00	-1.00	-1.653	0.064	-0.940
90: 1	1.75	1.00	NA	1.638	0.313	NA

Notes: Short-term Interst Rate is the 3-month "Gensaki" (Repurchase Agreement) rate

Table 2: Japanese Variables in response to US elections

A.	Real GNP			CPI Inflation		
	PRE	ELE	POST	PRE	ELE	POST
55: 4	7.19	3.16	5.94	-0.98	-8.74	2.74
59: 4	11.71	-3.37	15.99	0.86	3.41	3.38
63: 4	9.04	14.21	8.98	9.15	-1.34	4.71
67: 4	11.02	8.51	16.15	3.35	11.68	4.73
71: 4	3.45	4.38	9.81	7.33	5.06	5.00
75: 4	2.36	5.68	3.52	10.57	9.40	9.49
79: 4	5.17	5.12	3.93	3.55	6.87	7.47
83: 4	3.59	2.09	5.63	1.48	4.59	2.37
87: 4	4.83	7.64	5.07	0.49	0.79	1.08
ave (56-90)	6.40	5.53	8.64	4.60	5.06	4.78

	Export (GNP)			Import (GNP)		
	PRE	ELE	PST	PRE	ELE	PST
55: 4	NA	7.63	11.90	NA	75.91	28.31
59: 4	16.49	11.77	11.93	24.65	33.83	18.64
63: 4	5.24	15.54	26.91	26.46	21.78	3.99
67: 4	6.70	7.22	30.59	22.10	16.31	11.39
71: 4	18.41	-12.78	13.76	-0.45	0.65	20.64
75: 4	-3.73	20.32	16.57	-9.39	-3.59	10.33
79: 4	8.64	30.66	13.32	16.17	-1.60	-9.21
83: 4	5.07	17.7	16.73	-6.75	31.86	6.12
87: 4	7.01	3.04	10.58	10.12	20.84	17.95
ave (56-90)	7.98	11.69	17.55	10.36	15.01	9.98

Table 3: Popularity Function

A. Regression of SEAT (share of LDP in seats in HR)

$$SEAT = a + b_1 * T + b_2 * T * T + c * GNPD + d * INFL + e * DOJITSU$$

Quarter Performance GNPD = 400*(GNP(t)-GNP(t-4))/GNP(t-4)
(Specification, Q)   INFL = 400*(CPI(t)-CPI(t-4))/CPI(t-4)

Annual Performance   GNPD = 100*(GNP(t)-GNP(t-1))/GNP(t-1)
(Specification, Y)   INFL = 100*(CPI(t)-CPI(t-1))/CPI(t-1)

OBS = 13, elections from 55:1 to 90:1.

Estimated coefficients and t-statistics in (brackets).

specif.	a	b1	b2	c	d	e	R^2
Q	59.80	-0.058		0.357	-0.521	5.968	0.84
	(15.80)	(-2.51)		(1.90)	(-3.51)	(3.15)	
Q	60.75	-0.229	0.001	0.600	-0.209	6.058	0.93
	(24.47)	(-4.41)	(3.44)	(4.23)	(-1.57)	(4.90)	
A	62.45	-0.069		0.417	-0.858	4.682	0.64
	(19.30)	(-2.605)		(1.645)	(-2.50)	(1.62)	
A	68.51	-0.385	0.002	0.619	-0.160	5.059	0.76
	(19.10)	(-1.901)	(2.41)	(2.85)	(-0.43)	(2.21)	

B. Deviation-from-trend regression

$$SEAT - \hat{SEAT} = c * GNPD + d * INFL$$

where $\hat{SEAT}$ is obtained as a fitted value of regressing SEAT on a constant, T, T*T, and DOJITSU.

Number of observations: 13, elections from 55:1 to 90:1.

specif.	c	d	R^2
Q	0.158	-0.315	0.43
	(2.44)	(-2.87)	
A	0.283	-0.377	0.21
	(2.03)	(-1.68)	

Table 4: Foreign Reserve Effects on Growth

RES = (Foreign Reserve)/(Nominal GNP, converted to $)

GNPD = 400*(GNP(t)-GNP(t-1)/GNP(t-1))

A. Cross Correlation of RHO(GNPD(t), RES(t-j)), 1955:2 - 1990:1

j =	+10	+8	LAG +6	+4	+2	0	-2	LEAD -4	-6	-8
RHO	-0.21	-0.32	-0.23	-0.12	-0.02	-0.01	-0.06	-0.08	-0.08	-0.03

B. Foreign Reserve Effect on Growth

$$GNPD(t) = a + b_0*RES(t) + b_1*RES(t-1) + b_2*RES(t-2)$$
$$+ b_8*RES(t-8) + c_1*GNPD(t-1) + c_2*GNPD(t-2) + c_{12}*GNPD(t-12)$$
$$+ d_1*TSLE(t) + d_2*TSLE(t)*TSLE(t)$$

Selected coefficients and (t-statistics), and F-statistics for H_0

b_0	b_1	b_2	b_8	d_1	d_2	R^2	H_0: b = 0 signif
			1957:3 - 1973:3				
-433.1 (-2.06)	413.2 (1.19)	-3.9 (-0.01)	-307.9 (-2.96)			0.13	3.01 0.025
-447.4 (-2.10)	435.2 (1.24)	-13.7 (-0.06)	-302.1 (-2.87)	0.119 (0.59)		0.12	2.95 0.027
-424.3 (-1.96)	410.7 (1.16)	-12.7 (-0.06)	-305.7 (-2.89)	-0.441 (-0.49)	0.042 (0.65)	0.12	2.89 0.030
			1957:3 - 1990:1				
-211.4 (-1.44)	360.7 (1.52)	-140.3 (-0.93)	-156.8 (-3.01)			0.17	3.38 0.011
-211.4 (-1.44)	360.8 (1.52)	-140.4 (-0.93)	-156.8 (-2.99)	-0.002 (-0.02)		0.17	3.35 0.012
-212.8 (-1.43)	361.9 (1.52)	-140.8 (-0.93)	-156.4 (-2.96)	0.043 (0.01)	-0.003 (-0.96)	0.16	3.30 0.013

Table 5: Elections on Economic Variables

Economic Performance and International variables VAR

$$x_t = A(L)x_t + By_t + Cz_t$$

where x_t = (GNPD$_t$, INFL$_t$, RES$_t$)′
y_t = (1, OIL)′;
z_t = (election variables)
L = lag operator, B coefficient (3 by 3) matrix;
OIL = (1.0 after 73:4, 0.0 otherwise).

Estimated coefficients and t-statistics of C, when they are added
(A(L) and B are not reported.)
Note that each z variable is added separately, although they are
reported together.
===
Sample 56:4 - 90:1

z LHS	JAELEC$_{t+1}$	JAELEC$_{t+2}$	TSLE$_t$	TSLESQ$_t$	USELEC$_{t+1}$	USELEC$_{t+2}$
GNPD	-0.582	-0.639	-0.184	0.016	3.477	1.620
	(-0.381)	(-0.418)	(-0.427)	(0.549)	(1.905)*	(0.877)
INFL	-1.392	-0.634	-0.531	0.026	-3.186	1.392
	(-0.958)	(-0.437)	(-1.304)	(0.953)	(-1.832)*	(0.791)
RES	-0.010	-0.024	0.008	-0.001	0.113	-0.027
	(-0.209)	(-0.505)	(0.637)	(-0.748)	(1.969)*	(-0.465)

Sample 56:4 - 73:3

z LHS	JAELEC$_{t+1}$	JAELEC$_{t+2}$	TSLE$_t$	TSLESQ$_t$	USELEC$_{t+1}$	USELEC$_{t+2}$
GNPD	-2.214	-1.168	-0.242	0.029	5.864	2.224
	(-0.819)	(-0.435)	(-0.259)	(0.436)	(1.862)*	(0.684)
INFL	-0.839	-2.027	0.208	-0.032	-1.791	-0.665
	(-1.015)	(-0.418)	(0.303)	(-0.642)	(-0.744)	(-0.267)
RES	-0.017	-0.025	0.013	-0.877	-0.243	-0.040
	(-0.206)	(-0.288)	(0.454)	(-0.395)	(2.450)*	(-0.399)

===

Table 6: Economic Variables on Election Timings

Probit estimation:

ELEC(t) = a + b*GNPD + c*EXPGR + d*INFL + e*TSLE16 + f*RES

where EXPGR = growth rate of real export in GNP statistics
      TSLE16 = 1/(16.001-TSLE)

1956:1-1990:1

Estimated Coefficients and (t-statitstics)

GNPD	EXPGR	INFL	TSLE16	RES
0.073		-0.068	4.388	
(2.26)		(-1.37)	(3.91)	
	-0.006	-0.052	3.869	
	(-0.45)	(-1.18)	(3.66)	
0.075	-0.009	-0.062	4.340	
(2.32)	(-0.67)	(-1.27)	(3.88)	
0.073		-0.068	4.399	2.607
(2.26)		(-1.36)	(3.91)	(0.15)
	-0.005	-0.053	3.890	3.497
	(-0.45)	(-1.19)	(3.66)	(0.21)
0.075	-0.009	-0.062	4.353	2.437
(2.32)	(-0.67)	(-1.27)	(3.88)	(0.14)

Figure 1: Growth and Inflation with Election Timings