

**Political Origins of Dictatorship and  
Democracy.  
Chapter 8:  
The Role of the Middle Class**

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**Abstract**

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# 1 Introduction

Our model of democratization so far focused on the conflict between the rich and the poor. Clearly, real world societies do not correspond to our simple model with only two groups. Many individuals see themselves as part of a “middle class,” distinct from the rich and the poor. Many political scientists believe that decisive voters in democracy are often from the middle class. What’s more, a long tradition in political science, starting with the seminal book by Barrington Moore, *Social Origins of Dictatorship and Democracy*, views the middle class as the key actor in the processes that ultimately lead to democracy. Barrington Moore, for example, emphasized the importance of the bourgeoisie, but broadly construed this to include what we refer to as the middle classes. He suggested that only societies with a sufficiently strong bourgeoisie would become democratic, whereas societies where landowners were very strong so that the emerging bourgeoisie had to enter into an alliance with them would turn into dictatorships. Similarly, the literature on Latin American dictatorships and democratic consolidation emphasizes the important role played by the middle class.

In this chapter, we include the middle class in our analysis, and show how this changes the main results from our basic approach, and in what sense the middle class plays an important role in the process of democratization. The simple three-class model introduced in Chapter 4 will be our starting point for the role of the middle class in democratic politics.

We start with an analysis of the emergence of partial democracy, that is, a situation in which only a limited segment of society participates in voting. This segment typically includes the rich and middle class, while the poor are excluded because of income or literacy restrictions on voting. Although democracy emerged in many Latin American countries as a direct move from autocracy or dictatorship towards universal mass suffrage, as discussed in detail in Chapters 2 and 6, European democracy emerged more gradually. For example, in Britain, there were first tentative reforms in 1832 including the relatively affluent middle classes. Later, voting rights were significantly extended in 1867 and in 1884. They were further expanded in 1919, when universal male suffrage was introduced, and in 1928, when all women were allowed to vote. Our three-class model enables an

analysis of such gradual extensions of the franchise. In particular, when the threat to revolution from the disenfranchised comes as a result of a coalition between the middle class and the poor, it may be beneficial for the rich elites to break the coalition by only extending the franchise to the middle class. Because the middle class are, by definition, richer than the poor, they are easier to dissuade from revolution.

The next step is to analyze the move from a partial to full democracy. Here we distinguish between two different approaches. The first, which is often invoked in explaining the 1867 Second Reform Act in Britain, is that competition among elites, for example between the rich and the middle class, led to the extension of the franchise by one of the groups in order to increase their likelihood of remaining in power after the franchise extension. According to this story, Tory Prime Minister Disraeli introduced a radical reform, enfranchising a large group of the population, in order to strengthen his party in its competition against the Liberals led by Gladstone. We show how this type of intra-elite competition can be modeled within this framework, but then also argue that it is unlikely to provide a satisfaction explanation for either the British or other cases of transition from partial to full democracy. Instead, as in our baseline model of Chapter 6, the revolutionary threat from the disenfranchised poor appears to have been important both in the British case and in the other cases we have studied.

Inspired by this, we use our three-class model to analyze the response of a partial democracy to a threat of revolution from the poor. More specifically, we model the situation as one where the rich and the middle class have voting rights, and the poor challenge the system. Once again, the promises of the existing regime to redistribute in the future are not fully credible, because with political power in the hands of the rich and the middle class, they will revert to low redistribution once the threat of revolution subsides. Therefore, full democracy emerges as a way to change the future distribution of political power, thus creating a credible commitment to future redistribution. The new results in this instance involve the role of the middle class: if the middle class are sufficiently poor, even partial democracy is highly redistributive, and therefore, the poor expect significant redistribution in the future even if the exact promises made to them while they have an effective threat of revolution are not kept. Therefore, we obtain a qualification of the

basic result of Chapter 6 that greater inequality makes democratization more likely: here, greater inequality in the form of a relatively poor middle class may make full democracy less likely by enabling the existing regime to commit to future redistribution without having to enfranchise the poor.

The most interesting new results from our analysis of the role of the middle class come when we introduce the option to use repression as in the models in Chapter 7. We learned in Chapter 7 that a highly unequal society may not democratize because with such high levels of inequality democracy would be highly redistributive, and anticipating this, the rich are willing to use repression to prevent democratization. However, if the middle class is sufficiently large, the median voter in a full democracy would be a middle-class agent, and moreover, if the middle class are not very poor, this median voter would choose only limited redistribution. Therefore, a relatively large and affluent middle class acts as a buffer between the rich and poor and limits redistribution. By limiting redistribution, it discourages the rich from using repression, and makes democracy more likely.

The discussion of the middle class as a buffer focuses on a model where initially the rich are in power, and are considering extending voting rights to the rest of the population, which includes the middle class and the poor. An alternative scenario, relevant in many Latin American instances, is that a dictatorship represents the interests of the rich and the middle class, and has to decide whether to move to a full democracy with the poor also included in the system. In this case, the model provides a way to formalize the often discussed distinction between soft-liners and hard-liners in the Latin American case. According to many qualitative accounts, when Latin American dictatorships are challenged, there are often divides between hard-liners who want to use force to keep the system going, and soft-liners who want to administer a smooth transition to democracy. Transition to democracy takes place when soft-liners become more influential within the existing regime. In our framework, a natural divide exists between the rich and the middle class. Because the rich have more to lose from the redistribution created by democracy, they are more pro-repression than the middle class. For an interesting set of parameter values, there will be repression when the rich, who correspond to hard-liners, are more influential within nondemocracy, and transition to democracy when the middle class, the

soft-liners, are more influential.

Overall, therefore, the analysis in this chapter will reveal that the middle class will play an important role in the emergence of democracy in a number of ways: first, they can be the driving force for democracy, especially for the emergence of partial democracy; second, they can be in favor of the poor being included in the political arena, facilitating a move from partial to full democracy; third, and perhaps most interesting, they can act as a buffer between the rich and the poor by ensuring that democracy will not be very redistributive, and therefore dissuading the rich from using repression; and finally, when they are in power together with the rich, they can play the role of soft-liners arguing against repression and in favor of a transition to democracy, which is less costly for them than it is for the rich (since they have less to lose from redistribution).

## **2 Emergence of Partial Democracy**

As already discussed, the Western European experience shows a gradual move towards democracy: first, the middle classes were incorporated into the political system, and then later the poor and finally women. The analysis in Chapter 6 looked at a simple game between the enfranchised and the disenfranchised. So at some level, this might be thought of as a model of a radical move to democracy starting from autocracy or dictatorship. Although the Latin American experience might be approximated by a game like this, the Western European experience also suggests that an analysis of how democracy may arise gradually and which factors might play a role in the enfranchisement of the middle class and which factors determine later democratizations where the poor are also given the vote would also be useful.

To discuss these issues, we start by reviewing the three-class model of democratic politics introduced in Chapter 4. In this model, there are three distinct social classes, the poor, the middle class and the rich, with different economic and political interests. Using this model, we will first analyze the transition to partial democracy, and in the next section, will turn to the transition from partial to full democracy.

## 2.1 Review of the Three-Class Model

Recall that in that model there are three groups of agents, the rich of size  $\lambda^r$ , the middle class of size  $\lambda^m$  and the poor of size  $\lambda^p$ . We normalize total population to 1 as before, thus  $\sum_i \lambda^i = 1$ , and assume that  $\lambda^p > \lambda^m > \lambda^r$ , that is, the poor are the most populous, and then the middle class, and the rich constitute the smallest group in the population. Also, we denote average income by  $\bar{y}$  as before, and introduce the notation that

$$y^r = \frac{\theta^r}{\lambda^r} \bar{y}, y^m = \frac{\theta^m}{\lambda^m} \bar{y}, \text{ and } y^p = \frac{\theta^p}{\lambda^p} \bar{y}. \quad (8-1)$$

This implies that group  $i$  has a share  $\theta^i$  of the economy's total income, and naturally  $\sum_i \theta^i = 1$ . Moreover, we assume that

$$\frac{\theta^r}{\lambda^r} > \frac{\theta^m}{\lambda^m} > \frac{\theta^p}{\lambda^p},$$

so that the rich are richer than the middle class, who are in turn richer than the poor.

As before, we assume that the political system determines a linear nonnegative tax rate  $\tau \geq 0$ , the proceeds of which are redistributed lump sum, and there is an aggregate cost of taxation  $C(\tau) \bar{y}$ , with  $C(\cdot)$  strictly increasing, differentiable and convex, and  $C(0) = C'(0) = 0$ . Therefore, total tax revenues, after the cost of taxation are subtracted, are  $T = (\tau - C(\tau)) \bar{y}$ , and since this amount will be redistributed lumpsum to all individuals, the post-tax income level of an agent with income  $y^i$  when the tax rate is  $\tau$  is given by

$$\hat{y}^i = (1 - \tau) y^i + (\tau - C(\tau)) \bar{y}. \quad (8-2)$$

Utility is defined over consumption, and the consumption level of an individual is simply equal to this post-tax income level, i.e.,  $c^i = \hat{y}^i$ .

Notice an important assumption here: group specific transfers are not allowed. All tax proceeds are redistributed lump sum. We will discuss below how the results are different when such transfers are present.

Given this setup, we can define the most preferred tax rates of rich, middle-class and poor agents. For any group, the most preferred tax rate is that which maximizes  $\hat{y}^i$ , therefore, the most preferred tax rate of group  $i$  satisfies the following condition with complementary slackness:

$$\bar{y} - y^i \leq C'(\tau^i) \bar{y} \text{ and } \tau^i \geq 0$$

or

$$\left(\frac{\lambda^i - \theta^i}{\lambda^i}\right) \leq C'(\tau^i) \text{ and } \tau^i \geq 0 \quad (8-3)$$

Since  $y^r > \bar{y}$  by definition, we have that for the rich (8-3) holds as an inequality, and  $\tau^r = 0$  as before. Moreover, since  $\bar{y} > y^p$ , the most preferred tax rate of the poor is positive, i.e.,  $\tau^p > 0$ , given by:

$$\left(\frac{\lambda^p - \theta^p}{\lambda^p}\right) = C'(\tau^p). \quad (8-4)$$

The most preferred to tax rate of the middle class could be zero or positive depending on whether  $y^m$  is greater or less than mean income  $\bar{y}$ . In most real world income distributions, the rich are sufficiently rich that the median is less than the mean, so we assume that

**Assumption 8.1:**

$$\frac{\theta^m}{\lambda^m} < 1 \text{ or } \bar{y} > y^m.$$

Therefore, we have that  $\tau^m$  is given by

$$\left(\frac{\lambda^m - \theta^m}{\lambda^m}\right) = C'(\tau^m), \quad (8-5)$$

and  $\tau^m > 0$ . However, by virtue of the fact that the middle class are richer than the poor, i.e.,  $\theta^m/\lambda^m > \theta^p/\lambda^p$ , we also have that

$$\tau^p > \tau^m$$

The nature of the democratic political equilibrium will depend crucially on the relative sizes of the three groups. In particular, the assumption above that  $\lambda^p > \lambda^m > \lambda^r$  immediately implies  $\lambda^r < 1/2$ , so the rich are not the majority. This leaves us with two interesting cases:

1.  $\lambda^p < 1/2$ , so the poor are not the majority either, and the median voter will be a middle-class agent. In that case, unrestricted majority voting will lead to the most-preferred policy of the middle class,  $\tau^m$ .
2.  $\lambda^p \geq 1/2$ , so the poor are the majority, and unrestricted majority voting will generate their most preferred policy,  $\tau^p$ .

## 2.2 A Model of Partial Enfranchisement

Now consider the model of partial enfranchisement where to start with, the middle class are disenfranchised and pose a revolutionary threat, just as the poor did in the analysis of Chapter 6. Although during recent times a revolutionary threat from the middle class may appear far-fetched, early extensions of the franchise in Europe, like those in Britain during the first half of the 19th century, were in response to significant social unrest from the middle segments of the society. In Latin America the situation was often similar. For example, the Radical party in Argentina which organized a series of uprisings in the late nineteenth century with the aim of creating democracy was essentially an urban based middle class movement (see Alonso, 2000). Moreover, in these cases, society did not move to a full democracy, but to a partial democracy with only the middle class enfranchised.

The model this issue, assume that the middle class and the poor jointly pose a revolutionary threat, but if the middle class withdraw from this process, the poor will not be able to undertake a successful revolution. This might be for example because in many instances, it is members of the middle class who are more educated and have access to more opportunities and who therefore play leadership roles in organizing extra-legal and revolutionary activities.

The rest of the setup is similar to the simple game in Chapter 6. For the moment therefore we do not allow the rich to use repression.

Figure 8.1 draws the game tree. There are two new elements. First, the rich now have two democratization decisions: partial and full. Second, the key revolution decision is by the middle class, since if it withdraws from the revolutionary coalition, revolution is assumed not to take place. To keep the game tree relatively simple we have therefore suppressed the revolution action by the poor.

We can analyze this game by backward induction again, but we now need to define values for all three groups, and also for revolution, partial and full democracy, as well as promised redistribution under the existing system, where the rich control all political power.

We assume that returns from revolution are similar to before, except that now the

middle class and the poor share the returns. Therefore, we have:

$$V^p(R, \mu^S) = V^m(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p + \lambda^m}, \quad (8-6)$$

as the return to undertaking a revolution for the poor and the middle class in the state  $\mu = \mu^S$  for  $S = L, H$ . If they undertake a revolution, a fraction  $1 - \mu^S$  of the economy's income is destroyed, and the remainder is distributed between the poor and the middle class, which make up a total of  $\lambda^p + \lambda^m$  agents. As before we have that  $V^r(R, \mu^S) = 0$  for both  $S = L, H$ . We also assume that  $\mu^L = 0$ , so the revolution threat can only be operative in the high state.

The revolution constraint will be binding if both the middle class and the poor prefer revolution to no redistribution under the existing system, or if

$$V^p(R, \mu^S) = V^m(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p + \lambda^m} > y^p \text{ and } > y^m$$

Since  $y^m > y^p$ , if the revolution threat is binding for the middle class, it will do so for the poor. Therefore, the revolution constraint is

$$\mu^S > \left( \frac{\lambda^p}{\lambda^m} + 1 \right) \theta^m \quad (8-7)$$

Since we have assumed that  $\mu^L = 0$ , the revolution constraint will never bind in the state  $S = L$ , but may do so in the high state,  $S = H$ .

As before, the rich may meet the threat of revolution by promising redistribution, which is only a partially credible promise, since they have a chance to reset the tax with probability  $1 - p$  once the revolution threat has subsided. The values to the three different groups, when the rich keep political power and promise redistribution at the tax rate  $\hat{\tau}$ , are

$$\begin{aligned} V^p(N, \hat{\tau}) &= y^p + p[\hat{\tau}(\bar{y} - y^p) - C(\hat{\tau})\bar{y}] \\ V^m(N, \hat{\tau}) &= y^m + p[\hat{\tau}(\bar{y} - y^m) - C(\hat{\tau})\bar{y}] \text{ and} \\ V^r(N, \hat{\tau}) &= y^r + p[\hat{\tau}(\bar{y} - y^r) - C(\hat{\tau})\bar{y}], \end{aligned} \quad (8-8)$$

On the other hand, if the rich choose partial democracy,  $PD$ , only the middle class are enfranchised, and by the assumption that  $\lambda^p > \lambda^m > \lambda^r$ , in this partial democracy, the

rich are minority, and the most preferred tax rate of the middle class will be implemented. By Assumption 8.1, this tax rate,  $\tau^m$ , is strictly positive. Therefore, we have

$$\begin{aligned} V^p(PD) &= y^p + [\tau^m (\bar{y} - y^p) - C(\tau^m)\bar{y}] \\ V^m(PD) &= y^m + [\tau^m (\bar{y} - y^m) - C(\tau^m)\bar{y}] \text{ and} \\ V^r(PD) &= y^r + [\tau^m (\bar{y} - y^r) - C(\tau^m)\bar{y}], \end{aligned} \tag{8-9}$$

Finally, the values in full democracy depend on whether the median voter is the poor or a middle-class agent. Recall that this depends on whether  $\lambda^p$  is less than or greater than  $1/2$ . We therefore write

$$\begin{aligned} V^p(D) &= y^p + [\tau^d (\bar{y} - y^p) - C(\tau^d)\bar{y}] \\ V^m(D) &= y^m + [\tau^d (\bar{y} - y^m) - C(\tau^d)\bar{y}] \text{ and} \\ V^r(D) &= y^r + [\tau^d (\bar{y} - y^r) - C(\tau^d)\bar{y}], \end{aligned} \tag{8-10}$$

where

$$\tau^d = \begin{cases} \tau^m & \text{if } \lambda^p < 1/2 \\ \tau^p & \text{if } \lambda^p \geq 1/2 \end{cases}$$

This immediately shows that if  $\lambda^p < 1/2$ , full and partial democracy will lead to the same tax rate and to the same allocation. Therefore, the rich are indifferent between full and partial democratization in this case. On the other hand, when  $\lambda^p \geq 1/2$ , because the value to the rich,  $V(y^r | \tau^d)$ , is strictly decreasing in  $\tau^d$ , and because  $\tau^p > \tau^m$ , we have that  $V^r(PD) > V^r(D)$ .

The crucial issue is going to be, as in our analysis of Chapter 6, whether the promise of redistribution can prevent revolution. If it can, the rich prefer this to partial or full democratization. For the revolution to be prevented, we need that

$$V^m(N, \hat{\tau}) \geq V^m(R, \mu^S) \tag{8-11}$$

or

$$V^p(N, \hat{\tau}) \geq V^p(R, \mu^S). \tag{8-12}$$

Since  $V^p(R, \mu^S) = V^m(R, \mu^S)$ , and by the fact that the middle class are richer than the poor,  $V^m(N, \hat{\tau}) > V^p(N, \hat{\tau})$ , (8-11) is easier to satisfy than (8-12), and the rich will simply

try to satisfy this, and convince the middle class not to partake in the revolution. The highest value they can offer to the middle class is clearly when they set the tax rate most preferred by the middle class,  $\tau^m$ . Therefore, for the promise of redistribution to prevent revolution, we need

$$\begin{aligned} V^m(N, \hat{\tau} = \tau^m) &\geq V^m(R, \mu^S) \\ y^m + p[\tau^m(\bar{y} - y^m) - C(\tau^m)\bar{y}] &\geq \frac{\mu^S \bar{y}}{\lambda^p + \lambda^m} \end{aligned}$$

Define  $p^*$  such that this condition holds as an equality, or in other words,

$$p^* = \left[ \tau^m \left( 1 - \frac{\theta^m}{\lambda^m} \right) - C(\tau^m) \right]^{-1} \left[ \frac{\mu^H}{\lambda^p + \lambda^m} - \frac{\theta^m}{\lambda^m} \right] \quad (8-13)$$

Finally, we also need a condition similar to those in Chapter 6 that democratization or partial democratization is sufficient to prevent revolution. This means that these options should make revolution unattractive for either the middle class or the poor. The same argument as above means that revolution is less attractive for the middle class, so the relevant condition is for them. Moreover, notice that

$$V^m(PD) \geq V^m(D),$$

since in partial democracy the middle class set their most preferred tax rate. Therefore, it is sufficient to have

$$\begin{aligned} V^m(PD) &\geq V^m(\mu^S, R), \text{ or} \\ \frac{\theta^m}{\lambda^m} + \left[ \tau^m \left( 1 - \frac{\theta^m}{\lambda^m} \right) - C(\tau^m) \right] &\geq \frac{\mu^H}{\lambda^p + \lambda^m} \end{aligned} \quad (8-14)$$

Given this discussion, we have the following result which is a direct generalization of the results of Chapter 6.

**Proposition 8.1:** In the game described above, there is a unique subgame perfect equilibrium such that:

- There is no democratization when  $S = L$ , because the threat of revolution is weak, and the rich set their most preferred tax rate  $\tau^r = 0$ .
- If (8-7) does not bind, then even in the state  $S = H$ , the revolution threat is weak, and the rich set their most preferred tax rate  $\tau^r = 0$ .

- If (8-7) binds and (8-14) fails to hold, then in the state  $S = H$ , there is a revolution.
- If (8-7) binds and (8-14) holds and  $p \geq p^*$ , then in the state  $S = H$ , the rich prevent democratization by redistributing (promising to redistribute) by setting the tax rate  $\hat{\tau}$  such that  $V^m(N, \hat{\tau}) = V^m(R, \mu^H)$ .
- Finally, if (8-7) binds and (8-14) holds and  $p < p^*$ , then democratization happens as a credible commitment to future redistribution by the rich. If, in addition,  $\lambda^p \geq 1/2$ , the rich will choose partial democratization, and if  $\lambda^p < 1/2$ , they are indifferent between partial and full democratization.

Much of the intuition of this proposition is the same as that of Proposition 6.1 from Chapter 6. Institutional change again arises as a way of transferring political power from one group to another in order to guarantee certain policies in the future. Here, partial or full democracy transfers power from the rich to the middle class, thereby ensuring that the middle class will obtain redistribution in the future. The new features here are the choice between partial and full democratization, and the fact that this proposition can help us explain why early in the 19th century, the franchise was extended to the middle class, not the whole population.

If this model with (8-7), (8-14),  $p < p^*$ , and  $\lambda^p \geq 1/2$ , is a good approximation to reality, it provides one justification for the role ascribed to the middle class by Barrington Moore: early democratization was spearheaded by the middle class, and including the middle class in the system, with partial democratization, was the cheapest way for the rich to prevent social unrest.

The comparative statics with respect to inequality are straightforward, but worth emphasizing. Parallel to the results of Proposition 6.1 in Chapter 6, higher inequality both makes the revolution constraint (8-7) more likely to hold and increases  $p^*$ , thus making democratization more likely. However, the relevant inequality now is not between the poor and the rich (as was the case in Chapter 6), but between the rich and the middle class. The party that poses the revolutionary threat now and that needs to be dissuaded from revolution is the middle class, so what matters is how much they are of gaining in

the existing regime. Therefore, the crucial measure of “inequality” now is how rich is a middle-class individual relative to rest of the society, or  $\theta^m$ . As a result, the poorer is a member of the middle class relative to average income, the less well-off they are under the existing regime, and the more attractive is revolution for them. Hence when they are poorer, the middle class needs to receive a credible commitment of future redistribution, a move towards partial democracy.

### **3 From Partial to Full Democracy**

The previous section discussed how partial democracy may emerge by extending the reasoning of our basic model in Chapter 6. We now turn to the reasons why partial democracy might further extend the franchise to include poorer segments of society in the political system. We start with a model of intra-elite conflict, implicit in some of the discussions of the Second Reform Act in Britain. We then turn to a model of revolutionary threat from the poor leading to a transition to full democracy, which is more similar to our basic approach in Chapter 6.

#### **3.1 Intra-Elite Conflict and Transition to Full Democracy**

The view that inter-elite conflict is important in the transition towards democracy is, in part, inspired by the British experience, where the competition between Disraeli and Gladstone was a major factor in political reform.

In 1866, Russell’s Liberal government proposed a relaxation of the property restrictions on voting. This measure was defeated by a coalition of Conservatives led by Disraeli and right wing Liberals, the “Adullamites”, who thought the extension too generous. The Liberal government then collapsed and Disraeli formed a minority administration (290 to 360). Disraeli’s first move was to introduce a less generous franchise extension, but he realized that this would not gain majority support. He then switched to a proposal even more radical than the initial Liberal measure, which passed by gaining the support of a heterogeneous group of Liberals. Disraeli can then be argued to have extended the franchise that he first opposed to encourage the newly enfranchised to vote Conservative.

How could we make sense of these events? One possibility is to argue that politi-

cians have a strong preference to stay in power, and may extend the franchise with the expectation that the newly enfranchised will return the favor by voting for their party (see, for example, Himmelfarb [1966] who argues this for the British case; and the general discussion in Collier [1999]). In this view, these politicians may but need not represent certain distinct social classes.

Another view, which is potentially more interesting and more in line with our approach which is based on economic incentives, is that including the poor segments of the society into the political arena might strengthen one social group at the expense of the other, and therefore, the extension of the franchise to the poor is a strategic move to affect future political equilibria. In the class of models we are analyzing, including the poor into the political system would benefit the middle class relative to the rich, and for this reason, the middle class might try to push for further democratization in order to increase their political power. If we want to apply this interpretation to the British experience, we would have to argue that the Tory party under Disraeli was more representative of the middle class than rich land-owning classes, which may not be very realistic. In any case, we will argue below that this approach does not provide an entirely satisfactory explanation for the transition from partial to full democracy. Nevertheless, it is useful to understand how the argument would fit into our framework.

To formalize these ideas, consider the game depicted in Figure 8.2. The underlying economic considerations are that in a partial democracy, the rich may gain power with some probability, say  $q > 0$ , while in a full democracy, we have  $\lambda^p < 1/2$ , and the median voter is a middle-class agent. The game starts with the middle class in power, but they are afraid of losing power to the rich in partial democracy, with probability  $q$ . Therefore, if they keep the system as it is, they will obtain their most preferred tax rate,  $\tau^m$ , with probability  $1 - q$ , but  $\tau^r = 0$  with probability  $q$ . Their corresponding expected payoff is therefore:

$$V^m(PD) = y^m + (1 - q) [\tau^m (\bar{y} - y^m) - C(\tau^m)\bar{y}]$$

In contrast, if they extend the franchise to the poor, they will be the median voter, and their payoff is

$$V^m(D) = y^m + [\tau^m (\bar{y} - y^m) - C(\tau^m)\bar{y}].$$

Knowing that by including the poor into the political system they will become the median voter, the middle class extend the franchise and administer a transition to full democracy. This ensures that they obtain their most preferred to tax rate.

The reasoning underlying institutional change is again similar to our baseline argument: a particular group, now the middle class, have power today, but this power is transitory—the crucial nonstationarity. They therefore want to change institutions so as to lock in their political power. Before the relevant institutional change was for the poor to obtain the vote, so that they become powerful themselves. Here, the middle class want to include the poor in the system so that the poor counterbalance the rich, and ensure that the middle class becomes more powerful.

Although this inter-elite competition view is interesting, it does not receive much support from the historical evidence. The Conservatives lost the 1868 election immediately after having passed the franchise extension (and the Liberal party lost the election of 1885 after pushing through the Third Reform Act in 1884). So if the strategy was aimed at winning elections, it was clearly a failure. Although the fact that the Conservatives lost the election does not prove that franchise extension was not aimed at winning elections, other aspects of this reform also appear inconsistent with a strategy of maximizing Conservative votes. In particular, as the result of the split over the Corn Laws, support for the Conservative party was essentially concentrated in rural areas, with Tory landowners exerting substantial control over the electorate in the absence of a secret ballot. The reform measure passed under Disraeli increased the voting population by only 45 percent in counties compared to 145 percent in the boroughs, effectively ensuring a Conservative defeat in the following elections.

The notion that the Liberals and Conservatives were prepared to extend the franchise simply to keep their party in power is also not completely persuasive either. Instead, both parties were fundamentally opposed to extending the franchise further. Between 1859 and 1865 the Liberal prime minister Palmerston, who was opposed to franchise extension, and the Conservative leader Lord Derby, colluded so that the issue of suffrage would never be raised in parliament [Lee, 1994, p. 138].

Overall, the most plausible interpretation of the inter-party rivalry in Britain during

the 1860's and 1870's was that, while both parties regarded the extension of voting rights as inevitable due to mounting social pressure, they clearly saw that it could be structured in ways which were more or less advantageous themselves. This created a complicated 'end game'. Cowling [1967, p. 89] argues that the Conservative party supported Disraeli in 1867 because if the Act failed "the Liberals might then do precisely what Derby and Disraeli had striven in 1866 to prevent their doing - carry Reform on their own lines." The one triumph of the 1867 reform for Disraeli was the fact that it limited the redistribution of seats away from the counties to the boroughs, which would have been even more substantial otherwise. This strategy reduced the impact of the franchise extension for the Conservative party and its constituency. Smith [1967, p. 97] also agrees and argues that "Derby and Disraeli....in 1867, did not determine to trust the people, or put their faith in a Conservative democracy. They did what they felt they had to do, to satisfy the popular agitation and reconcile the upper strata of the working classes to the established political system".

Other cases of nineteenth-century democratization in Europe also do not offer much support for the view that the transition to full democracy was away for one group of elite to increased their vote share. For example, in the German case, as already discussed, the threat of revolution appeared to be the main factor. With army units in revolt and the economy collapsing in Germany in 1918-1919, the former political elites attempted to prevent revolution by generating a transition which would cause minimal damage to their interests.

In France, there were more distinct subsets within elites. Orleanists and Legitimists formed separate factions within the Monarchist camp, and the Republicans, though democratic, were basically middle class and were not in favor of universal male suffrage in 1848. When the Monarchy collapsed in 1848, these groups had to concede to the demands of the revolutionaries. In support of this view, Aminzade [1993, p. 35] argues "French workers, mainly artisans, constituted the revolutionary force that put the Republican party in power in February 1848...and working class pressure from the streets of Paris forced liberal Republican leaders....to reluctantly conceded universal male suffrage." The same is true for the period after 1870. The conflict at the time, particularly the Commune, forced

democracy along the lines of 1849. Although no group within the elite were committed to universal male suffrage, they were forced to reintroduce it.

The Swedish case is perhaps the most similar to Britain. In 1906, the Liberal party's first ever government fell after failing to pass a law introducing universal male suffrage. The reform measure of 1909 was then passed (in 1907) by the Conservative government under Lindman. As with Disraeli in 1867, "Lindman and his Conservative ministry that took office a year after the Liberals' 1906 failure saw an opportunity to pass a political reform on its own terms" [Collier, 1999, Ch.3, p. 9]. Although male suffrage was conceded in one house, the Conservatives kept control over the other through the maintenance of multiple voting and tax-payer suffrage. As with the British case, this pattern of events was not the result of attempts by the Conservatives to gain votes, but rather a damage limitation exercise in the face of mounting social pressure for a full democracy.

### **3.2 The Threat of Revolution and Transition to Full Democracy**

So if the move from partial to full democracy was not the result of inter-elite competition, what was the cause? Our answer, perhaps not surprisingly, it again the threat of revolution from the disenfranchised poor. As the discussion in Chapter 6 illustrates, there was significant political and social unrest during the years leading to the Second Reform Act in Britain. In Germany, the move from partial to full democracy came in the aftermath of the First World War, in the midst of significant social unrest. We therefore believe that we need a model along the lines of those in Chapter 6 understand transition from partial to full democracy.

Let us then analyze how the economy might transition from partial to full democracy because the poor form an effective challenge, or pose a revolutionary threat. The underlying economic environment is the same as our basic three-class model. In particular, there are three groups of agents, the rich of size  $\lambda^r$ , the middle class of size  $\lambda^m$  and the poor of size  $\lambda^p$ , with  $\sum_i \lambda^i = 1$  with  $\lambda^p > \lambda^m > \lambda^r$ . Average income is denoted by  $\bar{y}$ , and the incomes of the three groups are given by (8-1). The political system once again determines the value of a distortionary linear tax rate, the proceeds of which are redistributed lump sum.

How is this model different from that of Chapter 6?

The main difference is that now without further institutional change, we are in a world with partial democracy, and given our Assumption 8.1, there is going to be positive taxation, and therefore redistribution towards the poor, even when they are excluded from the political system. Figure 8.3 draws the game.

The revolution threat now comes from the poor, and that takes the same form as in Chapter 6. After revolution, the poor take over the productive capacity of the economy, and the middle class and the rich get nothing. In particular, if there is the revolution in state  $S$ , we have

$$V^p(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p}.$$

$$V^m(R, \mu^S) = V^r(R, \mu^S) = 0.$$

The important point to note is that without further extension of the franchise, we are in partial democracy. Therefore the relevant values are

$$\begin{aligned} V^p(PD) &= y^p + [\tau^m (\bar{y} - y^p) - C(\tau^m) \bar{y}] \\ V^m(PD) &= y^m + [\tau^m (\bar{y} - y^m) - C(\tau^m) \bar{y}] \text{ and} \\ V^r(PD) &= y^r + [\tau^m (\bar{y} - y^r) - C(\tau^m) \bar{y}], \end{aligned} \tag{8-15}$$

as in (8-9) above. This implies that the revolution constraint is now different, because the existing system is redistributing at the tax rate  $\tau^m$ . In particular, in this case the revolution constraint in the state  $S$  would require

$$V^p(R, \mu^S) > V^p(PD).$$

We know that this constraint would never bind in the low state, since  $\mu^L = 0$ . In the high state, instead, it is equivalent to

$$\mu^H > \theta^p + [\tau^m (\lambda^p - \theta^p) - \lambda^p C(\tau^m)] \tag{8-16}$$

In addition, the partial democracy can now promise to tax at a greater rate than  $\tau^m$ , and the same way that the rich promised higher redistribution in nondemocracy, to stave off a revolution. The difference is that, if those holding political power, the middle-class and the rich, get a chance to reset the tax, they will not go down to zero taxation, but

to the most preferred tax rate of the median enfranchised voter, who is now a middle-class agent. Therefore, the values to the three social groups following a promise of future redistribution by the existing regime are:

$$\begin{aligned}
V^p(PD, \hat{\tau}) &= y^p + p [\hat{\tau} (\bar{y} - y^p) - C(\hat{\tau})\bar{y}] + (1 - p) [\tau^m (\bar{y} - y^p) - C(\tau^m)\bar{y}] \quad (8-17) \\
V^m(PD, \hat{\tau}) &= y^m + p [\hat{\tau} (\bar{y} - y^m) - C(\hat{\tau})\bar{y}] + (1 - p) [\tau^m (\bar{y} - y^m) - C(\tau^m)\bar{y}] \text{ and} \\
V^r(PD, \hat{\tau}) &= y^r + p [\hat{\tau} (\bar{y} - y^r) - C(\hat{\tau})\bar{y}] + (1 - p) [\tau^m (\bar{y} - y^r) - C(\tau^m)\bar{y}],
\end{aligned}$$

Following our previous analysis, we can now determine a critical level of the resetting probability,  $p^*$ , so that at  $p^*$ , we have

$$V^p(PD, \hat{\tau} = \tau^m) = V^p(R, \mu^H),$$

or

$$p^* = \frac{\mu^H - \theta^p - [\tau^m (\lambda^p - \theta^p) - \lambda^p C(\tau^m)]}{(\tau^p - \tau^m) (\lambda^p - \theta^p) - \lambda^p (C(\tau^p) - C(\tau^m))}. \quad (8-18)$$

Notice an important feature for future reference:  $p^*$  is decreasing in  $\tau^m$ . Intuitively, when the existing regime is more redistributive, it is easier to convince the poor with promises of future redistribution (since even when the existing regime gets a chance to reset the tax, there will be some redistribution).

Finally, we need to check that transition to full democracy prevents a revolution. The above discussion shows that when  $\lambda^p < 1/2$ , full democracy will also implement the most preferred tax rate of a middle-class agent. Therefore, in this case, full democracy is no different than partial democracy. The more interesting case is when  $\lambda^p \geq 1/2$ , so that the median voter in full democracy is a poor agent, and democracy leads to the most preferred tax rate of the poor,  $\tau^p$ . Then, the condition for full democratization to prevent revolution is:  $V^p(\mu^H, R) \leq V^p(D)$ , which is equivalent to:

$$\mu^H \leq \theta^p + \tau^p (\lambda^p - \theta^p) - \lambda C(\tau^p). \quad (8-19)$$

Given this discussion, we can state:

**Proposition 8.2:** In the game described above, and there is a unique subgame equilibrium such that:

- There is no democratization when  $S = L$ , because the threat of revolution is weak, and the rich set their most preferred tax rate  $\tau^r = 0$ .
- If (8-16) does not bind, then even in the state  $S = H$ , the revolution threat is weak, and partial democracy sets the most preferred tax rate of the middle class,  $\tau^m$ .
- If (8-16) binds and (8-19) fails to hold, or if (8-16) binds,  $\lambda^p < 1/2$ , and  $p < p^*$ , then in the state  $S = H$ , there is a revolution.
- If (8-16) binds and (8-19) holds and  $p \geq p^*$ , then in the state  $S = H$ , the existing regime prevents transition to full democracy by redistributing (promising to redistribute) at the tax rate  $\hat{\tau}$  such that  $V^p(PD, \hat{\tau}) = V^p(\mu^H, R)$ .
- Finally, if (8-16) binds, (8-19) holds,  $\lambda^p \geq 1/2$ , and  $p < p^*$ , then transition to full democracy happens as a credible commitment to future redistribution towards the poor.

For the most part, the results of this proposition are similar to those of Proposition 6.1. However, there is an important new result here. We know from our results above that  $\tau^m$  is higher when the middle class are relatively poor, i.e. when  $\theta^m/\lambda^m$  is low. But our analysis here shows that a high level of  $\tau^m$  makes partial democracy more attractive for the poor, and reduces  $p^*$ . As a result, societies where the middle class are relatively poor may be able to stave off the threat of revolution without having to fully democratize. Therefore, the model here suggests that full democratization is more likely not only when the poor are poor, but also when the middle class is relatively rich.

## 4 Repression: The Middle Class As A Buffer

In this section, we revisit the simple game analyzed in Section 2, where both the middle class and the poor are disenfranchised, but make the reasonable alternative assumption that the revolution threat is posed by the poor. Therefore, as in our basic model of democratization of Chapter 6, the rich have to satisfy the poor in order to prevent revolution. However, as in the models analyzed in Chapter 7 the rich can also use repression to

prevent revolution. The key question is when will the rich prefer repression rather than democratization.

We will see that in this model the presence of the middle class may act as a buffer, and prevent repression. We will therefore see that repression is more likely to arise in societies where the middle class is small or relatively poor.

The economic environment is the same as our basic three-class model. In particular, there are three groups of agents, the rich of size  $\lambda^r$ , the middle class of size  $\lambda^m$  and the poor of size  $\lambda^p$ , with  $\sum_i \lambda^i = 1$  and  $\lambda^p > \lambda^m > \lambda^r$ . Average income is denoted by  $\bar{y}$ , and the incomes of the three groups are given by (8-1). The political system once again determinants a distortionary linear tax rate, the proceeds of which are redistributed lump sum.

Agents again value post-tax income, but in addition, there are the potential costs of repression if the rich choose the repression strategy. More specifically, the utility of an agent of class  $i$  is now given by

$$U^i = \hat{y}^i = (1 - \tau) y^i + (\tau - C(\tau) - \Delta^i(\omega)) \bar{y}, \quad (8-20)$$

where, as in Chapter 7,  $\Delta^i(\omega)$  is the cost due to repression for agent  $i$ , with  $\omega = 0$  denoting no repression and  $\omega = 1$  denoting repression.  $\Delta^i(\omega = 0) = \Delta^p(\omega = 1) = \Delta^m(\omega = 1) = 0$ , so that there are no costs if there is no repression, and there are never any costs on the poor and middle class (as a normalization). In addition, we have that  $\Delta^r(\omega = 1) = \kappa$ .

Figure 8.4 draws the game tree. The rich now again have two democratization options: partial and full. Also the key revolution decision is now by the poor (they can undertake a revolution even without the help of the middle class). In addition, we still have the feature that the promise to redistribute by the rich is imperfect, as they can get to reset the tax after the threat of revolution has subsided with probability  $1 - p$ .

We assume that the returns from revolution are similar to before, but since the poor are the main revolutionary element, we assume that they share the returns only among themselves. So the return to the poor from undertaking a revolution in the state  $\mu = \mu^S$  for  $S = L, H$  is:

$$V^p(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p}, \quad (8-21)$$

If they do so, a fraction  $1 - \mu^S$  of the output capacity of the economy is destroyed, and the remainder is distributed among the poor, which make a fraction  $\lambda^p$  of the population. The middle class and the rich obtain nothing after a revolution, so  $V^m(R, \mu^S) = V^r(R, \mu^S) = 0$  for both  $S = L, H$ . We also assume that  $\mu^L = 0$ , so the revolution threat can only be binding in the high state.

The revolution constraint will be binding if the poor prefer revolution to no redistribution under the existing system, or if

$$V^p(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p} > y^p$$

Since we have assumed that  $\mu^L = 0$ , the revolution constraint will never bind in the state  $S = L$ , but may do so in the high state,  $S = H$ . In the high state, the relevant revolution constraint can be written as

$$\mu^H > \theta^p \tag{8-22}$$

As before, the rich may meet the revolution threat by promising redistribution, which is only a partially credible promise, since they have a chance to reset the tax with probability  $p$  once the revolution threat has subsided. The values to three different groups, when the rich keep political power and promise redistribution at the tax rate  $\hat{\tau}$ , are

$$\begin{aligned} V^p(N, \hat{\tau}) &= y^p + p [\hat{\tau} (\bar{y} - y^p) - C(\hat{\tau}) \bar{y}] \\ V^m(N, \hat{\tau}) &= y^m + p [\hat{\tau} (\bar{y} - y^m) - C(\hat{\tau}) \bar{y}] \text{ and} \\ V^r(N, \hat{\tau}) &= y^r + p [\hat{\tau} (\bar{y} - y^r) - C(\hat{\tau}) \bar{y}], \end{aligned} \tag{8-23}$$

On the other hand, if the rich choose partial democracy,  $PD$ , only the middle class are enfranchised, and by the assumption that  $\lambda^p > \lambda^m > \lambda^r$ , in this partial democracy, the rich are a minority, and the most preferred tax rate of the middle class will be implemented. By Assumption 8.1, which we still assume holds, this tax rate,  $\tau^m$ , is strictly positive. Therefore, we have

$$\begin{aligned} V^p(PD) &= y^p + [\tau^m (\bar{y} - y^p) - C(\tau^m) \bar{y}] \\ V^m(PD) &= y^m + [\tau^m (\bar{y} - y^m) - C(\tau^m) \bar{y}] \text{ and} \\ V^r(PD) &= y^r + [\tau^m (\bar{y} - y^r) - C(\tau^m) \bar{y}], \end{aligned} \tag{8-24}$$

Finally, the values in full democracy depend on whether the median voter is a poor or a middle-class agent. Recall that this depends on whether  $\lambda^p$  is less than or greater than  $1/2$ . We therefore write

$$\begin{aligned} V^p(D) &= y^p + [\tau^d(\bar{y} - y^p) - C(\tau^d)\bar{y}] \\ V^m(D) &= y^m + [\tau^d(\bar{y} - y^m) - C(\tau^d)\bar{y}] \quad \text{and} \\ V^r(D) &= y^r + [\tau^d(\bar{y} - y^r) - C(\tau^d)\bar{y}], \end{aligned} \tag{8-25}$$

where, as before,

$$\tau^d = \begin{cases} \tau^m & \text{if } \lambda^p < 1/2 \\ \tau^p & \text{if } \lambda^p \geq 1/2 \end{cases} \tag{8-26}$$

This immediately shows that if  $\lambda^p < 1/2$ , full and partial democracy will lead to the same tax rate and to the same allocation. Therefore, the rich are indifferent between full and partial democratization in this case. On the other hand, when  $\lambda^p \geq 1/2$ , because the value to the rich,  $V(y^r | \tau^d)$ , is strictly decreasing in  $\tau^d$  and because  $\tau^p > \tau^m$ , we have that  $V^r(PD) > V^r(D)$ .

The crucial issue is going to be, as in our analysis of Chapter 6 and in Section 2 above, whether the promise of redistribution can prevent revolution. But now it is the poor that need to be placated in order to avoid a revolution. For the revolution to be prevented, we need that

$$V^p(N, \hat{\tau}) \geq V^p(R, \mu^H). \tag{8-27}$$

The highest value that the rich can offer to the poor is clearly when they set the tax rate most preferred by the poor,  $\tau^p$ . Therefore, for the promise of redistribution to prevent revolution, we need

$$V^p(N, \hat{\tau} = \tau^p) \geq V^p(R, \mu^H)$$

Define  $p^*$  such that this condition holds as an equality, or in other words,

$$p^* = \frac{\mu^H - \theta^p}{\tau^p(\lambda^p - \theta^p) - \lambda C(\tau^p)} \tag{8-28}$$

The rich can now also try to prevent the revolution by undertaking a partial democratization. Following partial democratization, the median voter will be a middle-class

agent, and will choose a tax rate of  $\tau^m$ . This strategy will prevent revolution in the high state if

$$V^p(PD) \geq V^p(R, \mu^H),$$

or if

$$\mu^H \leq \theta^p + \tau^m(\lambda^p - \theta^p) - \lambda C(\tau^m). \quad (8-29)$$

There is no difference between partial and full democratization if  $\lambda^p < 1/2$ , so that the median voter in a full democracy is also middle-class agent

Finally, we need to look at payoffs from repression, which are the same as those in Chapter 7:

$$V^p(O) = y^p, V^m(O) = y^m \text{ and } V^r(O | \kappa) = y^r - \kappa \bar{y}.$$

In other words, following repression, there is no redistribution, so each group receives its initial income, but the rich incur the costs of repression,  $\kappa \bar{y}$ .

The analysis is similar to before, and in particular, we need to determine threshold values for the cost of repression such that the rich are indifferent between repression and their other alternatives. Denote these threshold values by  $\hat{\kappa}$  and  $\tilde{\kappa}(\tau^d)$  such that the rich are indifferent between their various options at these threshold levels. The second threshold is conditioned on the tax rate that will result in democracy,  $\tau^d$ . Previously, this tax rate was always equal to  $\tau^p$ . Now, it can be  $\tau^p$  or the tax rate most preferred by the middle class,  $\tau^m$ , depending on (8-26). More specifically, we have

$$V^r(O | \hat{\kappa}) = V^r(N, \hat{\tau}),$$

or in other words,

$$\hat{\kappa} = p \left[ \hat{\tau} \left( \frac{\theta^r - \lambda^r}{\lambda^r} \right) + C(\hat{\tau}) \right]. \quad (8-30)$$

Therefore, at  $\hat{\kappa}$ , the rich are indifferent between redistribution and repression. As a result, for all  $\kappa < \hat{\kappa}$ , they prefer repression to promising redistribution. This implies that one set of parameter configurations where repression will emerge is when  $p \geq p^*$  and  $\kappa < \hat{\kappa}$

Next, define the other threshold such that

$$V^r(O | \tilde{\kappa}(\tau^d)) = V^r(D),$$

or more explicitly,

$$\tilde{\kappa}(\tau^d) = \left[ \tau^d \left( \frac{\theta^r - \lambda^r}{\lambda^r} \right) + C(\tau^d) \right]. \quad (8-31)$$

At  $\tilde{\kappa}(\tau^d)$ , the rich are indifferent between repression and democratization, which will lead to the tax rate  $\tau^d$ . As a result, for all  $\kappa < \tilde{\kappa}(\tau^d)$ , they prefer repression to democratization. Therefore, another set of parameter values where repression will be an equilibrium outcome is when  $p < p^*$  and  $\kappa < \tilde{\kappa}(\tau^d)$ .

As before, we also need to ensure that democratization prevents revolution, and the condition for this is similar to before,

$$\mu^H \leq \theta^p + \tau^p(\lambda^p - \theta^p) - \lambda C(\tau^p). \quad (8-32)$$

**Proposition 8.3:** Assume that (8-32) holds so that democratization prevents revolution.

Then in the unique subgame perfect equilibrium:

- There is no democratization when  $S = L$ , because the threat of revolution is weak, and the rich set their most preferred tax rate  $\tau^r = 0$ .
- If (8-22) does not bind, i.e.,  $\mu^H < \theta^p$ . then even in the state  $S = H$ , the revolution threat is weak, and the rich set their most preferred tax rate  $\tau^r = 0$ .
- If (8-22) binds (i.e.,  $\mu^H > \theta^p$ ),  $p \geq p^*$  and  $\kappa > \hat{\kappa}$ , then in the state  $S = H$ , the rich prevent democratization by redistributing (promising to redistribute) by setting the tax rate  $\hat{\tau}$  such that  $V^p(N, \hat{\tau}) = V^p(\mu^H, R)$ .
- If (8-22) binds,  $p < p^*$ , (8-29) holds,  $\lambda^p \geq 1/2$ , and  $\kappa > \tilde{\kappa}(\tau^d = \tau^m)$ , then the rich undertake a partial democratization as a credible commitment to limited future redistribution.
- If (8-22) binds,  $p < p^*$ ,  $\kappa > \tilde{\kappa}(\tau^d)$ , and either (8-29) does not hold or  $\lambda^p < 1/2$ , then democratization happens as a credible commitment to future redistribution by the rich.
- If (8-22) binds,  $p < p^*$  and  $\kappa < \tilde{\kappa}(\tau^d)$  or if (8-22) binds,  $p \geq p^*$  and  $\kappa < \hat{\kappa}$ , then in the state  $S = H$  the rich use repression to prevent revolution.

This proposition is similar to Propositions 7.1 from the previous chapter. The main difference is that now one of the two key thresholds,  $\tilde{\kappa}(\tau^d)$ , depends on the size and the level of income of the middle class. It is straightforward to see that  $\tilde{\kappa}(\tau^d)$  is increasing in  $\tau^d$ , therefore, a higher level of the tax rate in democracy,  $\tau^d$ , makes repression more attractive for the rich. Taxes in democracy will be higher when the median voter is a poor agent, i.e.,  $\lambda^p \geq 1/2$ , which corresponds to the case where the middle class is small, or when the median voter is a middle-class agent, i.e.,  $\lambda^p < 1/2$ , but he is relatively poor, and likes higher taxes.

Therefore, a relatively large and affluent middle class makes democracy less costly for the rich, and acts as a buffer between the poor and the rich, making repression less likely.

## 5 Repression: Soft-liners vs. Hard-liners

The previous section discussed a model where the rich had to choose between repression and democratization to prevent a revolutionary threat from the poor, who were until then excluded from the political system. We also presumed that the middle classes, like the poor, were outside the system. Therefore, democratization brought the middle classes as well as the poor into political power, and in this way, the middle class played an important role in affecting the trade-off between repression and democratization: with a large and relatively rich middle class, the rich anticipated that they would not face high taxes in democracy, and were more likely to democratize rather than repress.

In this section, we analyze a similar game, but both the rich and the middle class are part of the ruling coalition, and they have to decide jointly whether to promise redistribution to the poor under the existing regime, democratize or repress. The key insight of our analysis will be that the rich are always more in favor of repression than the middle class. This has a simple reason: the rich have more to lose from redistributive taxation than the middle class. This difference between the attitudes of the rich and the middle class towards repression gives us a way of formalizing the often-made distinction between soft-liners and hard-liners in dictatorships. It is argued, especially in the context of Latin American transitions to democracy, that there is often a split within the elite controlling dictatorships, with hard-liners wishing to use force to prolong the dictatorship, while the

soft-liners trying to administer a soft landing to democracy (for example, O'Donnell and Schmitter, 1986, Przeworski, 1991). Our three-class model captures this distinction in a simple way, mapping the soft-liners into middle-class agents and the hard-liners into rich agents. We will see in Chapter 11 that there can be other splits, for example between landowners and capitalists along the same lines, but for now our focus is with the three-class model where the only difference is in the levels of income, not what types of activities these incomes are being generated from.

The economic environment is the same as before with three groups of agents, the rich of size  $\lambda^r$ , the middle class of size  $\lambda^m$  and the poor of size  $\lambda^p$ . We have  $\sum_i \lambda^i = 1$ , and  $\lambda^p > \lambda^m > \lambda^r$ . Average income is denoted by  $\bar{y}$ , and the incomes of the three groups are given by (8-1). The political system once again determines a distortionary linear tax rate, the proceeds of which are redistributed lump sum. We now start with a partial democracy with the rich and the middle class in power.

Agents again value post-tax income, but in addition, there are the potential costs of repression if the existing regime, the rich and the middle class, choose the repression strategy. More specifically, the utility of an agent of class  $i$  is now given by

$$U^i = \hat{y}^i = (1 - \tau) y^i + (\tau - C(\tau) - \Delta^i(\omega)) \bar{y}, \quad (8-33)$$

where, as in Chapter 7,  $\Delta^i(\omega)$  is the cost due to repression for agent  $i$ , with  $\omega = 0$  denoting no repression and  $\omega = 1$  denoting repression.  $\Delta^i(\omega = 0) = \Delta^p(\omega = 1)$ , so that there are no costs if there is no repression, and there are never any costs on the poor (as a normalization). In addition, we have that for the groups in power, repression is costly:  $\Delta^r(\omega = 1) = \Delta^m(\omega = 1) = \kappa$ . Therefore, both the rich and the middle class incur the costs of repression.

For reasons that will become clear, we assume that in the existing regime, the rich make the repression and democratization decisions with probability  $q$  and the middle class make them with probability  $1 - q$ . Taxation decisions are made by majority voting, and a middle-class agent is initially the median enfranchised voter, since  $\lambda^m > \lambda^r$ .

There is again the democratization option, and the feature that the promise to redistribute by the rich is imperfect, as they can get to reset the tax after the threat of revolution has subsided with probability  $1 - p$ .

We assume that returns from revolution are similar to before, but since the poor are the main revolutionary element, we assume that they share the returns only among themselves. So the return to the poor from undertaking a revolution in the state  $\mu = \mu^S$  for  $S = L, H$  is:

$$V^p(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p}, \quad (8-34)$$

If a revolution occurs a fraction  $1 - \mu^S$  of the income of the economy is destroyed, and the remainder is distributed among the poor. The middle class and the rich obtain nothing after a revolution, so  $V^m(R, \mu^S) = V^r(R, \mu^S) = 0$  for both  $S = L, H$ . We also assume that  $\mu^L = 0$ , so the revolution threat can only be binding in the high state.

As usual, the revolution constraint will be binding if the poor prefer revolution to the existing system, or if

$$V^p(R, \mu^S) = \frac{\mu^S \bar{y}}{\lambda^p} > y^p$$

In the high state, the relevant revolution constraint can be written as

$$\mu^H > \theta^p. \quad (8-35)$$

In this section, we will assume that this condition holds.

The values to three different groups, when the existing system is maintained and redistribution at the tax rate  $\hat{\tau}$  is promised are

$$V^p(PD, \hat{\tau}) = y^p + p[\hat{\tau}(\bar{y} - y^p) - C(\hat{\tau})\bar{y}] + (1-p)[\tau^m(\bar{y} - y^p) - C(\tau^m)\bar{y}] \quad (8-36)$$

$$V^m(PD, \hat{\tau}) = y^m + p[\hat{\tau}(\bar{y} - y^m) - C(\hat{\tau})\bar{y}] + (1-p)[\tau^m(\bar{y} - y^m) - C(\tau^m)\bar{y}] \text{ and}$$

$$V^r(PD, \hat{\tau}) = y^r + p[\hat{\tau}(\bar{y} - y^r) - C(\hat{\tau})\bar{y}] + (1-p)[\tau^m(\bar{y} - y^r) - C(\tau^m)\bar{y}],$$

which take into account that if the promise of redistribution at the tax rate  $\hat{\tau}$  does not materialize, an event which occurs with probability  $1 - p$ , a middle-class agent will set his most preferred tax rate,  $\tau^m$ . Note that since both the rich and the middle class are part of the ruling coalition we refer to this regime as partial democracy.

The values in full democracy depend on whether the median voter is a poor or a middle-class agent. Recall that this depends on whether  $\lambda^p$  is less than or greater than

1/2. Here we assume that  $\lambda^p \geq 1/2$ , so

$$V^p(D) = y^p + [\tau^p (\bar{y} - y^p) - C(\tau^p)\bar{y}] \quad (8-37)$$

$$V^m(D) = y^m + [\tau^p (\bar{y} - y^m) - C(\tau^p)\bar{y}] \quad \text{and} \quad (8-38)$$

$$V^r(D) = y^r + [\tau^p (\bar{y} - y^r) - C(\tau^p)\bar{y}],$$

As in our previous analysis and in Chapter 6, the promise of redistribution is only imperfectly credible, and it will prevent the revolution only if

$$V^p(PD, \hat{\tau}) \geq V^p(R, \mu^H). \quad (8-39)$$

Once again, we can determine a critical value,  $p^*$ , such that at  $p^*$ , we have

$$V^p(PD, \hat{\tau} = \tau^p) = V^p(R, \mu^H),$$

and naturally:

$$p^* = \frac{\mu^H - \theta^p}{\tau^p(\lambda^p - \theta^p) - \lambda C(\tau^p)} \quad (8-40)$$

To simplify the discussion, we are not going to focus on the case where  $p < p^*$ , so that the promise of redistribution is not sufficient to prevent revolution. The choice is therefore between democratization and repression.

The payoffs from repression are

$$V^p(O) = y^p, \quad V^m(O) = y^m - \kappa\bar{y} \quad \text{and} \quad V^r(O | \kappa) = y^r - \kappa\bar{y},$$

which differ from those in the previous section because the cost of repression,  $\kappa\bar{y}$ , is also incurred by the middle class.

We are again going to determine two threshold values, but now one referring to the rich and the other to the middle class, making the respective group indifferent between democratization and repression. Let these two critical values be  $\tilde{\kappa}^r$  and  $\tilde{\kappa}^m$  for the rich and the middle class. They are defined by

$$V^r(O | \tilde{\kappa}^r) = V^r(D) \quad \text{and} \quad V^m(O | \tilde{\kappa}^m) = V^m(D)$$

or more explicitly,

$$\begin{aligned} \tilde{\kappa}^r &= \left[ \tau^p \left( \frac{\theta^r - \lambda^r}{\lambda^r} \right) + C(\tau^p) \right]. \\ \tilde{\kappa}^m &= \left[ \tau^p \left( \frac{\theta^m - \lambda^m}{\lambda^m} \right) + C(\tau^p) \right] \end{aligned} \quad (8-41)$$

As before, the rich prefer repression to democratization when  $\kappa < \tilde{\kappa}^r$ , and the middle class prefer repression to democratization when  $\kappa < \tilde{\kappa}^m$ . Since  $\theta^r/\lambda^r > \theta^m/\lambda^m$  by the fact that the rich are richer than the middle class, we have that  $\tilde{\kappa}^m < \tilde{\kappa}^r$ , thus for  $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$ , the rich want to use repression, while the middle class prefer democratization to repression.

As before, we also need to ensure that democratization prevents revolution, and the condition for this is similar to before,

$$\mu^H \leq \theta^p + \tau^p(\lambda^p - \theta^p) - \lambda C(\tau^p). \quad (8-42)$$

**Proposition 8.4:** Assume that  $\lambda^p \geq 1/2$ ,  $p < p^*$ ,  $\mu^H > \theta^p$ , and (8-42) holds so that democratization prevents revolution. Then, in the unique subgame perfect equilibrium:

- There is no democratization when  $S = L$ , because the threat of revolution is weak, and the rich set their most preferred tax rate  $\tau^r = 0$ .
- If  $\kappa \geq \tilde{\kappa}^r$ , then in the state  $S = H$  both the rich and the middle class prefer democratization to repression, and democratization occurs as a credible commitment to future redistribution.
- If  $\kappa \leq \tilde{\kappa}^m$ , then in the state  $S = H$  both the rich and the middle class prefer repression to democratization, and they use repression to prevent revolution.
- If  $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$ , the rich prefer repression to democratization, while the middle class prefer democratization to repression. The equilibrium outcome depends on whether the rich or the middle class make the repression decision. With probability  $q$ , it is the rich, and there will be repression, and with probability  $1 - q$ , it is the middle class, and there will be a transition to democracy.

This proposition, especially the case where  $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$ , captures the different attitudes of the soft-liners (here the middle class) and the hard-liners (here the rich). The hard-liners have more to lose from democratization and prefer to use repression even when soft-liners prefer a smooth transition to democracy.

It is also interesting to note that the disagreement between the rich and the middle class regarding repression becomes stronger when the middle class is relatively poor. When the middle class is relatively richer, i.e., when  $\theta^m/\lambda^m$  is higher, they also have more to lose from redistribution in democracy and they become more favorable towards repression.

## 6 A Dynamic Model of Soft-Liners and Hard-Liners

So far in this chapter, we used the simple model without explicit dynamics. In this the inability of either the rich elite, or the middle class, to commit to future pro-poor policies when they control power was modeled by introducing the continuation game where they may have an option to reset the tax rate they promised to the poor. As we saw in the previous chapters, this is a reduced form representation of a more realistic, but also more complex, dynamic game. Given the importance of the conflict between soft-liners and hard-liners, we will now briefly outline a fully dynamic model of conflict between various groups in this three-class model.

This model combines the idea from the previous section with the dynamic model of repression presented in the last chapter. Utilities are given by

$$U^i = \sum_{t=0}^{\infty} \beta^t \hat{y}_t^i = \sum_{t=0}^{\infty} \beta^t \left[ (1 - \tau_t) y^i + (\tau_t - C(\tau_t) - \Delta^i(\omega)) \bar{y} \right],$$

where, as in the previous section, incomes are given by (8-20), and  $\Delta^i(\omega)$  is the cost due to repression for agent  $i$ . As in the previous section the poor never bear any costs of repression but the rich and middle class both pay a cost of  $\kappa \bar{y}$  if they decide to repress.

As in the previous section we assume that  $\lambda^m > \lambda^r$  and  $\lambda^p > 1/2$ . We also solve the intra-elite collective choice problem in a similar fashion: with probability  $q$  the rich get to decide whether or not repression should be used and whether or not to enfranchise the poor. With probability  $1 - q$  it is the middle class that makes these decisions. Taxation, on the other hand, is decided by the median enfranchised agent, here a member of the middle class.

The timing of moves in the stage game is now as follows.

- The state  $\mu$  is revealed.

- With probability  $q$  the rich decide whether or not to use repression,  $\omega \in \{0, 1\}$  with  $\omega = 1$  denoting repression, while with probability  $1 - q$  the middle class make the decision.
- Either the rich or the middle class, depending on the realization of  $q$ , decide whether or not to extend the franchise to the poor,  $\phi \in \{0, 1\}$ . If they decide not to extend the franchise or use repression, the middle class set the tax rate.
- If  $\omega = 0$ , the poor decide whether or not to initiate a revolution,  $\rho \in \{0, 1\}$ . If  $\omega = 1$ , the poor cannot undertake a revolution. If there is a revolution, they share the remaining income. If there is no revolution and the franchise has been extended, the tax rate is set by the median voter of the whole society (a poor agent).

We again restrict attention to pure strategy Markov Perfect Equilibria of this game where the state can be described exactly as in Chapters 6 and 7. By analogy to before a (pure strategy Markov Perfect) equilibrium is a strategy combination,  $\{\sigma^r(P, \mu), \sigma^m(P, \mu), \sigma^p(P, \mu|\omega, \phi, \tau^p)\}$  such that  $\sigma^p$ ,  $\sigma^m$  and  $\sigma^r$  are best-responses to each other for all  $\mu$  and  $P$ . Here,  $\sigma^r(P, \mu)$  and  $\sigma^m(P, \mu)$  include the decision to repress,  $\omega$ , as well, and the strategy of the poor  $\sigma^p$  is conditioned on this decision, since the poor can only undertaken revolution if  $\omega = 0$ , i.e., if the rich have decided not to repress.

We can again characterize the equilibria of this game by writing the appropriate Bellman equations as in the similar analysis of the previous two chapters. In particular, the value revolution to poor agent in the state  $\mu$  is given by:

$$V^p(R, \mu) = \frac{\mu \bar{y}}{\lambda(1 - \beta)}, \quad (8-43)$$

As in the previous chapter,  $\mu$  changes between two values:  $\mu^H$  and  $\mu^L = 0$ , with  $\Pr(\mu_t = \mu^H) = q$ .

The values to agent  $i = p, m, r$  in democracy are given by

$$V^i(D) = \frac{y^i + \tau^p(\bar{y} - y^i) - C(\tau^p)\bar{y}}{1 - \beta}, \quad (8-44)$$

where  $\tau^p$  is the most preferred tax rate of poor agents, given by (8-4).

Also the values for agent  $i$  when the poor are promised redistribution at the tax rate  $\hat{\tau}$  starting in the state  $(PD, \mu^H)$ , while holding on to power are given by the standard expressions:

$$V^i(PD, \mu^H, \hat{\tau}) = \frac{y^i + (1 - \beta(1 - q)) (\hat{\tau}(\bar{y} - y^i) - C(\hat{\tau})\bar{y})}{1 - \beta},$$

where  $\hat{\tau}$  is chosen such that  $V^p(N, \mu^H, \hat{\tau}) = V^p(R, \mu^H)$ , so that the poor are indifferent between living under the political status quo with the promise of future redistribution and undertaking a revolution.

Finally, let  $V^i(O, \mu)$  be the value function of agent  $i = p, m, r$  in state  $\mu$  when the strategy of repression is adopted. By standard arguments, these values are:

$$\begin{aligned} V^i(O, \mu^H) &= y^i - \Delta^i(\omega) \bar{y} + \beta [(1 - q)V^i(O, \mu^L) + qV^i(O, \mu^H)] \\ V^i(O, \mu^L) &= y^i + \beta [(1 - q)V^i(O, \mu^L) + qV^i(O, \mu^H)], \end{aligned}$$

which take into account that the cost of repression will only be incurred in the state where the revolution threat is active, i.e., when  $\mu = \mu^H$ . Here one should recall that  $\Delta^p(\omega) = 0$  since the poor do not bear any of the costs of repression.

Together with the definition for  $\Delta^i(\omega)$ , these Bellman equations can be solved simultaneously to derive the values to the rich, middle class and poor from repression,

$$\begin{aligned} V^r(O, \mu^H \mid \kappa) &= \frac{y^r - (1 - \beta(1 - q))\kappa\bar{y}}{1 - \beta}, \\ V^m(O, \mu^H \mid \kappa) &= \frac{y^m - (1 - \beta(1 - q))\kappa\bar{y}}{1 - \beta} \text{ and} \\ V^p(O, \mu^H) &= \frac{y^p}{1 - \beta}, \end{aligned}$$

where we condition the values of the rich and middle-class explicitly on  $\kappa$  to emphasize the importance of the cost of repression, and to simplify notation when we define threshold values below.

Recall from Proposition 6.2 of Chapter 6 that when  $q < q^*$ , the poor must be enfranchised to avoid revolution, whereas when  $q \geq q^*$ , revolution can be prevented by temporary redistribution. Now  $q^*$  defined by the equation:

$$V^p(PD, \mu^H, \hat{\tau} = \tau^p|q^*) = V^p(R, \mu^H). \quad (8-45)$$

As in the previous section we shall restrict attention to the trade-off between democracy and repression and therefore assume that  $q < q^*$  so that temporary redistribution is never sufficient to stave off a revolution. Moreover, to simplify the discussion we shall assume that democratization avoids a revolution so that  $V^p(D) \geq V^p(R, \mu^H)$ , which is the familiar inequality:

$$\theta + \tau^p(\lambda - \theta) - \lambda C(\tau^p) \geq \mu^H. \quad (8-46)$$

As in the simple extensive form game of the previous section, we will now determine two threshold values for the cost of repression, called  $\tilde{\kappa}^r$  and  $\tilde{\kappa}^m$ , one each for the rich and middle class, which will determine the circumstances under which each will wish to use repression. As we will see, and consistent with the last section, these values will be different because the rich have more to lose from democracy and are thus more willing to use repression. We have that,  $V^r(O \mid \tilde{\kappa}^r) = V^r(D)$  and  $V^m(O \mid \tilde{\kappa}^m) = V^m(D)$ . These equalities imply that

$$\begin{aligned} \tilde{\kappa}^r &= \frac{\left[ \tau^p \left( \frac{\theta^r - \lambda^r}{\lambda^r} \right) + C(\tau^p) \right]}{1 - \beta(1 - q)}, \\ \tilde{\kappa}^m &= \frac{\left[ \tau^p \left( \frac{\theta^m - \lambda^m}{\lambda^m} \right) + C(\tau^p) \right]}{1 - \beta(1 - q)}. \end{aligned}$$

and as before,  $\tilde{\kappa}^m < \tilde{\kappa}^r$  so that the rich are more willing to use repression. Therefore, we have the following result which mirrors Proposition 8.4:

**Proposition 8.5:** • If  $\theta \geq \mu^H$ , there is never any threat of revolution, the rich never redistribute and the society remains nondemocratic.

• If  $\theta < \mu^H$ , and for all  $q < q^*$  where  $q^*$  is defined by (8-45), there exists a unique pure strategy Markov Perfect Equilibrium such that:

1. If  $\kappa \geq \tilde{\kappa}^r$ , then the revolution threat in the state  $\mu = \mu^H$  will be met by franchise extension which is preferred by both the rich and the middle class.
2. If  $\kappa \leq \tilde{\kappa}^m$ , then the revolution threat in the state  $\mu = \mu^H$  will be met by repression which is preferred by both the rich and the middle class.
3. If  $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$ , the rich prefer repression to democratization, while the middle class prefer democratization to repression. The equilibrium outcome depends

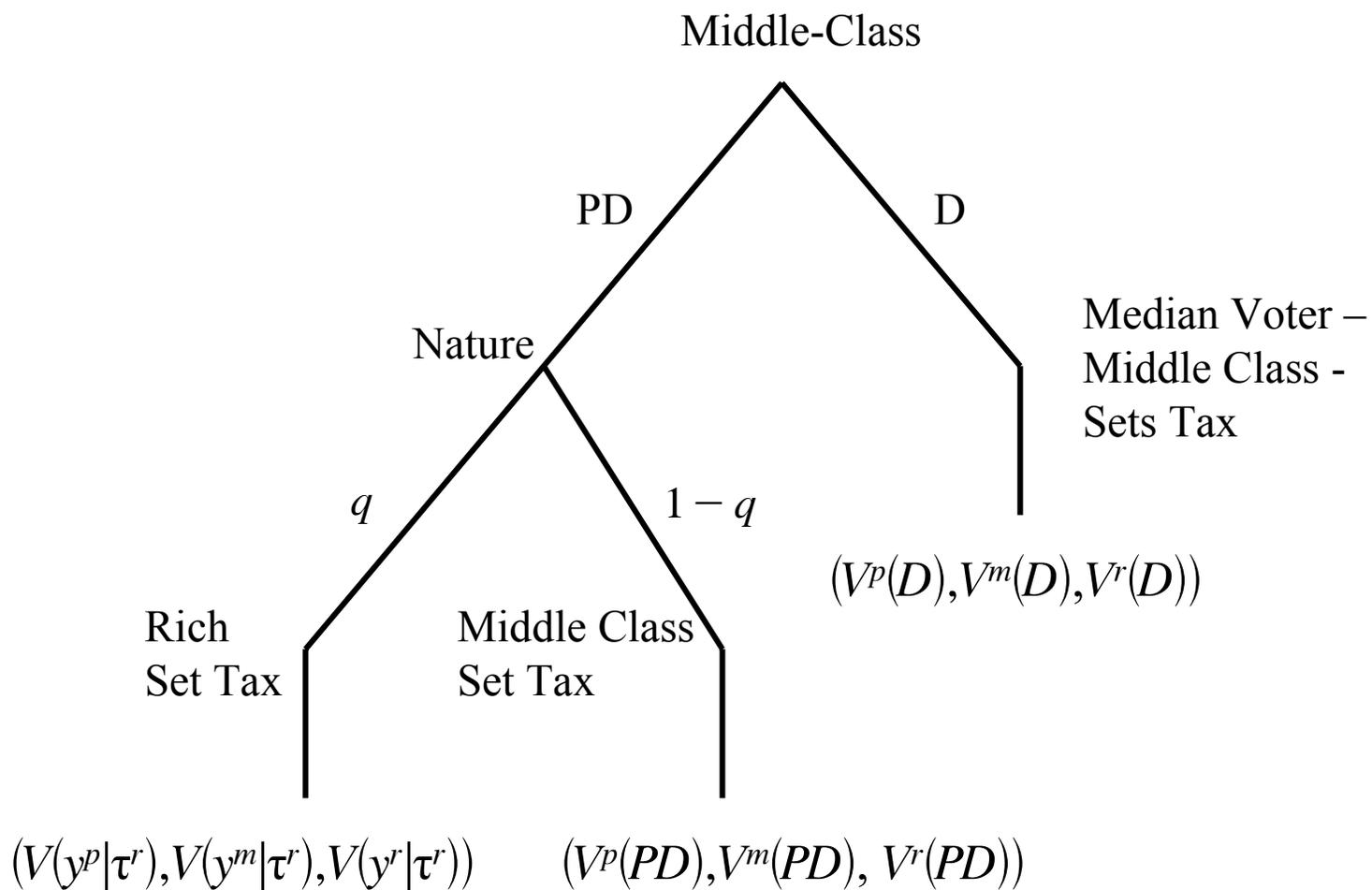
on whether the rich or the middle class make the repression decision. With probability  $q$ , it is the rich, and there will be repression, and with probability  $1 - q$ , it is the middle class, and there will be a transition to democracy.

## 7 Equilibrium Revolutions

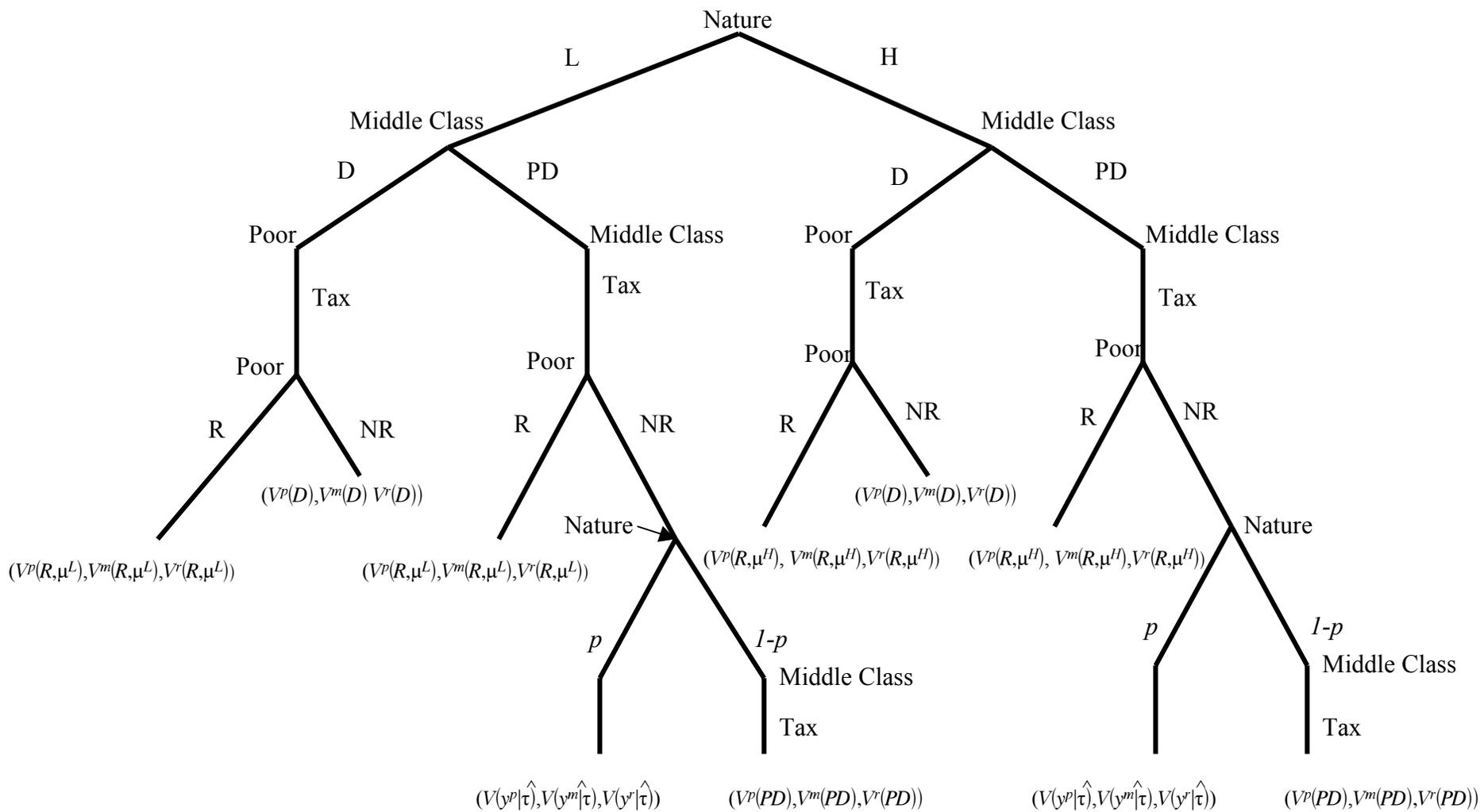
In the previous chapter we saw how equilibrium revolutions emerge when the rich elite use repression in order to prevent democratization, but repressions fail in suppressing the threat of revolution. In other words, revolutions emerged as a calculated risk by the rich elite. This analysis can be extended in an interesting way to include the middle class. The major result will be that revolutions are more likely to emerge along the equilibrium path in societies without large and affluent middle classes. This is for the obvious reason that when the middle class are affluent and strong, democracy is less costly for the rich and they are less willing to risk repression - with the downside of being wiped out in a revolution. This result in turn is important because it gives us one potential explanation for why revolutions have typically taken place in relatively agrarian societies where there is typically a very anemic middle class.



Figure 8.2. Disraeli vs. Gladstone



**Figure 8.3: From Partial to Full Democracy**



**Figure 8.4: The Middle-Class as a Buffer**

