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Ishiguro, Kaoru

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KOBE UNIVERSITY

INTERNATIONAL INTERVENTION TO POLITICAL REFORMS IN POST-CONFLICT SOCIETIES: AN INCOMPLETE CONTRACTS APPROACH*

By **KAORU ISHIGURO**

The purpose of this paper is to examine a problem: how should we divide political authority between the majority and the minority to create incentives for the implementation of cooperative political reforms by the majority in post-conflict societies? Our main conclusions are as follows. First, we should give the minority both political decision-making power and political bargaining power in order to restrain the majority from nationalistic political reforms. Second, we should give the minority political decision-making power and the majority political bargaining power in order to promote the introduction of cooperative political reforms by the majority.

1. Introduction

On June 10, 1999 after the NATO aerial bombardment, the United Nations Security Council adopted resolution 1244 (Kosovo peace resolution). According to the resolution, peace and order has been maintained in Kosovo province of Serbia by NATO-led KFOR (Kosovo Force) and the territory has been administrated by UNMIK (United Nations Interim Administration Mission in Kosovo).[1)] As for Albanians in Kosovo, although independence was not accepted by the United Nations resolution, an expansion of autonomy was accepted. However, if the Albanian majority in Kosovo aims at the expansion of autonomy and strengthens nationalistic activities, the Serb minority in Kosovo will resist the Albanians and an ethnic conflict may develop.[2)]

What kind of political system should the international community prepare in internationally administered territories like Kosovo in order to avoid ethnic conflicts after the transfer of political authority? In arguments on peace building in post-conflict societies, because of a focus on social economic problems (Fearon and Latin 2004, 36-41), problems associated with political systems and political reforms have not always been examined theoretically until now. In arguments over international territorial administration, the importance of governance and democracy has been pointed out (Barnes 2001; Wilde 2001), however political systems and political reforms have not been discussed adequately.[3)]

Free and fair elections alone are not sufficient solutions to such problems, since there

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1) Examples of recent international territorial administration by the United Nations include Cambodia (UNTAC: UN Transitional Authority in Cambodia) and East Timor (UNTAET: UN Transitional Administration in East Timor) besides Kosovo (Matheson 2001; Strohmeyer 2001).

2) If an exclusion of the minority develops into an ethnic conflict and the minority comes to demand secession or independence, a problem of "stateness" occurs (Linz and Stepan 1996, 29).

3) Because problems associated with the political system and political reform are longer-term problems, researchers may not be interested in them as a topic for empirical studies of peace building (Doyle and Sambanis 2000; Hartzell et al. 2001; Fortna 2004).

are cases in which a government formed by democratic election carries out nationalistic political reforms (for example, establishment of an ethno-nationalistic constitution), thereby undermining interethnic relations. Democratic elections guarantee fairness of opportunity for the minority; they do not, however, guarantee equity of results.[4] Therefore, it is possible that the majority, which has secured political authority through democratic election, will remove the minority from the national decision-making process and carry out political reforms that are beneficial to the majority.[5]

After the founding elections of 1990 in former Yugoslavian succeeding countries, for example, the Croatian majority monopolized political power in the Republic of Croatia where a nationalistic government was formed and nationalistic political reforms were carried out (establishment of a nationalistic constitution). These reforms led to the exclusion and discontent of the minority Serbs and resulted in an ethnic conflict.[6] In the Republic of Croatia, the founding parliamentary election was held in April/May 1990. The Croatian Democratic Union, which published a nationalistic platform, occupied the majority of the congress (Woodward 1995, 119-120) and a new constitution for the Republic of Croatia was established in December of the same year. This establishment of a new constitution was a nationalistic political reform magnifying the powers of the Croatian majority and removing those of the Serb minority, as symbolized by the establishment of Croatian as the official language, the use of Roman letters in government documents, the change of the national flag and names of public spaces.

On the other hand, there are states like the Republic of Macedonia that avoided ethnic conflicts. After the founding election of 1990, cooperative political reforms were carried out in the Republic of Macedonia, which guaranteed the collective rights of the minority Albanians and which realized a kind of power sharing between ethnic groups. In the founding election of November 1990, a nationalistic Macedonian political party won the greatest vote but was not able to get a majority alone (Woodward 1995, 122). Therefore, a coalition government consisting of Macedonians and Albanians was formed. In the new constitution of the Republic of Macedonia of December 1991, a kind of power sharing between ethnic groups was specified, the minority status of Albanians was taken into consideration, and freedom to use minorities' native language in education and expression was recognized in some areas.[7]

The purpose of this paper is to examine a problem: how should we divide political authority

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4) If each member of an ethnic group votes according to ethnic identity, an election result coincides with the ethnic composition of an area (Horowitz 1985, 83-85). As a result, it becomes very likely that the boundary line between the loser and the winner of an election coincides with the boundary line between ethnic groups in multiethnic societies.

5) Besides market economy, democracy and liberalism have been raised as basic principles ("liberal internationalism") of peace building in post-conflict societies. See Paris (1997, 2002) for their ideological aspects.

6) In 1991, in the Republic of Croatia the shares of Croats and Serbs in the total population were 78% and 12% . In the Republic of Macedonia the share of Macedonians was 64.6% and the share of Albanians was 21.0% (Woodward, 1995, 33).

7) Albanians did not always accept the constitution and so there was opposition between Macedonians and Albanians (Zahariadis 2003). This led to the military conflicts of March 2001. According to the "Ohrid Agreement" of August 2001 established after the military conflicts, the nation of Macedonia was redefined and the official language of Albanian, the use of a national Albanian symbol and an increase in the number of Albanian police officers were recognized (Balkan Report, Aug. 17, 2001). In November 2001, the constitution was revised based on the agreement.

between the majority and the minority to create incentives for the promotion of cooperative political reforms by the majority in post-conflict societies? We suppose that there are two types of political reform: nationalistic and cooperative political reforms. The former is a political reform in which the majority develops nationalistic activities, and the latter is a political reform guaranteeing the collective rights of the minority. Furthermore, we suppose that there are two types of political power; political decision-making power and political bargaining power. Political decision-making power is authority regarding how to accept the nationalistic activities of the majority, and political bargaining power is the authority to distribute the payoffs of a political reform between the majority and the minority. Our problem concerns; how should we distribute the two types of political power between the majority and the minority to create incentives for the majority to restrain nationalistic political reform and to promote cooperative political reform?

Our main conclusions are as follows. First, in the case that political reform is not carried out, an actor with political bargaining power can increase its payoff, regardless of who has decision-making power. Therefore, the allocation of political bargaining power is important. Second, in the case that negotiation regarding the level of nationalistic activity is not possible, the majority has an incentive to carry out nationalistic political reform if it has decision-making power. If the minority holds political decision-making power, however, the majority has an incentive to implement cooperative political reform. Therefore, the distribution of political decision-making power is important. Third, in the case that negotiation regarding the amount of nationalistic activity is possible, we should give the minority both political decision-making power and political bargaining power to restrain the majority from making nationalistic political reforms. On the other hand, we should give the minority political decision-making power and the majority political bargaining power in order to induce the majority to promote cooperative political reforms.

This paper is organized as follows. In Section 2, we set up a model of political reform and distributional political authority using an incomplete contracts theory and in Section 3, we explain the importance of the distribution of political bargaining power in the case that political reform is not carried out. In Section 4, we analyze the importance of the distribution of political decision-making power in the case that negotiation is not possible. We analyze the incentives of nationalistic political reform in Section 5, and the incentives of cooperative political reform in Section 6. In Section 7, we summarize our conclusions.

2. A Model of Political Reform and Distribution of Political Authority

We will now set up a model of political reform and distributional political authority. A characteristic of our model is that we use an incomplete contracts theory, which assumes that negotiation regarding political reforms is not possible.[8)]

Actors: Suppose that in this game there are three actors, "the majority," "the minority" and "the international community."[9)] The purpose of the majority is to maximize its payoff by conducting nationalistic activity and political reform. The minority aims at minimizing its

welfare loss under nationalistic activity and political reform under taken by the majority.[10] Both the majority and the minority are risk neutral. The purpose of the international community is to design a political system that avoids ethnic conflicts. The international community will sufficiently reduce the transaction costs of political negotiations between the majority and the minority and will design the distribution of political authority to create incentives for cooperative political reform by the majority.[11]

Actions: We assume that the three actors have actions as follows. In this game, the majority has two chances to move, and the minority and international community each have one chance to move respectively. The first chance to move for the majority is the decision of whether to conduct political reform or not at date 1. The second is to decide how much nationalistic activity to conduct at date 2. The minority decides how much it accepts the nationalistic activity of the majority at date 2. The international community determines how to distribute political decision-making power and political bargaining power between the majority and the minority at date 0.

The political reform carried out by the majority includes, for example, constitutional establishment and revisions that have national and social-specific characteristics and relate to the minority's collective rights: its territorial autonomy, and its freedom of speech, expression, education, religion and association. Therefore, the political reforms have different influences on the majority and the minority depending on their content. We suppose two types of political reform, one "nationalistic political reform" r_{nj} (j=0,1) and the other "cooperative political reform" r_{cj} (j=0,1). Although the former increases the marginal payoffs of the majority, the later decreases the marginal welfare losses of the minority.[12] j=0 expresses the carrying out of political reform and j=1 indicates that reform is not carried out.

The nationalistic activity of the majority is legally conducted under given political reforms (for example, a constitution). This activity is favorable for the majority in the determination of the ratio between ethnic groups of Diet members, cabinet ministers, important posts in government, judges, armed forces, police officers and public employees,[13] as well as the budget distribution in public policy, the taxation system, media control, and the use of national symbols. The minority may be legally discriminated against and removed by the political reforms and nationalistic activity of the majority. In addition, the minority's political and economic activities may be regulated and education by ethnic language may be limited.

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8) The incomplete contracts approach is one of the rational choice theories. See Hart (1985), Che and Hausch (1999), Maskin and Tirole (1999) and Tirole (1999) for the incomplete contracts approach. In studies on conflict evasion, there is also the social matching game (Fearon and Laitin 1996), constructivism (Fearon and Laitin 2000) and conflict management (Genicot and Skaperdas 2002).

9) Conflicts have various causes (Collier and Hoeffler 2004; Fearon 2004; Fearon and Laitin 2003; Hegre et al. 2001; Kalyvas 2003; Licklider 1995). In this paper, we assume ethnic conflicts.

10) See Brubaker and Laitin (1998) for an analysis of ethnic conflicts that does not use rational choice theory.

11) See Doyle (2002) on the political authority of the international community in international territorial administration.

12) Nationalistic political reform is equivalent to "selfish investment" and cooperative political reform "cooperative investment" in contracts theory (Che and Hausch 1999).

13) Some of the reforms may be specified in the constitution as the collective rights of an ethnic minority. In the Republic of South Africa, although they are not specified in a constitution, they are determined depending on ethnicity, area and language (Sisk 1996, 57).

The international community reduces the transaction costs of political negotiations and divides political decision-making power $\Phi_k(k=M,N)$ and political bargaining power $\Omega_l(l=M,N)$ between the majority and the minority. k denotes an actor with political decision-making power, l an actor with political bargaining power, M the majority and N the minority. Political decision-making power is the authority to determine the amount of nationalistic activity of the majority. Political bargaining power is the authority to distribute payoffs between the majority and the minority. For simplicity, we suppose that an actor with political bargaining power receives at the maximum and pays at the minimum in negotiations.

Political States: There are four ways in which the international community distributes political decision-making power and political bargaining power between the majority and the minority as follows: (Φ_M, Ω_M), (Φ_M, Ω_N), (Φ_N, Ω_M) and (Φ_N, Ω_N). The majority has four choices regarding political reform: r_{n0}, r_{n1}, r_{c0} and r_{c1}. Therefore, there are sixteen political states in all to be determined by a combination of distribution of political authority and choice of political reform. Our problem is to determine a distribution (Φ_k, Ω_l) of political authority so that the majority carries out cooperative political reform r_{c1}.

Payoffs: It is supposed that the payoff of the majority Π_M is a function of the nationalistic activity of the majority x, political reform r_{ij} $(i=c,n, j=0,1)$, political decision-making power $\Phi_k(k=M,N)$ and political bargaining power $\Omega_l(l=M,N)$. The majority can obtain political value Π through nationalistic activity x and political reform r_{ij}. However, it is assumed that cooperative political reform $r_{cj}(j=0,1)$ does not influence political value Π. In addition, although nationalistic activity x increases the political value of the majority, it causes external disutility to the minority.

$$\Pi_M=\Pi_M(\Pi(x, r_{ij}), \Phi_k, \Omega_l) \quad i=c,n, j=0,1, k,l=M,N, \tag{1}$$

where, $\Pi'\equiv\partial\Pi/\partial x>0$, $\partial^2\Pi/\partial x^2<0$, $\partial\Pi/\partial r_n>0$, $\partial\Pi/\partial r_c=0$, and $\Pi(0, r_{ij})=0$. As for defining political value Π, costs of nationalistic activity are considered but costs of political reforms are not.

It is supposed that the payoff of the minority Π_N is a function of the nationalistic activity of the majority x, political reform r_{ij} $(i=c,n, j=0,1)$, political decision-making power $\Phi_k(k=M,N)$ and political bargaining power $\Omega_l(l=M,N)$. The minority suffers external disutility C from nationalistic activity x and political reform r_{ij}. However, it is assumed that the nationalistic political reform r_{nj} $(j=0,1)$ does not influence external disutility.

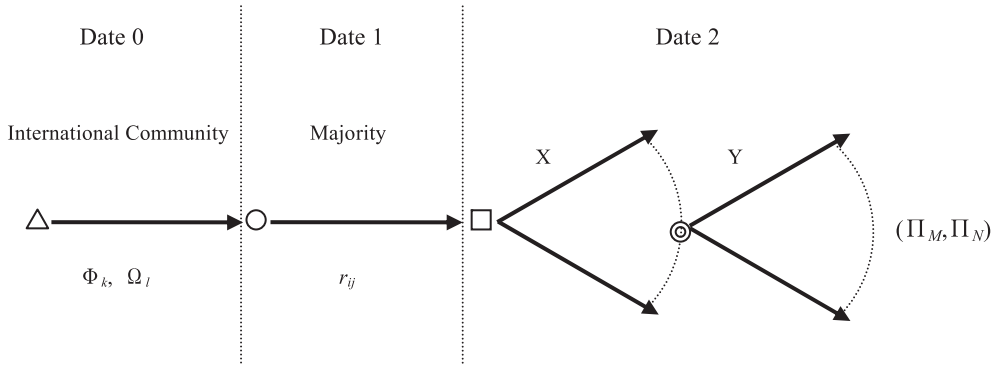
$$\Pi_N=\Pi_N(C(x, r_{ij}),\Phi_k, \Omega_l) \quad i=c,n, j=0,1, k,l=M,N, \tag{2}$$

where, $C'\equiv\partial C/\partial x>0$, $\partial^2 C/\partial x^2>0$, $\partial C/\partial r_c<0$, $\partial C/\partial r_n=0$, and $C(0, r_{ij})=0$.

When the majority carries out a cooperative political reform that avoids ethnic conflicts, the payoff to the international community is assumed to be the largest. The preference order of the international community is $r_{c1}>r_{n0} \sim r_{c0}>r_{n1}$.

Timing of the Game and Information Structure: This game develops in three stages as follows (see Figure 1). Date 0: the international community divides political decision-making power Φ_k and political bargaining power Ω_l between the majority and the minority. Date 1: the

majority decides which political reform $r_{ij}(i=n,c, j=0,1)$ to conduct. Date 2: political decisions and political negotiations are made regarding nationalistic activity x of the majority. The actor with political decision-making power decides the level of nationalistic activity for the majority. The actor with political bargaining power makes a take-it-or-leave-it offer regarding nationalistic activity. If the payoffs for accepting and for refusing an offer are equal, it is assumed that a negotiating partner accepts the offer.



Note: X determination of nationalistic activity
Y making an offer
r_{ij} $(i=n,c, j=0,1)$ political reform
Φ_k, Ω_l $(k,l=M,N)$ distribution of political authority

FIGURE 1. Timing of the Game

We assume the following situation. Political negotiation regarding the nationalistic activity of the majority is possible; however, political negotiations and political agreements regarding political reforms are impossible. When political reform is carried out at Date 1, political uncertainty is too high and a long-term political agreement can not be made. This situation, for example, can be seen in efforts to establish a constitution just after the founding election of 1990 in each republic of the former Yugoslavian area. However, at the beginning of Date 2, political reforms have already been carried out and, as a result, political uncertainty disappears to some extent, and there is a possibility of short-term political agreement regarding the nationalistic activity of the majority. Both the majority and the minority have common knowledge about such a situation and there is no incompleteness or imperfectness of information.

3. Political Authority: In the Case of No Political Reform

In the case that the transaction costs of political negotiations are small enough due to the intervention of the international community, as the theorem of Coase (1988) shows, a Pareto efficient level of nationalistic activity is achieved through political negotiations by the

majority and the minority even if there is an externality. In this case, it is not important who has political decision-making power, and the effective level of nationalistic activity is realized at the same level. However, the distribution of payoffs differs depending on which actor has political bargaining power. For the case where political reform is not carried out, here we will prove *proposition* 1 in preliminary consideration of the following arguments.

***Proposition* 1:** In the case that political reform is not carried out, an actor with political bargaining power can increase its payoff regardless of which actor has political decision-making power.

The socially optimal Pareto efficient amount of nationalistic activity x^*, which is expressed by (3), is determined at the point where the marginal benefits of the majority and the marginal welfare losses of the minority are equal ($\Pi'(x^*) = C'(x^*)$).

$$x^* = \arg\max_x \Pi(x) - C(x). \tag{3}$$

In Figure 2, the horizontal axis expresses the nationalistic activity x of the majority, and the vertical axis measures the marginal benefits and marginal losses. The *MB* curve represents the marginal benefits of the majority and the *MC* curve the marginal losses of the minority. In the case that political reform is not carried out, we will consider how the Pareto efficient level of nationalistic activity x^* is realized depending on the distribution of political decision-making power and political bargaining power.

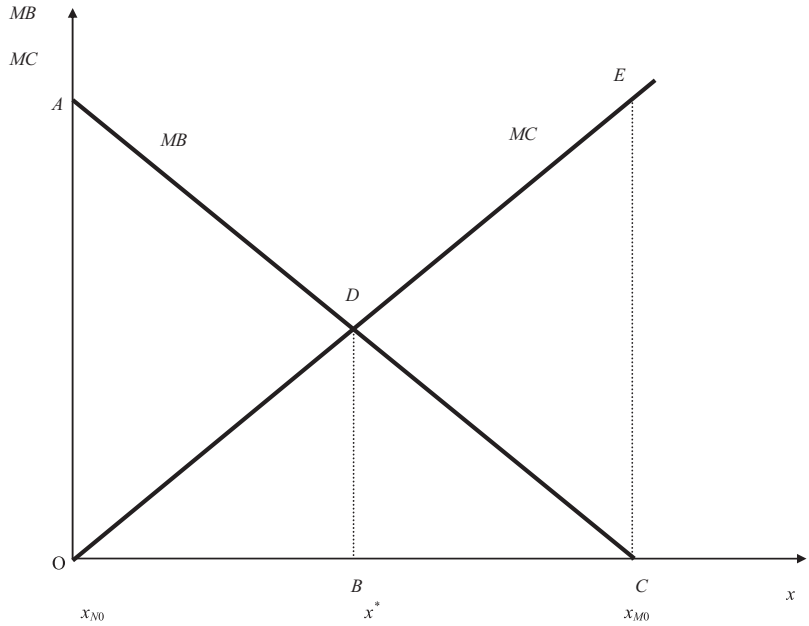


FIGURE 2. Nationalism of the Majority and Externality

3.1 Political Decision-Making Power of the Minority

If the minority holds political decision-making power (veto), it will completely refuse the nationalistic activity of the majority.[14] According to the loss minimizing behavior expressed by (4), the minority expects x_{N0}=0 where marginal losses are zero ($C'(x_{N0}) = 0$).

$$x_{N0} = \arg\min_{x} C(x). \tag{4}$$

However, the complete refusal of the nationalistic activity of the majority is not the optimal choice for the minority if political negotiations are possible. The reason is that if the majority pays a political transfer T that is greater than the losses suffered with acceptance of nationalistic activity, the minority can increase its payoff.

Political Bargaining Power of the Minority (Φ_N, Ω_N): If the minority has both political bargaining power and political decision-making power, it is assumed that the minority makes the following offer.

$$x = \begin{cases} x^* & \text{if } T = \Pi(x^*), \\ 0 & \text{otherwise.} \end{cases} \tag{5}$$

If the majority pays the political transfer T equivalent to the benefits $\Pi(x^*)$ obtained by nationalistic activity, the minority accepts the nationalistic activity until the effective level x^*. Otherwise, the minority does not accept the nationalistic activity. Then the majority accepts the offer made by the minority because the majority does not decrease the early payoff by payment of the political transfer T. The minority can increase the payoff of $\Pi(x^*)$-$C(x^*)$ by making the offer.

Political Bargaining Power of the Majority (Φ_N, Ω_M): If the minority has political decision-making power and the majority has political bargaining power, it is assumed that the majority makes the following offer.

$$T = \begin{cases} C(x^*) & \text{if } x = x^*, \\ 0 & \text{otherwise.} \end{cases} \tag{6}$$

If the minority accepts nationalistic activity until the effective level x^*, the majority pays the political transfer T equivalent to the losses $C(x^*)$ of the minority. Otherwise, the majority does not pay at all. The minority accepts the offer made by the majority because the minority does not increase its losses by acceptance of the nationalistic activity. The majority can increase the payoff of $\Pi(x^*)$-$C(x^*)$ by making the offer.

3.2 Political Decision-Making Power of the Majority

If the majority holds political decision-making power, according to the benefits of maximizing behavior expressed by (7), the majority expects the level x_{M0} of nationalistic

14) Lijphart (1977) considers the veto of the minority in a context of power sharing.

activity where marginal benefits become zero ($\Pi'(x_{M0}) = 0$).

$$x_{M0} = \arg\max_x \Pi(x). \tag{7}$$

However, if political negotiations are possible, the Pareto efficient amount x^* is realized. The reason is that the minority can restrain the nationalistic activity of the majority if it pays the political transfer. In addition, the majority will accept the offer of restraining nationalistic activity if it is compensated for the decrease of benefits due to the restraint of nationalistic activity with payment of the political transfer.

Political Bargaining Power of the Minority (Φ_M, Ω_N): If the majority has political decision-making power and the minority has political bargaining power, it is assumed that the minority makes the following offer.

$$T = \begin{cases} \Pi(x_{M0}) - \Pi(x^*) & \text{if } x = x^*, \\ 0 & \text{otherwise.} \end{cases} \tag{8}$$

If the majority restrains nationalistic activity until the efficient level x^*, the minority pays the political transfer T equivalent to welfare losses of $\Pi(x_{M0})$-$\Pi(x^*)$ that the majority suffered. Otherwise, the minority does not pay at all. Then the majority accepts the offer made by the minority, because the majority is compensated with payment of the political transfer T and an early payoff is not decreased by restraining nationalistic activity. The minority can decrease the losses of $C(x_{M0})$-$C(x^*)$ -$\{\Pi(x_{M0})$-$\Pi(x^*)\}$ by making the offer.

Political Bargaining Power of the Majority(Φ_M, Ω_M): If the majority has both political bargaining power and political decision-making power, it is assumed that the majority makes the following offer.

$$x = \begin{cases} x^* & \text{if } T = C(x_{M0}) - C(x^*), \\ x_{M0} & \text{otherwise.} \end{cases} \tag{9}$$

The majority restrains nationalistic activity to the efficient level x^* if the minority pays the political transfer T equivalent to the benefits $C(x_{M0})$-$C(x^*)$ which the minority obtains by restraint of the nationalistic activity of the majority. Otherwise, the majority does not restrain nationalistic activity at all. Then the minority accepts the offer made by the majority because the minority does not increase its losses with payment of the political transfer T. The majority can increase the payoff of $C(x_{M0})$-$C(x^*)$-$\{\Pi(x_{M0})$-$\Pi(x^*)\}$ by making the offer.

Therefore, regardless of which actor has political decision-making power, if political negotiations are possible, the Pareto efficient level of nationalistic activity x^* is realized. Then the actor with political bargaining power can increase its payoff.

4. Incentives of Political Reforms without Political Negotiation

We will assume that political negotiations regarding nationalistic activity are impossible because the transaction costs of political negotiations are sufficiently large due to severe political opposition between the majority and the minority and/or because there is a pecuniary limitation on the payment of a political transfer by the minority in political negotiations. If the political value Π and the external disutility *C* provided by nationalistic activity and political reform are not verifiable, the transaction costs of political negotiations increase sufficiently and political negotiations may be impossible. As for the political value Π and the external disutility *C*, generally their transfer between actors is difficult because they are non-pecuniary values. Then obstacles to political negotiations may arise. In such situations, we will examine the incentives of political reforms in the case that political negotiations regarding the nationalistic activity of the majority are impossible.

4.1 Nationalistic Political Reform

The majority conducts nationalistic political reform at Date 1. By such political reform, in FIGURE 3 the *MB* curve of the majority shifts up but the *MC* curve of the minority does not shift. The incentives for such political reform differ depending on which actor has political decision-making power over nationalistic activity. Here, we prove the following proposition.

***Proposition* 2:** In the case that political negotiations regarding the nationalistic activity of the majority are impossible, the majority has an incentive for nationalistic political reform if it holds political decision-making power.

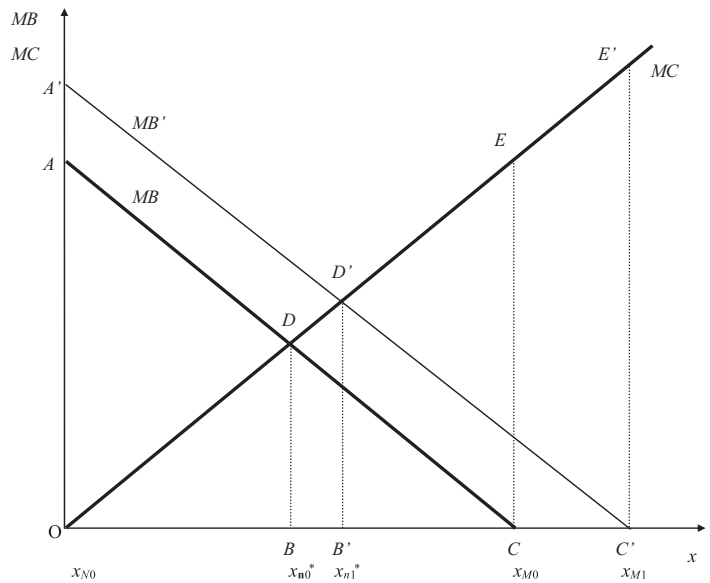


FIGURE 3. Nationalistic Political Reform

4.1.1 Political Decision-Making Power of the Minority (Φ_N, r_{nj})

If the minority holds political decision-making power (veto), the nationalistic activity of the majority is completely refused, and then the payoff of the majority does not vary with political reform. Therefore, the majority does not have an incentive for political reform.

$$x_{N0} = \arg\min_x C(x, r_{nj}) \quad j=0,1. \tag{10}$$

The minority determines the amount of nationalistic activity of the majority by the *MC* curve (eq. (10)). Regardless of whether the majority carries out political reforms, the *MC* curve does not change. Therefore, the minority chooses $x_{N0}=0$ and completely refuses the nationalistic activity of the majority. As a result, the payoff of the majority does not vary with political reform.

4.1.2 Political Decision-Making Power of the Majority (Φ_M, r_{nj})

In the case that the majority holds political decision-making power, it pursues nationalistic activity $x_{Mj}(j=0,1)$ at the maximum and can increase the payoff through political reform. Therefore, the majority has incentives for political reform.

$$x_{Mj} = \arg\max_x \Pi(x, r_{nj}) \quad j=0,1. \tag{11}$$

The majority determines the level of nationalistic activity by the *MB* curve (eq. (11)). If the majority does not carry out political reform, it chooses x_{M0}. On the other hand, the majority chooses x_{M1} if it carries out political reform. Then the majority can increase only $\square AA'C'C(=\Pi(x_{M1}, r_{n1}) - \Pi(x_{M0}, r_{n0}))$ through political reform.

In the case that political negotiations are impossible, if the minority has political decision-making power, the nationalistic activity of the majority is completely refused and then dissatisfaction of the majority may cause ethnic conflicts. On the other hand, if the majority has political decision-making power, the nationalistic activity of the majority is pursued at the maximum and the dissatisfaction of the minority may cause ethnic conflicts.[15] In the case that political negotiations are impossible, in any case, we need to design, for example, a system enabling political negotiations, reforms of the domestic system and/or intervention by the international community.[16]

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15) Generally, because the majority has political decision-making power, the minority rebels against the excessive nationalistic activity of the majority and then ethnic conflicts occur. In the former Yugoslavia area, the Serb nationalism of the majority in Serbia and the Croatian nationalism of the majority in the Republic of Croatia caused military resistance among the minority (the Albanians in the Republic of Serbia and Serbs in the Republic of Croatia). Fearon (1998) has analyzed the resistance of the minority as a problem of commitment.

16) When there are laws and systems regarding an ethnic minority and protection of human rights, even if the majority has political powers, the majority may not completely suppress the minority. In this case, the legislative system restricts the political powers of the majority and affects the distribution of payoffs and incentives for political reforms. See Preece (1997) for the historical development of human rights protection of ethnic minorities in Europe.

4.2 Cooperative Political Reform

It will be assumed that the majority has a choice for cooperative political reform (a downward shift of the *MC* curve in FIGURE 4) and reducing the losses of the minority before pursuing nationalistic activity. Political reforms guaranteeing the collective rights of the minority are such examples. Whether or not such a political reform is carried out is greatly dependent on which side has political decision-making power regarding the nationalistic activity of the majority.

***Proposition* 3:** In the case that political negotiation is impossible, if the minority holds political decision-making power regarding the nationalistic activity of the majority, the majority has an incentive for cooperative political reform.

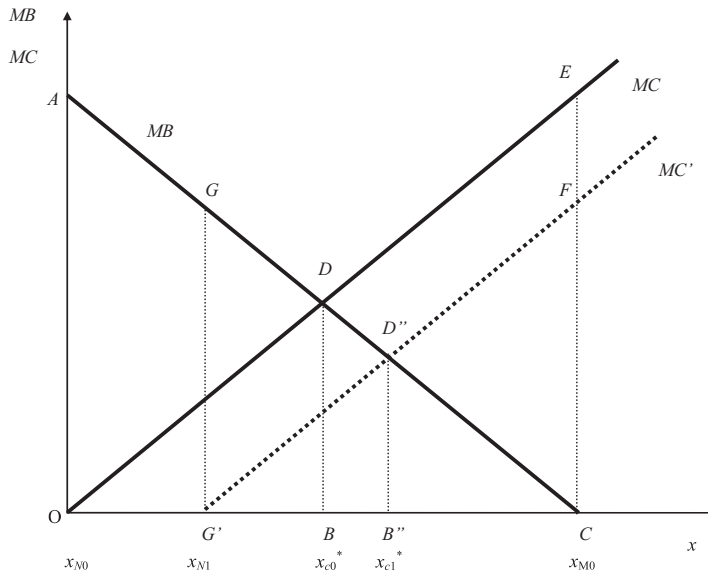


FIGURE 4. Cooperative Political Reform

4.2.1 Political Decision-Making Power of the Minority (Φ_N, r_{cj})

If the minority holds political decision-making power, the payoffs of the majority are increased by political reform and the majority has an incentive for political reform.

$$x_{Nj} = \arg\min_x C(x, r_{cj}) \qquad j=0,1. \tag{12}$$

The minority decides the level of nationalistic activity by the majority according to the *MC* curve (eq. (12)). If there is no political reform, the minority completely refuses nationalistic activity (x_{N0}=0). However, if political reform is carried out, the *MC* curve shifts to the right and the minority accepts the nationalistic activity of the majority to x_{N1}. Even if the minority accepts the level of nationalistic activity in an interval of $0 \leqq x \leqq x_{N1}$, the minority's losses

are zero and thus do not change with political reform. The payoff of the majority is zero without political reform and has a positive value of □*AGG'O* (=$\Pi(x_{N1}, r_{c1})$) with political reform. Then the majority has an incentive for political reform.

4.2.2 Political Decision-Making Power of the Majority (Φ_N, r_{cj})

In the case that the majority holds political decision-making power, the majority does not have an incentive for political reform because the *MB* curve and the payoff of the majority does not change with political reform,

$$x_{M0} = \arg\max_x \Pi(x, r_{cj}) \qquad j=0,1. \tag{13}$$

The majority determines the level of nationalistic activity by the *MB* curve (eq. (13)). The majority chooses the level x_{M0} of nationalistic activity regardless of whether political reform is carried out. Then the payoff of the majority is the same, △*ACO*(=$\Pi(x_{M0}, r_{c0})$=$\Pi(x_{M0}, r_{c1})$), in both cases. The welfare loss of the minority is △*ECO*(=$C(x_{M0}, r_{c0})$) without political reform and △*FCG'* (=$C(x_{M0}, r_{c1})$) with political reform. As for the welfare loss of the minority, if the majority carries out political reform, only □*EFG'O*(=$C(x_{M0}, r_{c0})$-$C(x_{M0}, r_{c1})$) decreases.

5. Incentives for Nationalistic Political Reform and International Intervention

We will assume that the intervention of the international community reduces the transaction costs of political negotiations and/or relaxes the pecuniary-limited payments of political transfer of the minority (for example, the international community offers a substitutive political transfer),[17] sufficiently to make political negotiations regarding the nationalistic activity of the majority possible.

When political negotiations are possible, regardless of who holds political decision-making power, the nationalistic activity of the majority is determined at the efficient level. However, the distribution of payoffs depends on which party has political decision-making power and political bargaining power, and therefore the incentives of the majority for political reform are different. How, then, should the international community divide political decision-making power and political bargaining power to restrain the majority from nationalistic political reform? Here, we prove the following proposition.

***Proposition* 4:** In the case that political negotiation is possible regarding nationalistic activity, if the majority has both political decision-making power and political bargaining power, incentives for nationalistic political reform are large. The minority should hold both political decision-making power and political bargaining power for the majority to restrain nationalistic

17) The roles of intervention of the international community are, first, to reduce the transaction costs of political negotiations, and second, to introduce outside opportunities to the minority. In the disputes of the Republic of South Africa, the international community reduced the transaction costs of political negotiations by giving both sides political information (Sisk 1996, 95).

political reform.

5.1 Political Decision-Making Power of the Minority

Political Bargaining Power of the Minority (Φ_N, Ω_N, r_{nj}): If the minority has both political decision-making power and political bargaining power, it is assumed that the minority makes the offer expressed by (14). The majority pays all of the increased payoffs to the minority as a political transfer.

$$x = \begin{cases} x_{nj}^* & \text{if } T = \Pi(x_{nj}^*, r_{nj}), \\ x_{N0} & \text{otherwise.} \end{cases} \tag{14}$$

In the case that political reform is not carried out, the nationalistic activity of the majority increases to $x_{N0}= x_{n0}^*$ from $x_{N0}=0$. However, the increased payoffs $\square ADBO(=\Pi(x_{n0}^*, r_{n0}))$ that the majority obtains are paid to the minority as a political transfer, and the payoff of the majority becomes zero. The payoff to the minority is $\triangle ADO(=\Pi(x_{n0}^*, r_{n0}) - C(x_{n0}^*, r_{n0}))$, which is provided to reduce the welfare loss $\triangle DBO(=C(x_{n0}^*, r_{n0}))$ suffered from the nationalistic activity of the majority, and is covered by the political transfer $\square ADBO(=\Pi(x_{n0}^*, r_{n0}))$ paid by the majority.

In the case that political reform is carried out, the *MB* curve shifts upward and the level of nationalistic activity is increased to x_{n1}^*. In this case the payoff of the majority is also zero because the majority pays all of the increased payoff $\square A'D'B'O(=\Pi(x_{n1}^*, r_{n1}))$ to the minority. The payoff of the minority is $\triangle A'D'O(=\Pi(x_{n1}^*, r_{n1})-C(x_{n1}^*, r_{n1}))$, which is provided to reduce the welfare loss $\triangle D'B'O(=C(x_{n1}^*, r_{n1}))$ suffered from the nationalistic activity of the majority, and is covered by the political transfer $\square A'D'B'O(=\Pi(x_{n1}^*, r_{n1}))$ paid by the majority.

As described above, the benefits of political reform are possessed entirely by the minority having political bargaining power. The increased payoff of the majority through the political reform is zero. Therefore, the majority does not have any incentive for political reform. In this case the "problem of holdup" occurs.[18)]

Political Bargaining Power of the Majority (Φ_N, Ω_M, r_{nj}): If the minority holds political decision-making power and the majority has political bargaining power, it is assumed that the majority makes the offer described by (15). Because the majority has political bargaining power, it can increase the payoff through political reform.

$$T = \begin{cases} C(x_{nj}^*, r_{nj}) & \text{if } x = x_{nj}^*, \\ 0 & \text{otherwise.} \end{cases} \tag{15}$$

18) At the beginning of Date 1, the minority has an incentive to increase the distribution of payoffs for the majority depending on realized political reforms. However, at the beginning of Date 2 when political reform has been finished, the minority has an incentive to reduce the distribution of payoffs to the majority by as much as possible (the problem of commitment). It is desirable for the majority to conclude a political agreement, however this is not possible and inefficiency associated with an incomplete contract arises.

When political reform is not carried out, the level of nationalistic activity increases to $x_{N0}=x^*_{n0}$ from $x_{N0}=0$ and the payoff of the majority is $\square ADBO(=\Pi(x^*_{n0}, r_{n0}))$. The majority pays the political transfer $\triangle DBO(=C(x^*_{n0}, r_{n0}))$, which is the welfare loss of the minority caused by nationalistic activity. As a result, the payoff of the majority becomes $\square ADBO-\square DBO=\square ADO(=\Pi(x^*_{n0}, r_{n0})-C(x^*_{n0}, r_{n0}))$. Then the payoff of the minority is zero.

In the case that political reform is carried out, the *MB* curve shifts upward, and the level of nationalistic activity rises to x^*_{n1}. In this case, the political transfer that the majority pays to the minority is $\triangle D'B'O(=C(x^*_{n1}, r_{n1}))$. As a result, the payoff of the majority is $\triangle A'D'O\ (=\Pi(x^*_{n1}, r_{n1})-C(x^*_{n1}, r_{n1}))$. Then the payoff of the minority is zero, which is the same as the case without political reform.

Therefore, the increased payoff of the majority due to political reform is $\triangle A'D'O-\triangle ADO=\square AA'D'D(=\Pi(x^*_{n1}, r_{n1})-C(x^*_{n1}, r_{n1})-\{\Pi(x^*_{n0}, r_{n0})-C(x^*_{n0}, r_{n0})\})$. If the majority has political bargaining power, it has incentives for political reform even if the minority holds political decision-making power.

5.2 Political Decision-Making Power of the Majority

Political Bargaining Power of the Minority $(\Phi_M, \Omega_N, r_{nj})$: If the majority has political decision-making power and the minority has political bargaining power, it is assumed that the minority makes the offer expressed by (16). If the majority holds political decision-making power, it determines the payoffs by itself, even if the majority has no political bargaining power. Therefore, the payoff of the majority is increased by the political reform.

$$T=\begin{cases}\Pi(x_{Mj}, r_{nj})-\Pi(x^*_{nj}, r_{nj}) & \text{if } x=x^*_{nj},\\ 0 & \text{otherwise.}\end{cases} \tag{16}$$

When political reform is not carried out, the nationalistic activity of the majority is restrained to x^*_{n0} from x_{M0}. The payoff of the majority is $\triangle ACO(=\Pi(x_{M0}, r_{n0}))$, which is obtained by adding the political transfer $\triangle DCB(=\Pi(x_{M0}, r_{n0})-\Pi(x^*_{n0}, r_{n0}))$ paid by the minority to $\square ADBO(=\Pi(x^*_{n0}, r_{n0}))$. The loss of the minority is $\triangle DCO(=C(x^*_{n0}, r_{n0})+\Pi(x_{M0}, r_{n0})-\Pi(x^*_{n0}, r_{n0}))$, which is obtained by adding the political transfer $\triangle DCB(=\Pi(x_{M0}, r_{n0})-\Pi(x^*_{n0}, r_{n0}))$ to the welfare loss $\triangle DBO(=C(x^*_{n0}, r_{n0}))$ suffered from the nationalistic activity of the majority. This welfare loss is smaller than the loss $\triangle ECO(=C(x_{M0}, r_{n0}))$ that the minority suffers without political negotiations.

In the case that political reform is carried out, the nationalistic activity of the majority rises to x^*_{n1} from x^*_{n0}. The payoff of the majority is $\triangle A'C'O(=\Pi(x_{M1}, r_{n1}))$, which is obtained by adding the political transfer $\triangle D'C'B'(=\Pi(x_{M1}, r_{n1})-\Pi(x^*_{n1}, r_{n1}))$ paid by the minority to $\square A'D'B'O(=\Pi(x^*_{n1}, r_{n1}))$. The loss of the minority is $\triangle D'C'O(=C(x^*_{n1}, r_{n1})+\Pi(x_{M1}, r_{n1})-\Pi(x^*_{n1}, r_{n1}))$, which is obtained by adding the political transfer $\triangle D'C'B'(=\Pi(x_{M1}, r_{n1})-\Pi(x^*_{n1}, r_{n1}))$ to the loss $\triangle D'B'O(=C(x^*_{n1}, r_{n1}))$ suffered from the nationalistic activity of the majority.

As a result of the above, the increased payoff to the majority that arises with the political reform is $\triangle A'C'O-\triangle ACO=\square AA'C'C(=\Pi(x_{M1}, r_{n1})-\Pi(x_{M0}, r_{n0}))$. In the case that the majority has political decision-making power, the incentive for the majority to reform politically is large

even if the majority has no political bargaining power.

Political Bargaining Power of the Majority (Φ_M, Ω_M, r_{nj}): If the majority has both political decision-making power and political bargaining power, it is assumed that the majority makes the offer described by (17). If the majority holds political decision-making power, it can obtain the maximum political transfer from the minority.

$$x = \begin{cases} x^*_{nj} & \text{if } T = C(x_{M0}, r_{nj}) - C(x^*_{nj}, r_{ni}), \\ x_{M0} & \text{otherwise.} \end{cases} \tag{17}$$

When political reform is not carried out, the nationalistic activity is restrained to x^*_{n0} from x_{M0} by political negotiations. Then the minority pays the payoff $\square DECB$ ($=C(x_{M0}, r_{n0})$-$C(x^*_{n0}, r_{n0})$) to the majority as a political transfer, which is obtained by restraint of the nationalistic activity of the majority. As a result, the payoff of the majority is $\square ADECO$($=\Pi(x^*_{n0}, r_{n0})+C(x_{M0}, r_{n0})$-$C(x^*_{n0}, r_{n0})$). The welfare loss of the minority is $\triangle ECO$($=C(x_{M0}, r_{n0})$) which is obtained by adding the political transfer $\square DECB$ to the welfare loss $\triangle DBO$($=C(x^*_{n0}, r_{n0})$) suffered from the nationalistic activity of the majority. This is the same as the welfare loss that the minority suffers without political negotiations.

In the case that political reform is carried out, the level of nationalistic activity increases to x^*_{n1} from x^*_{n0}. The payoff of the majority is $\square A'D'E'C'O$($=\Pi(x^*_{n1}, r_{n1})+C(x_{M1}, r_{n1})$-$C(x^*_{n1}, r_{n1})$) which is obtained by adding the payoff $\square A'D'B'O$ acquired through nationalistic activity to the political transfer $\square D'E'C'B'$ from the minority. The welfare loss of the minority is $\triangle E'C'O$($=C(x_{M1}, r_{n1})$) which is obtained by adding the political transfer $\square D'E'C'B'$ to the welfare loss $\triangle D'B'O$($=C(x^*_{n1}, r_{n1})$) suffered from the nationalistic activity of the majority.

As a result of the above, the increased payoff of the majority through political reform is $\square A'D'E'C'O$-$\square ADECO$=$\square AA'D'D$+$\square EE'C'C$($=\Pi(x^*_{n0}, r_{n0})+C(x_{M0}, r_{n0})$-$C(x^*_{n0}, r_{n0})$- $\{\Pi(x^*_{n1}, r_{n1})+C(x_{M1}, r_{n1})$-$C(x^*_{n1}, r_{n1})\}$). When the majority holds both political bargaining power and political decision-making power, its incentive for political reform is largest.[19)]

If we compare the four cases of nationalistic political reforms, the increased payoff of the majority through political reform has the following order relations: $(\Phi_M, \Omega_M)>(\Phi_M, \Omega_N)>(\Phi_N, \Omega_M)>(\Phi_N, \Omega_N)$. TABLE 1 compares the four distributions of political bargaining power and political decision-making power in the case that we specify the political value Π and the external disutility C as follows: $\Pi=(1+\alpha)x$-$(1/2)x^2$, C=-βx+$(1/2)x^2$, $\alpha=0$ (for r_{n0}), $\alpha>0$ (for r_{n1}), $\beta=0$ (for r_{c0}), $\beta>0$ (for r_{c1}).

19) Judging from the point of view of social welfare, the costs of political reform may exceed the benefits and then excessive political reforms may be conducted. There are cases where it may be desirable to remove such a possibility when the minority holds political authority.

TABLE 1. Incentive of Nationalistic Political Reform

Decision-making power \ Bargaining power		Minority		Majority	
		no reform	with reform	no reform	with reform
Minority	① equilibrium	B	B'	B	B'
	② minority' payoff	1/4	$(1/4)(1+\alpha)^2$	0	0
	③ transfer	3/8	$(3/8)(1+\alpha)^2$	1/8	$(1/8)(1+\alpha)^2$
	④ majority's payoff	0	0	1/4	$(1/4)(1+\alpha)^2$
	⑤ incentive	0		$(\alpha/4)(2+\alpha)$	
Majority	① equilibrium	B	B'	B	B'
	② minority' payoff	-1/4	$-(1/4)(1+\alpha)^2$	-(1/2)	$-(1/2)(1+\alpha)^2$
	③ transfer	1/8	$(1/8)(1+\alpha)^2$	3/8	$(3/8)(1+\alpha)^2$
	④ majority's payoff	1/2	$(1/2)(1+\alpha)^2$	3/4	$(3/4)(1+\alpha)^2$
	⑤ incentive	$(\alpha/2)(2+\alpha)$		$(3\alpha/4)(2+\alpha)$	

6. Incentives of Cooperative Political Reform and International Intervention

In the case that political negotiations are possible due to intervention by the international community, we examine distributions of political decision-making power and political bargaining power for which the majority has an incentive to promote cooperative political reform. Here, we prove the following proposition.

***Proposition* 5:** In the case that political negotiation regarding nationalistic activity is possible, we should distribute political decision-making power to the minority and political bargaining power to the majority to promote cooperative political reform by the majority.

This proposition shows a kind of power sharing between ethnic groups to promote cooperative political reform by the majority.[20] In a multiethnic nation, under majority rule the majority may monopolize political powers and may remove the minority. Therefore, a simple majority rule is not appropriate and therefore we must devise a power sharing framework between ethnic groups that allows the minority to participate in political decisions (Sisk 1996, 34).

6.1 Political Decision-Making Power of the Minority

Political Bargaining Power of the Minority (Φ_N, Ω_N, r_{cj}): If the minority has both political decision-making power and political bargaining power, it is assumed that the minority makes an offer such as (18). The minority demands the entire payoff increase obtained by the majority as a political transfer.

20) There are two types of power sharing: the "consociational approach" of Lijphart (1977) and the "integrative approach" of Horowitz (1985) (Sisk 1996, 34-40). Kaufmann (1996: 156-157) is critical of the power sharing approach because even if power sharing is realized due to the intervention of the international community, a dispute often occurs after the intervention. Our power sharing is different from the conventional approaches.

$$x=\begin{cases} x_{cj}^{*} & \text{if } T=\Pi(x_{cj}^{*},r_{cj}), \\ x_{Nj} & \text{otherwise.} \end{cases} \tag{18}$$

In the case that political reform is not carried out, the payoff of the majority is zero and the payoff of the minority is $\triangle ADO(=\Pi(x_{c0}^{*}, r_{c0})\text{-}C(x_{c0}^{*}, r_{c0}))$.[21] In the case that political reform is carried out, the payoff of the majority is zero because it pays the entire payoff $\square AD''B''O(=\Pi(x_{c1}^{*}, r_{c1}))$ obtained through nationalistic activity to the minority. Therefore, the payoff of the majority does not change with political reform and thus the majority does not have an incentive for political reform. The payoff to the minority is $\square AD''G'O(=\Pi(x_{c1}^{*}, r_{c1})\text{-}C(x_{c1}^{*}, r_{c1}))$ which is obtained by adding the political transfer $\square AD''B''O(=\Pi(x_{c1}^{*}, r_{c1}))$ paid by the majority to the welfare loss $\triangle D''B''G'(=C(x_{c1}^{*}, r_{c1}))$ suffered from the nationalistic activity of the majority. The minority can increase the payoff by only $\Pi(x_{c1}^{*}, r_{c1})\text{-}C(x_{c1}^{*}, r_{c1})\text{-}\{\Pi(x_{c0}^{*}, r_{c0})\text{-}C(x_{c0}^{*}, r_{c0})\}$ with political reform.

Political Bargaining Power of the Majority (Φ_N, Ω_M, r_{cj}): If the minority has political decision-making power and the majority has political bargaining power, it is assumed that the minority makes the offer expressed by (19). The political transfer that the majority pays to the minority depends on the size of the welfare loss that the minority suffers. Therefore, the majority can reduce the political transfer if it can decrease the welfare loss to the minority through political reform.

$$T=\begin{cases} C(x_{cj}^{*}, r_{cj}) & \text{if } x=x_{cj}^{*}, \\ 0 & \text{otherwise.} \end{cases} \tag{19}$$

When political reform is not carried out, the payoff of the majority is $\triangle ADO(=\Pi(x_{c0}^{*}, r_{c0})\text{-}C(x_{c0}^{*}, r_{c0}))$ and the payoff of the minority is zero. When political reform is carried out, the payoff of the majority is $\square AD''G'O(=\Pi(x_{c1}^{*}, r_{c1})\text{-}C(x_{c1}^{*}, r_{c1}))$ which is obtained by subtracting the political transfer $\triangle D''B''G'(=C(x_{c1}^{*}, r_{c1}))$ from the payoff $\square AD''B''O(=\Pi(x_{c1}^{*}, r_{c1}))$ acquired through nationalistic activity. Therefore, the majority has an incentive for political reform because it can increase its payoff by $\square DD''G'O(=\Pi(x_{c1}^{*}, r_{c1})\text{-}C(x_{c1}^{*}, r_{c1})\{\Pi(x_{c0}^{*}, r_{c0})\text{-}C(x_{c0}^{*}, r_{c0})\})$ through political reform. Because the welfare loss $\triangle D''B''G'(=C(x_{c1}^{*}, r_{c1}))$ suffered from nationalistic activity is just offset by the political transfer from the majority $\triangle D''B''G'$, the welfare loss of the minority does not change with political reform.

6.2 Political Decision-Making Power of the Majority

Political Bargaining Power of the Minority (Φ_M, Ω_N, r_{cj}): If the majority has political decision-making power and the minority has political bargaining power, it is assumed that the minority makes an offer such as (20). When the minority has political bargaining power, the majority does not have an incentive for political reform even if the majority holds political

21) Because the payoffs do not depend on the type of political reform, in the case where the political reform is not carried out, the payoffs are the same as in the case of nationalistic political reform.

decision-making power. This contrasts with the case of nationalistic political reform.

$$T=\begin{cases}\Pi(x_{M0},r_{cj})-\Pi(x^*_{cj},r_{cj}) & \text{if } x=x^*_{cj},\\ 0 & \text{otherwise.}\end{cases} \tag{20}$$

If political reform is not carried out, the payoff of the majority is $\triangle ACO(=\Pi(x_{M0}, r_{c0}))$ and the payoff of the minority is $\triangle DCO(=C(x^*_{c0}, r_{c0})+\Pi(x_{M0}, r_{c0})-\Pi(x^*_{c0}, r_{c0}))$. If political reform is carried out, the payoff of the majority is $\triangle ACO(=\Pi(x_{M0}, r_{c1}))$ which is obtained by adding the political transfer $\triangle D''CB''$ paid by the minority to the payoff $\square AD''B''O(=\Pi(x^*_{c1}, r_{c1}))$ gained through nationalistic activity. The payoff of the majority does not vary with political reform and there are no incentives for political reform. The loss of the minority is $\triangle D''CG'$ $(=C(x^*_{c1}, r_{c1})+\Pi(x_{M0}, r_{c1})-\Pi(x^*_{c1}, r_{c1}))$ which is obtained by adding the political transfer $\triangle D''CB''(=\Pi(x_{M0}, r_{c1})-\Pi(x^*_{c1}, r_{c1}))$ to the welfare loss $D''B''G'(=C(x^*_{c1}, r_{c1}))$ suffered from the nationalistic activity of the majority. The minority can decrease its welfare loss of $\square DD''G'O(=\{C(x^*_{c0}, r_{c0})+\Pi(x_{M0}, r_{c0})-\Pi(x^*_{c0}, r_{c0})\}-\{C(x^*_{c1}, r_{c1})+\Pi(x_{M0}, r_{c1})-\Pi(x^*_{c1}, r_{c1})\})$ through the political reform of the majority.

Political Bargaining Power of the Majority (Φ_M, Ω_M, r_{cj}): If the majority has both political decision-making power and political bargaining power, it is assumed that the majority makes an offer such as (21). Instead of restraining nationalistic activity, the majority receives a political transfer from the minority. If the majority reduces the welfare loss of the minority by means of the political reform, the political transfer from the minority decreases to $\square D''FCB''(=C(x_{M0}, r_{c1})-C(x^*_{c1}, r_{c1}))$ from $\square DECB(=C(x_{M0}, r_{c0})-C(x^*_{c0}, r_{c0}))$, then the majority has no incentive for political reform.

$$x=\begin{cases}x^*_{cj} & \text{if } T=C(x_{M0},r_{cj})-C(x^*_{cj},r_{ci}),\\ x_{M0} & \text{otherwise.}\end{cases} \tag{21}$$

If political reform is not carried out, the payoff of the majority is $\square ADECO$ $(=\Pi(x^*_{c0}, r_{c0})+C(x_{M0}, r_{c0})-C(x^*_{c0}, r_{c0}))$ and the welfare loss of the minority is $\triangle ECO(=C(x_{M0}, r_{c0}))$. If political reform is carried out, the payoff of the majority is $\square AD''FCO$ which is obtained by adding the political transfer $\square D''FCB''(=C(x_{M0}, r_{c1})-C(x^*_{c1}, r_{c1}))$ paid by the minority to the payoff $\square AD''B''O(=\Pi(x^*_{c1}, r_{c1}))$ gained through nationalistic activity. The majority decreases the payoff of $\square DEFD''(=\Pi(x^*_{c0}, r_{c0})+(C(x_{M0}, r_{c0})-C(x^*_{c0}, r_{c0}))-\{\Pi(x^*_{c1}, r_{c1})+(C(x_{M0}, r_{c1})-C(x^*_{c1}, r_{c1})\})$ through political reform. The welfare loss of the minority is $\triangle FCG'$ $(=C(x_{M0}, r_{c1}))$ which is obtained by adding the political transfer $\square D''FCB''$ to the welfare loss $\triangle D''B''G'$ $(=\Pi(x^*_{c1}, r_{c1}))$ suffered from nationalistic activity of the majority. The minority can decrease the welfare loss through political reform.

TABLE 2. Incentive of Cooperative Political Reform

Decision-making power \ Bargaining power		Minority		Majority	
		no reform	with reform	no reform	with reform
Minority	① equilibrium	B	B''	B	B''
	② minority' payoff	1/4	$(1/4)(1+2\beta-\beta^2)$	0	0
	③ transfer	3/8	$(1/8)(3+2\beta-\beta^2)$	1/8	$(1/4)(1-\beta)^2$
	④ majority's payoff	0	0	1/4	$(1/4)(1+2\beta-\beta^2)$
	⑤ incentive	0		$(\beta/4)(2-\beta)$	
Majority	① equilibrium	B	B''	B	B''
	② minority' payoff	-1/4	$-(1/4)(1-\beta)^2$	-(1/2)	$-(1/2)(1-\beta)^2$
	③ transfer	1/8	$(1/8)(1-\beta)^2$	3/8	$(3/8)(1-\beta)^2$
	④ majority's payoff	1/2	(1/2)	3/4	$(1/4)(3-2\beta-\beta^2)$
	⑤ incentive	0		$-(\beta/4)(2-\beta)$	

If we compare the four cases of cooperative political reforms, the increased payoff of the majority through the political reform has the following order relations: $(\Phi_N, \Omega_M)>(\Phi_N, \Omega_N) = (\Phi_M, \Omega_N)>(\Phi_M, \Omega_M)$. TABLE 2 compares the four distributions of political bargaining power and political decision-making power under the same specifications for political value Π and the external disutility C that were used in TABLE 1. In the case of cooperative political reform, no distribution of political authority to the majority produces incentive for political reform.

When we divide political decision-making power to the minority and political bargaining power to the majority, a required condition for the majority to carry out cooperative political reform rather than nationalistic political reform is the following. Proof is provided by a comparison of payoff increases that the majority obtains through the two political reforms.

***Proposition* 6:** When we divide political decision-making power to the minority and political bargaining power to the majority, the required condition for the majority to carry out cooperative political reform rather than nationalistic political reform is $\square DD''G'O$ $(=\Pi(x^*_{c1}, r_{c1})-C(x^*_{c1}, r_{c1})-\{\Pi(x^*_{c0}, r_{c0})-C(x^*_{c0}, r_{c0})\})>\square AA'D'D(=\Pi(x^*_{n1}, r_{n1})-C(x^*_{n1}, r_{n1})-\{\Pi(x^*_{n0}, r_{n0})- C(x^*_{n0}, r_{n0})\})$.

As above, if we make much of prior political reforms, the division of political authority between the majority and minority is important for the payoffs distribution and incentives for political reforms. Here, political authority does not have a direct influence on political reforms. The distribution of political authority has only a direct influence on the nationalistic activity of the majority. The political powers of the majority for nationalistic activity have an indirect influence on the incentive for political reform.

7. Concluding Remarks

We have examined the following problem: how should we divide political authority between the majority and the minority to create an incentive for the majority to promote cooperative political reforms in post-conflict societies? Our main conclusions are as follows.

First, in the case that political reform is not carried out, an actor having political bargaining power can increase its payoff, regardless of who holds political decision-making power. Therefore, it is important who has political bargaining power.

Second, in the case that there are not political negotiations regarding the amount of nationalistic activity, if the majority has political decision-making power, it has an incentive to carry out nationalistic political reform. If the minority holds political decision-making power, the majority has an incentive to promote cooperative political reform. Therefore, in this case it is important who has political decision-making power.

Third, in the case that negotiations are possible regarding the amount of nationalistic activity, we should give the minority both political decision-making power and political bargaining power to restrain the majority from nationalistic political reforms. On the other hand, we should give the minority political decision-making power and the majority political bargaining power for the majority to promote cooperative political reforms. This indicates the importance of a kind of power-sharing between ethnic groups.

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