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A Political-Economic Model of the Choice of Exchange Rate Regime

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Abstract

Facing electoral uncertainty, a government chooses its exchange regime in a trade-off among three incentives: (i) tying the hands of its opponent should it lose the election; (ii) facilitating its own future policy implementation should it win the election; and (iii) increasing its chance of reelection.

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1 Introduction

This paper analyzes the choice of exchange rate regime in a two-period bipartisan game. Two political parties, Left and Right, have different preferences over public spending and inflation.[2] A government, be it the Left or the Right, faces an election at the end of its term, which decides whether it stays in power during the next period. When choosing an exchange rate regime, the forward-looking government will balance three incentives strategically: the incentive to facilitate its own future policy implementation should it win the election, the incentive to create constraints for its successor should it lose the election, and the incentive to increase its chance of reelection. In this paper, the choice of exchange rate regime is discussed in a trade-off among the three incentives.

I adopt the idea, first introduced by Tornell-Velasco (1995), that the difference between fixed and flexible exchange rate regimes lies in the intertemporal distribution of inflation cost.[3] Under a fixed regime, the inflation cost of fiscal spending is pushed to the future whereas the cost is spread across time under a flexible regime. By determining whether the inflation cost is paid by the future government only or by both the current and future governments, the incumbent's regime policy can actually affect the spending decision of the future government.

I begin by discussing the scenario when there is no electoral uncertainty and the incumbent knows that it will step down in the next period. In this case, the incumbent has the incentive to tie the hands of its successor. The incumbent can influence its successor's spending decision by choosing how the inflation cost of government spending distributes intertemporally. By pegging its currency, the incumbent government does not bear any inflation cost of fiscal spending in its term. In contrast, with a floating regime the incumbent has to bear some inflation cost because of the immediate movement in the exchange rate. Therefore, a conservative incumbent will choose a pegged exchange rate regime to restrain the spending of the future liberal government, whereas a liberal incumbent will choose a flexible regime to induce its conservative successor to spend more.

The second scenario is when there is no electoral uncertainty and the incumbent knows that it will remain in office during the next period. In this case, the incumbent will choose its exchange regime to facilitate its own future policy implementation. The first-best solution or the social planner's solution of this scenario would be for the government to commit to its spending plan announced at the beginning of its term. However, the usual time-inconsistency problem exists, i.e., when the next period comes, the government tends to deviate from its optimal spending plan and spend more. By pushing the inflation cost into the future and hereby containing the future spending, a fixed regime works like a commitment mechanism. Understanding that it tends to spend more than the optimal level in the future, the incumbent will always choose a fixed regime to tie its own hands. This result holds for both the Left and Right parties.

[2]The usual trade-off between inflation and spending applies as public spending must be financed through seigniorage, inflation tax, or borrowing.

[3]In this paper, a fixed exchange rate regime means a pegged regime with zero inflation. The terms "pegged" and "fixed" are used interchangably throughout the paper.

I proceed to introduce the last incentive behind the regime choice: affecting the election outcome by influencing the preference of the median voter. The median voter, who dislikes inflation more than the Left party but less than the Right party, is concerned about high inflation should she vote for the Left party and low public spending should she vote for the Right party. Moreover, the rational and forward-looking median voter understands that both parties would be able to spend more under a flexible exchange rate regime than under a fixed regime. Therefore, by choosing a floating regime, the Right incumbent could capitalize on the inflationary reputation of the Left and gain from the noninflationary reputation of itself, thereby increasing its chance of reelection. By the same token, the reelection chance of the Left incumbent is higher with the choice of a fixed regime.

In sum, facing electoral uncertainty, a government chooses its regime in a trade-off among the three incentives discussed above.

This paper is related to the literature on strategic role of debts. The common feature is that current policy will affect the state of the world inherited by the future government. Alesina and Perotti (1995) summarized that the strategic role of debts consists of creating constraints for future governments and influencing the electoral result. The two incentives are usually analyzed separately in the literature.[4] This paper is able to analyze the two incentives in one framework.

Milesi-Ferretti (1995) has done similar work to mine. Using Barro-Gordon's well-known framework on credibility and flexibility of monetary policy, Milesi-Ferretti discusses a government's exchange rate regime choice by balancing the incentive to increase its electoral chances with the incentive to tie the hands of its opponent should it lose the election. His paper assumes that the future government has to stick with the exchange rate regime that its predecessor chooses. In this paper, the future government can choose either exchange-rate-based stabilization or money-based stabilization.

The paper is organized as follows. The basic model is presented in Section 2. Section 3 discusses the choice of exchange rate regime in a trade-off among three incentives. Section 4 summarizes the paper.

2 The Model

A standard two-period model of a small open economy with price flexibility and perfect capital mobility is discussed in this section. The economy is populated by a private sector and a government.

[4]See Alesina and Tabellini (1990), Persson and Svensson(1989) for discussions on using debts to create constraints for future governments. See Aghion and Bolton (1990), Milesi-Ferretti (1995) for discussions on using debts to affect electoral results.

2.1 The median voter of the private sector

The private sector is composed of a large number of atomistic individuals, acting as consumers and voters. Each private agent consumes one tradable good which serves as numeraire. She receives a constant income in the amount of y and pays income taxes at a constant rate of τ each period. She can store her wealth either in an international bond, whose real value is denoted by f_t, or in domestic currency. The nominal stock of domestic currency M_t is chosen at the end of period t and carried over to $t+1$. By assuming PPP and normalizing foreign price level to be one, I can have the familiar relation that the nominal devaluation rate is equal to the inflation rate, which is defined as $\pi_t \equiv \dfrac{P_t - P_{t-1}}{P_t}$ $(0 \leq \pi_t \leq 1)$. The domestic nominal interest rate i_t is then equal to $r + \pi_t$, where r is the exogenous world real interest rate.

Each private agent's initial wealth consists of a stock of real bonds f_0 and a stock of nominal money M_0. In period 1 she receives a constant income y and pays income tax τy. Then she chooses her private consumption c_1, and adjusts her holdings of real bond and real money to f_1 and $m_1 \equiv M_1/P_1$, respectively. In the second period, the private agent receives a lump-sum transfer g from the government and gets income y. She uses up all her incomes (g and y) and accumulated wealth (f_1 and m_1) to pay for the income tax, inflation tax, and her consumption c_2. The budget constraint in each period is given by:

$$
\begin{aligned}
(1+r)(f_0+m_0)+(1-\tau)y &= c_1+i_1m_0+(m_1+f_1) && (1)\\
(1+r)(f_1+m_1)+(1-\tau)y+g &= c_2+i_2m_1 && (2)
\end{aligned}
$$

It follows that the consolidated budget constraint of each private agent is

$$
(1+r)(f_0+m_0)+(1-\tau)y(\frac{2+r}{1+r})+g = c_1+i_1m_0+\frac{c_2+i_2m_1}{1+r} \qquad (3)
$$

Individual j has the following objective function:

$$
\begin{aligned}
&v(c_1)+\left(\frac{\epsilon}{\epsilon-1}\right)(m_0)^{(\epsilon-1)/\epsilon}+\\
&\left(\frac{1}{1+r}\right)\left[v(c_2)+\left(\frac{\epsilon}{\epsilon-1}\right)(m_1)^{(\epsilon-1)/\epsilon}+\alpha_j u(g)\right] \qquad (4)
\end{aligned}
$$

where ϵ is assumed to lie between 0 and 1 to ensure that the economy is always on the upward-sloping side of Laffer curve. The difference among voters is fully characterized by the parameter α_j. Voters vary in their preferences over government spending and inflation. Since voters' preferences are single-peaked, I could apply the Median Voter Theorem and focus on the behavior of the median voter, whose preference is captured by α_M. I can write everything in per capita term.

The median voter chooses c_1, c_2, m_0, m_1 to maximize Eq.(4) subject to (3), taking g as given. The optimal conditions are:

$$v'(c_1^*) = v'(c_2^*) \tag{5}$$

$$(m_{t-1}^*)^{-1/\epsilon} = i_t v'(c_t^*), \quad t = 1, 2 \tag{6}$$

The optimal condition of consumption implies that consumption is constant over time. Consumption is the scale factor in the money demand function.

2.2 The government

There are two political parties which compete for office: Right and Left. The two parties differ only in their preferences over government spending and inflation. The Left cares more about spending than the Right does. The preferences of both parties can be described as $(i = R, L)$:

$$\begin{aligned} &v(c_1) + \left(\frac{\epsilon}{\epsilon - 1}\right)(m_0)^{(\epsilon-1)/\epsilon} + \\ &\left(\frac{1}{1+r}\right)\left[v(c_2) + \left(\frac{\epsilon}{\epsilon - 1}\right)(m_1)^{(\epsilon-1)/\epsilon} + \alpha_i u(g)\right] \end{aligned} \tag{7}$$

The stochastic force in this paper comes from the fact that the median voter's preference α_M is unknown to both parties except the distribution of α_M. However, it is common knowledge that the median voter's preference over government spending and inflation always lies between the two parties' preferences, that is, $0 < \alpha_R < \alpha_M < \alpha_L$. Further, I assume $\frac{\alpha_M}{\alpha_R} \geq 1 + \frac{\frac{1}{r} + 1}{\frac{1}{\epsilon} - 1}$. The reason for this assumption will become clear later in this paper.

Government 1 has a initial stock of net foreign debt b_0 and domestic nominal monetary liability M_0.[5] It does not make any lump-sum transfer in period 1, but it has to pay interest on its net debt by collecting income tax revenue and monetary revenue, and adjusting its net debt holdings. In period 2, Government 2 will make a lump-sum transfer and pay back both monetary and real debts. Its revenue comes from inflation tax and income tax. No default is allowed in my model. It follows that the government budget constraint of each period is:

$$\begin{aligned} (1+r)(b_0 + m_0) &= i_1 m_0 + \tau y + (b_1 + m_1) && (8) \\ (1+r)(b_1 + m_1) + g &= \tau y + i_2 m_1 && (9) \end{aligned}$$

[5]Government 1 means the government in period 1 and it can be either party. The same holds for Government 2.

Consolidating Eq. (8) and (9), I have:

$$(1+r)(b_0+m_0)+\frac{g}{1+r}=\tau y+i_1 m_0+\frac{\tau y+i_2 m_1}{1+r} \tag{10}$$

The economy-wide resource constraint is obtained by combining Eq.(3) and (10):

$$c_1+\frac{c_2}{1+r}=(1+r)(f_0-b_0)+y+\frac{y}{1+r} \tag{11}$$

Since consumption is constant over time, from above I can solve for c_1^*, c_2^*:

$$c_1^*=c_2^*=\bar{c}=\frac{(1+r)^2}{2+r}(f_0-b_0)+y \tag{12}$$

Private consumption is the same no matter which party holds the office. let us define $a \equiv \frac{1}{v'(\bar{c})}$. Eq.(6) can be rewritten as:

$$a(m_{t-1}^*)^{-1/\epsilon}=i_t, \quad t=1,2 \tag{13}$$

2.3 The choice of exchange rate regime in period one

Government 1 chooses the exchange rate regime in period one. By pegging its own currency, Government 1 fixes the inflation rate π_1^p at zero. By choosing a flexible exchange regime, Government 1 sets the nominal money growth rate $\nu_1 \equiv \frac{M_1-M_0}{M_1}$ to be zero. After Government 1 announces its choice of a fixed exchange rate regime at the beginning of period 1, the median voter rearranges her portfolios by asset swap with no capital gain or loss: $m_0-m_{0-}=-(b_0-b_{0-})$, where m_{0-} and b_{0-} are the levels of real balance and net foreign assets before the announcement is made. However, after the announcement of a flexible exchange regime, private agents will experience a capital loss (gain), which is a gain (loss) for Government 1, due to the movement of the exchange rate. To get rid of the bias against either regime, I adopt Tornell-Velasco's assumption that Government 1 gives a rebate to the private sector equal to their loss (gain).[6] This ensures that Government 1 faces the same budget constraint under different regimes. Using the real balance demand function of Eq.(13), I can rewrite the government budget constraints as follows.

[6]For more discussions on this assumption, see Tornell-Velasco (1998).

$$
\begin{aligned}
(1+r)\left(b_{0-}+m_{0-}\right) &= a(m_0)^{1-\frac{1}{\epsilon}}+\tau y+(b_1+m_1) && (8') \\
(1+r)\left(b_1+m_1\right)+g &= \tau y+a(m_1)^{1-\frac{1}{\epsilon}} && (9')
\end{aligned}
$$

Consolidating Eq. (8′) and (9′), I have:

$$
(1+r)\left(b_{0-}+m_{0-}\right)+\frac{g}{1+r}=\tau y+a(m_0)^{1-\frac{1}{\epsilon}}+\frac{\tau y+a(m_1)^{1-\frac{1}{\epsilon}}}{1+r} \qquad (10')
$$

Clearly, the monetary policy of Government 2 is passive in the sense that it has to monetize the budget deficit to satisfy its solvency condition. Although Government 2 can choose exchange-rate-based or money-based stabilization when it comes to power, its monetary policy remains accommodative.

The timing of the game is as follows. At the beginning of period 1, Government 1[7] announces its choice of exchange rate regime. The median voter chooses her desired real balances m_0 and consumption c_1. Government 1 will transfer any capital gain (loss) to the private agent as a result of the exchange rate movement during period 1. At the end of period 1, an election takes place. A newly elected Government 2 will announce its lump-sum fiscal transfer g and the private agent selects m_1, her holdings of real balance for period 2. During period 2, Government 2 delivers the transfer g, and pays back both real and monetary debts. The median voter consumes all her remaining wealth and the game ends.

3 Three Incentives Behind the Choice of Exchange Rate Regime

The regime choice of a government facing electoral uncertainty is determined in a trade-off among three factors: tying the hands of its opponent should it lose the election, facilitating its own future policy implementation should it win the election, and increasing its chance of reelection.

3.1 Incentive one: tying the hands of the future government

In this scenario, I assume that Government 1 knows that it will be replaced by the other party in period 2. Government 1, which is forward-looking, takes into account the future fiscal decision by Government 2 when choosing its current exchange rate regime. Since Government 2 has to implement an accommodative monetary policy in the second period, Government 1 could tie the hands of the future government through its choice of exchange rate regime. The right way to solve the game is backwards.

[7]Whether Government 1 is the Left or the Right is given exogenously and is not determined through an election.

Period 2:

No matter which exchange rate regime Government 1 chooses in the first period, Government 2 selects g to maximize:

$$v(c_2) + \left(\frac{\epsilon}{\epsilon - 1}\right)(m_1)^{(\epsilon-1)/\epsilon} + \alpha_i u(g) \quad i = R, L \tag{14}$$

subject to Eq.(12) and (9′). The first-order condition yields the optimal spending of Government 2 as a function of m_1.

$$u'(g^*) = \frac{1}{\alpha_i \left[a(\frac{1}{\epsilon} - 1) + (1+r)(m_1)^{\frac{1}{\epsilon}}\right]} \tag{15}$$

Plugging g^* into the government intertemporal budget constraint, I obtain:

$$(1+r)(b_{0-} + m_{0-}) + \frac{g^*(m_1)}{1+r} = \tau y \left(\frac{2+r}{1+r}\right) + a(m_0)^{1-\frac{1}{\epsilon}} + \frac{a(m_1)^{1-\frac{1}{\epsilon}}}{1+r} \tag{16}$$

Under a pegged exchange rate regime, m_0 is exogenously set to be $a^\epsilon r^{-\epsilon}$. There is only one unknown m_1 in Eq.(16), from which I could solve for equilibrium m_1^* and then derive g^* according to Eq.(15). Under a flexible exchange rate regime, m_0 is endogenously determined and there are two unknowns in Eq.(16). From the definition of ν_1 and π_1, I can obtain a relation between m_1 and m_0:

$$m_1 = m_0(1 - \pi_1) = m_0\left[1 + r - a(m_0)^{-\frac{1}{\epsilon}}\right] \tag{17}$$

Equilibrium m_1 and m_0 under a flexible exchange rate regime can then be solved from Eq.(16) and (17). As long as m_1 is obtained, the equilibrium spending level of Government 2 can be easily derived from Eq.(15).

Clearly, Government 2 faces an explicit trade-off between spending more and lowering inflation. In addition, the difference between the two exchange rate regimes lies in the distribution of inflation cost. Under a pegged exchange rate regime, no inflation occurs in the first period. Under a flexible exchange rate regime, the inflation cost is spread across two periods. I have the following result regarding the relation of real balances under different regimes.

Proposition 1 *No matter which party holds office in period 1, the real balance demand in period 2 is always lower under a pegged regime than under a flexible one.*

Proof. Under a pegged exchange rate regime, Eq. (16) can be rewritten as:

$$\begin{aligned}
& (1+r)(b_{0-} + m_{0-}) + \frac{u_i^{-1\prime}(m_1^{p*})}{1+r} \\
= \;& \tau y \left(\frac{2+r}{1+r}\right) + a^\epsilon r^{1-\epsilon} + \frac{a(m_1^{p*})^{1-\frac{1}{\epsilon}}}{1+r}
\end{aligned} \tag{18}$$

Under a flexible exchange rate regime,

$$\begin{aligned}&(1+r)\left(b_{0-}+m_{0-}\right)+\frac{u_i^{-1\prime}(m_1^{f*})}{1+r}\\ =\quad& \tau y\left(\frac{2+r}{1+r}\right)+a(m_0^{f*})^{1-\frac{1}{\epsilon}}+\frac{a(m_1^{f*})^{1-\frac{1}{\epsilon}}}{1+r}\end{aligned} \tag{19}$$

Let us suppose $m_1^{f*} \leq m_1^{p*}$. Since $u(g)$ has the usual properties, the left-hand side of Eq.(18) is no less than the left-hand side of Eq.(19). However, since $m_0^{f*} < m_0^{p*} = (\frac{r}{a})^{-\epsilon}$, the right-hand side of Eq.(18) is always less than the right-hand side of Eq.(19). A contradiction is reached. So it must be $m_1^{f*} > m_1^{p*}$. ■

The intuition of the above result is very simple. Under flexible rates, the inflation cost is spread over two periods. Under pegged rates, there is no inflation in period 1 and all the inflation cost of government spending is incurred in period 2. Therefore, the inflation rate is higher and the real balance demand in period 2 is lower under a fixed regime than under a floating regime.

As long as $m_1^{f*} > m_1^{p*}$, I have $u'(g^{p*}) > u'(g^{f*})$ according to Eq.(15). Since $u(g)$ has the usual properties, government spending g is always higher under a flexible exchange rate regime than under a pegged exchange rate regime, i.e., $g_i^{p*} < g_i^{f*} (i = R, L)$. The intuition is again straightforward. Under a fixed exchange rate regime, Government 2 has to bear all the inflation cost incurred by government spending. Under a flexible rate regime, the cost is spread across time and only part of the total cost falls on the shoulder of Government 2. This gives Government 2 an incentive to spend more under a floating regime.

Period 1:

Government 1 compares the present value of utility under two different regimes and chooses the one that yields a higher value. There are two cases depending on the type of Government 1.

Case 1 *Government 1 is the Right and Government 2 is the Left.*

This case can be interpreted as follows. In the first period, the conservative Government 1 commits to a tight monetary policy rule, namely, either pegging its currency or setting the nominal money growth rate at zero. When the Left party comes into power in the second period, its unsound fiscal policy leads it to give up the original tight monetary policy in order to remain solvent.

Since private consumption is not affected by the government's choice, the objective function of conservative Government 1 can be simplified as:

$$\left(\frac{\epsilon}{\epsilon-1}\right)(m_0)^{(\epsilon-1)/\epsilon}+\left(\frac{1}{1+r}\right)\left[\left(\frac{\epsilon}{\epsilon-1}\right)(m_1)^{(\epsilon-1)/\epsilon}+\alpha_R u(g)\right] \tag{20}$$

Rearrange Eq.(10′) and I get

$$\begin{aligned}\frac{g}{1+r}+z &= a(m_0)^{1-\frac{1}{\epsilon}}+\frac{a(m_1)^{1-\frac{1}{\epsilon}}}{1+r}\\ \text{where } z &\equiv (1+r)\,(b_{0-}+m_{0-})-\tau y\left(\frac{2+r}{1+r}\right)\end{aligned} \tag{21}$$

Multiplying both sides of Eq.(21) by $\left(\frac{\epsilon}{\epsilon-1}\right)\left(\frac{1}{a}\right)$ and then inserting it into Eq.(20), I could rewrite the objective function of Government 1 as a function of g only, which is defined as $F_R(g)$.

$$F_R(g)\equiv\left(\frac{1}{1+r}\right)\left[\alpha_R u(g)+\left(\frac{\epsilon}{\epsilon-1}\right)\left(\frac{g}{a}\right)\right]+\left(\frac{z}{a}\right)\left(\frac{\epsilon}{\epsilon-1}\right) \tag{22}$$

It is easy to see that Government 1 achieves its highest utility when the spending g is set at $\bar{g}_R$, where $u'(\bar{g}_R)=\dfrac{1}{a\alpha_R(\frac{1}{\epsilon}-1)}$. The liberal Government 2 will spend more than the desired level of Government 1, no matter which exchange rate regime Government 1 chooses. Specifically, since $\alpha_R<\alpha_L$, I can obtain the following result from Eq.(15):

$$\begin{aligned}u'(g_L^{p*}) &= \frac{1}{\alpha_L\left[a(\frac{1}{\epsilon}-1)+(1+r)(m_1^{p*})^{\frac{1}{\epsilon}}\right]}<u'(\bar{g}_R)=\frac{1}{a\alpha_R(\frac{1}{\epsilon}-1)}\\ u'(g_L^{f*}) &= \frac{1}{\alpha_L\left[a(\frac{1}{\epsilon}-1)+(1+r)(m_1^{f*})^{\frac{1}{\epsilon}}\right]}<u'(\bar{g}_R)=\frac{1}{a\alpha_R(\frac{1}{\epsilon}-1)}\end{aligned} \tag{23}$$

Therefore, both g_L^{p*} and g_L^{f*} are greater than $\bar{g}_R$. When $g>\bar{g}_R$,the present value of total utility for Government 1 decreases as government spending g increases. Since Government 2 spends more under a flexible exchange rate regime, that is, $g_L^{f*}>g_L^{p*}$, I have $F_R(g_L^{p*})>F_R(g_L^{f*})$. Therefore, a pegged regime yields a higher present value of utility for the Right. The following proposition summarizes the above result.

Proposition 2 *Knowing that it will be replaced by the Left, the Right party will choose a pegged exchange rate regime.*

The intuition of this result is simple. Knowing that its liberal successor will abandon its tight monetary rule, the Right party wants to restrain its successor's spending. By pegging its currency, Government 1 can push the inflation cost into the future so that the liberal Government 2 has to bear all the cost of its fiscal laxity in the second period. In contrast, the inflation cost of future fiscal laxity is spread across time under a flexible exchange rate regime. The liberal successor only bears part of the cost, which gives it an incentive to spend more under a flexible exchange rate regime. Therefore, the Right party chooses pegging the currency to restrict its successor's spending.

Case 2 *Government 1 is the Left and Government 2 is the Right.*

As in Case 1, the objective function of liberal Government 1 can be written as a function of g only, which I define as $F_L(g)$.

$$F_L(g) \equiv \left(\frac{1}{1+r}\right)\left[\alpha_L u(g) + \left(\frac{\epsilon}{\epsilon-1}\right)\left(\frac{g}{a}\right)\right] + \left(\frac{z}{a}\right)\left(\frac{\epsilon}{\epsilon-1}\right) \tag{24}$$

It is easy to see that the Left party achieves its highest utility when the spending g is set at $\bar{g}_L$, where $u'(\bar{g}_L) = \dfrac{1}{a\alpha_L(\frac{1}{\epsilon}-1)}$. Clearly, the optimal spending level of the Left party is higher than that of the Right, i.e., $\bar{g}_L > \bar{g}_R$. The comparison between g_R^{i*} $(i = f, p)$, the spending level set by the conservative Government 2 under different regimes, and $\bar{g}_L$, the desired spending level of the liberal Government 1, is a bit more complicated than in Case 1. There are two forces working in opposite directions. One is that the Right party cares less about government spending than the Left party ($\alpha_R < \alpha_L$), which leads the Right party to spend less. The other is that the conservative Government 2 would base its spending decision on the debt level inherited from Government 1 and this dynamic incentive makes it want to spend more.[8] When the Right party is much more conservative than the Left party, that is, when the difference between α_R and α_L is large enough, the first force is going to dominate the second one. The assumption of $\dfrac{\alpha_M}{\alpha_R} \geq 1 + \dfrac{1+\frac{1}{r}}{\frac{1}{\epsilon}-1}$ guarantees that both g_R^{f*} and g_R^{p*} are less than $\bar{g}_L$.[9] The economic interpretation is that the Right party is so conservative that it always spends less than what the Left party desires under either regime.

It is easy to show that $F_L(g)$ increases with government spending g when $g < \bar{g}_L$. Since $g_L^{f*} > g_L^{g*}$ according to Proposition 1, the present value of total utility for the Left is higher under a flexible exchange rate regime, that is, $F_L(g_L^{f*}) > F_L(g_L^{p*})$. The Left party will choose a flexible exchange rate regime to induce the Right party to spend more. The following proposition summarizes the result.

Proposition 3 *Knowing that it will be replaced by the Right, the Left party will choose a flexible exchange rate regime.*

---

[8] In Case 1, the two forces work in the same direction, which makes the liberal successor always spend more than what the conservative Government 1 desires.

[9] Since $m_1^{i*} < \left(\frac{r}{a}\right)^{-\epsilon}$, I have $u'\left(g_R^{i*}\right) = \dfrac{1}{\alpha_R\left[a(\frac{1}{\epsilon}-1)+(1+r)(m_1^{i*})^{\frac{1}{\epsilon}}\right]} > \dfrac{1}{\alpha_R\left[a(\frac{1}{\epsilon}-1)+\frac{a(1+r)}{r}\right]} >$ $\dfrac{1}{a\alpha_M(\frac{1}{\epsilon}-1)} > \dfrac{1}{a\alpha_L(\frac{1}{\epsilon}-1)} = u'(\bar{g}_L)$. Therefore, $g_R^{i*}(i=f,p)$ is always less than $\bar{g}_L$.

The intuition of the above result is straightforward. Knowing that its conservative successor tends to spend less, the Left party would like to induce its successor to spend more. If the Left party selects a fixed exchange rate regime, it pushes all the inflation cost of government spending to the future and this will further lower the spending level of Government 2. By choosing a flexible exchange rate regime, the Left party bears part of the cost of future government spending and induces its conservative successor to spend more.

3.2 Incentive two: facilitating the future policy implementation

I will discuss the second scenario when there is no electoral uncertainty and the government, the Left or the Right, can stay in office for both periods. Knowing that it will stay in office in the next period, the government will take account of the impact of the current regime choice on its own future policy implementation.

If a commitment mechanism exists, the Right (Left) party will stick to the optimal spending level of $\bar{g}_i$ $(i = R, L)$ in period 2. Actually, the first-best solution of the model is achieved when the government can commit to the optimal spending level of $\bar{g}_i$ $(i = R, L)$. This is also the social planner's solution. The total inflation cost of the first-best solution is determined by

$$\begin{aligned} \frac{\bar{g}_i}{1+r} + z &= a(m_0)^{1-\frac{1}{\epsilon}} + \frac{a(m_1)^{1-\frac{1}{\epsilon}}}{1+r} \\ \text{where } i &= R, L \text{ and } z \equiv (1+r)(b_{0-} + m_{0-}) - \tau y \left(\frac{2+r}{1+r}\right) \end{aligned} \tag{25}$$

However, the government has incentives to deviate from the optimal spending level when the second period comes. Without a commitment mechanism, the model should again be solved backwards. Proposition 1 continues to hold in this scenario, i.e., $g_i^{f\bullet} > g_i^{p\bullet} (i = R, L)$. In addition, as in the first scenario, I can easily obtain the following relation similar to Eq.(23):

$$\begin{aligned} u'(g_i^{p\bullet}) &= \frac{1}{\alpha_i \left[a(\frac{1}{\epsilon} - 1) + (1+r)(m_1^{p\bullet})^{\frac{1}{\epsilon}}\right]} < u'(\bar{g}_i) = \frac{1}{a\alpha_i(\frac{1}{\epsilon} - 1)} \\ u'(g_i^{f\bullet}) &= \frac{1}{\alpha_i \left[a(\frac{1}{\epsilon} - 1) + (1+r)(m_1^{f\bullet})^{\frac{1}{\epsilon}}\right]} < u'(\bar{g}_i) = \frac{1}{a\alpha_i(\frac{1}{\epsilon} - 1)} \end{aligned} \tag{26}$$

Since $\bar{g}_L > \bar{g}_R$ and $\frac{\alpha_M}{\alpha_R} \geq 1 + \frac{1+\frac{1}{r}}{\frac{1}{\epsilon} - 1}$, the following result is obtained:

$$g_L^{f\bullet} > g_L^{p\bullet} > \bar{g}_L > g_R^{f\bullet} > g_R^{p\bullet} > \bar{g}_R \tag{27}$$

Without a commitment mechanism, the government, be it the Left or the Right, always ends up spending more than the optimal level in the second period. Moreover, the government could spend even more under a flexible exchange regime than under a fixed one. Therefore, the government will choose a fixed regime in period 1 to contain its spending in the second period. In other words, a pegged exchange regime works like a commitment mechanism in this model. This result holds for both the Left and Right parties.

$$\begin{aligned} F_i(\bar{g}_i) &> F_i(g_i^{p\bullet}) > F_i(g_i^{f\bullet}) \\ where\ i &= L, R \end{aligned} \tag{28}$$

Proposition 4 *If remaining in power for two periods, the government, be it the Left or the Right, will always choose a pegged exchange regime.*

3.3 Incentive three: increasing the chance of reelection

Facing electoral uncertainty, Government 1 will choose its regime strategically to affect the electoral outcome. Let us start with the case when Government 1 is the conservative Right. The case when Government 1 is the Left can be similarly analyzed.

Let the probability of reelection be p_R^p if the conservative Government 1 chooses a pegged regime and p_R^f if the conservative Government 1 chooses a floating regime. In order to find the relation between p_R^p and p_R^f, I need to analyze the median voter's preference.

An election is held at the end of period 1. The median voter will evaluate the spending policy that each candidate party would carry out in period 2 and will vote for the party which will give her higher expected utility. Similar to Eq.(22), the median voter's preference can be written as a function of government spending g:

$$F_M(g) \equiv \left(\frac{1}{1+r}\right)\left[\alpha_M u(g) + \left(\frac{\epsilon}{\epsilon-1}\right)\left(\frac{g}{z}\right)\right] + \left(\frac{z}{a}\right)\left(\frac{\epsilon}{\epsilon-1}\right) \tag{29}$$

The median voter achieves her highest utility when $u'(\bar{g}_M) = \dfrac{1}{a\alpha_M(\frac{1}{\epsilon}-1)}$. I have $\bar{g}_R < \bar{g}_M < \bar{g}_L$ since $\alpha_R < \alpha_M < \alpha_L$.

While the median voter wants the Left party to spend less, she likes the Right party to spend more. Moreover, the median voter understands that both parties would be able to spend more under a flexible regime than under a fixed regime. With the choice of a flexible exchange rate regime, the Right could, on the one hand, capitalize on the inflationary reputation of the Left, and, on the other hand, benefit from its noninflationary reputation. In other words, a flexible exchange rate regime makes the median voter more worried about the high spending associated with the Left and less worried about the low spending associated with the Right. From Figure 1, we can easily see $F_M(g_L^{f*}) < F_M(g_L^{p*})$ and $F_M(g_R^{f\bullet}) > F_M(g_R^{p\bullet})$. Therefore, other things being equal, the probability of reelection for the Right party will be higher under a floating regime than under a pegged regime, that is, $p_R^p < p_R^f$. The exact difference between p_R^p and p_R^f depends on the distribution of α_M, and the relative distance of the median voter from both parties on the importance of public spending versus inflation.

Similarly, as illustrated in Figure 2, the Left party will choose a fixed regime to make the median voter less worried about inflation should she vote for the Left and more worried about public spending should she vote for the Right. Other things being equal, the probability of reelection for the Left party is higher under a pegged regime than under a floating regime, i.e., $p_L^p > p_L^f$.

3.4 The choice of exchange rate regime

In this section, I will show the choice of exchange rate regime in a trade-off among the above three incentives. Let us begin with the Right party. Facing with electoral uncertainty and taking into account the preference of the median voter, the Right will compare its expected utility under different regimes.

If choosing a pegged exchange rate regime,

$$Exp(F_R^p(g)) = p_R^p[F_R(g_R^{p\bullet})] + (1 - p_R^p)\,[F_R(g_L^{p*})]$$

If choosing a floating exchange rate regime,

$$Exp(F_R^f(g)) = p_R^f[F_R(g_R^{f\bullet})] + (1 - p_R^f)[F_R(g_L^{f*})]$$

The difference between expected utilities under two regimes is then given by:

$$\begin{aligned} & Exp(F_R^f(g)) - Exp(F_R^p(g)) \\ = \; & \underbrace{(p_R^f - p_R^p)[F_R(g_R^{f\bullet})]}_{\text{positive}} + \underbrace{p_R^p\left[F_R(g_R^{f\bullet}) - F_R(g_R^{p\bullet})\right]}_{\text{negative}} \\ & + \underbrace{\{(1 - p_R^f)[F_R(g_L^{f*})] - (1 - p_R^p)\,[F_R(g_L^{p*})]\}}_{\text{negative}} \end{aligned} \tag{30}$$

The first component on the right-hand side of Eq.(28) is positive because $p_R^p < p_R^f$. This reflects the gains from increasing its opportunity of reelection if the Right party chooses a floating exchange rate regime. Since $F_R(g_R^{f\bullet}) < F_R(g_R^{p\bullet})$, the second component is always negative, reflecting the loss when the Right fails to create a commitment mechanism for itself with the choice of a flexible regime. Because $(1 - p_R^f) < (1 - p_R^p)$ and $F_R(g_L^{f*}) < F_R(g_L^{p*})$, the last component is always negative. This reflects the fact that the Right party fails to capture the gains from tying its opponent's hands with a floating regime. Clearly, the choice of exchange rate regime depends on which component is going to dominate. The more important the gain to win an election is, the more likely the Right will choose a flexible exchange rate regime.

Figure 1. The median voter's preference (the Right party)

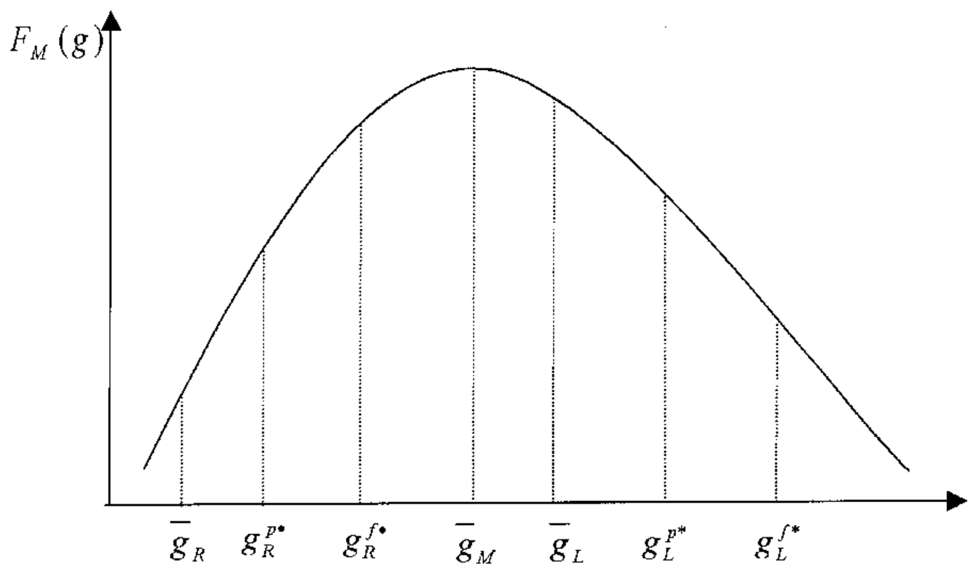
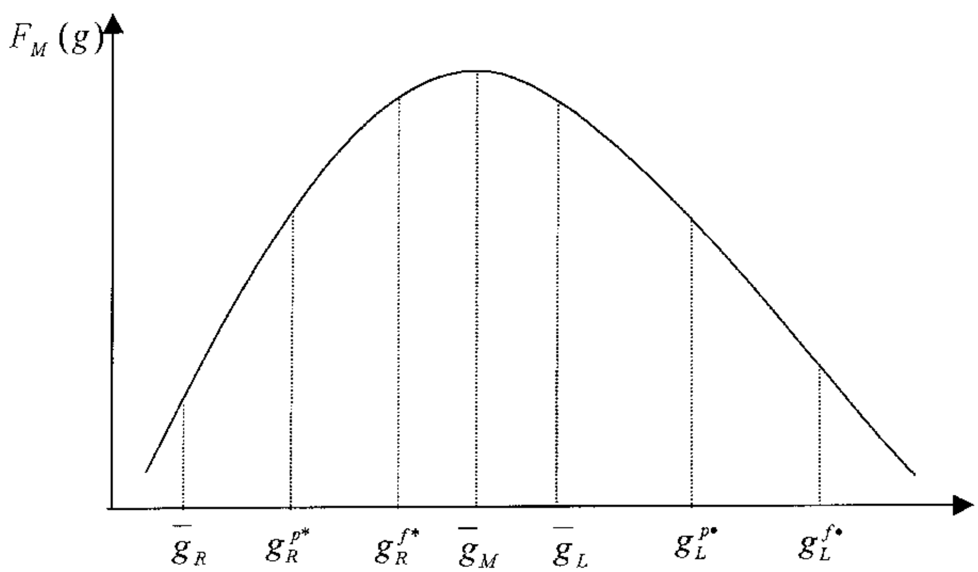


Figure 2. The median voter's preference (the Left party)



The case when Government 1 is the Left can be analyzed similarly. The comparison between the expected utilities under the two regimes is:

$$\begin{aligned}
& Exp(F_L^f(g)) - Exp(F_L^p(g)) \\
= \; & \underbrace{(p_L^f - p_L^p)[F_L(g_L^{f\bullet})]}_{\text{negative}} + \underbrace{p_L^p \left[F_R(g_L^{f\bullet}) - F_R(g_L^{p\bullet})\right]}_{\text{negative}} \\
& + \underbrace{\{(1-p_L^f)[F_L(g_R^{f*})] - (1-p_L^p)\,[F_L(g_R^{p*})]\}}_{\text{positive}} \qquad (31)
\end{aligned}$$

Clearly, with the choice of a flexible regime, the Left party would fail to capture the gain of increasing its chance of reelection and creating a commitment mechanism, but it would capture the gain of inducing its conservative successor to spend more. The Left's choice of exchange regime will again be determined in a trade-off among the three incentives.

4 Concluding Remarks

The literature on economic policy and politics has shown that, facing electoral uncertainty, a government can choose policies strategically to facilitate its future policy implementation should it win the election, to create constraints for its successor should it lose the election, and to affect the electoral result in its favor. Models on the first two incentives were used to explain the fiscal deficits during the Reagan administration. Models on the incentive to increase chances of reelection were used to explain that successful disinflation programs often stop before reducing inflation to single digit, for instance in Israel and Mexico, because governments fear that high costs associated with further disinflation may risk reelection chances.

Focusing on the choice of exchange rate regime, this paper contributes to the existing literature by analyzing explicitly the trade-off among all three incentives mentioned above in one simple bipartisan framework with rational forward-looking voters. In this paper, the difference between fixed and flexible exchange rate regimes lies in the intertemporal distribution of inflation cost associated with government spending: the inflation cost is pushed to the future under a fixed regime while it is spread across time under a flexible one. By pushing the inflation cost into the future, a fixed exchange rate regime enables a conservative government to either tie the hands of its opponent should it lose the election or create a commitment mechanism for itself should it win the election. However, with the choice of a fixed regime, the conservative incumbent would fail to capitalize on the inflationary reputation of its liberal opponent and capture the gains of increasing its chance of reelection. Therefore, the conservative incumbent's choice of exchange rate regime will depend on which incentive dominates. The same trade-off mechanism holds for a liberal incumbent. By choosing a flexible exchange rate regime, the liberal incumbent can induce its conservative successor to spend more should it lose the election. By choosing a fixed exchange rate regime, the liberal incumbent can affect the electoral outcome in its favor and create a commitment mechanism for itself should it win the election. The liberal government will balance the three incentives to choose its exchange rate regime.

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