Abstract. Empirical evidence suggests that the leader of the political executive (a Prime Minister in this paper) can benefit from firing ministers who are involved in political scandals. We explore a continuous-time game where the arrival rate of scandals is positively related to the policy activism of a minister. If a scandal occurs, the minister may be fired, but he may also be protected by the Prime Minister. The minister may also recover from the scandal. Protection is costly for a Prime Minister, and influences ministers’ policy activism in different ways. While encouraging ministers to take risks, protection also increases the value of a ministerial position and this second effect can lead ministers (especially those tainted by scandal) to sit tight. The Prime Minister’s ability to protect ministers from resignation calls is limited by her short-term incentive to fire. She may, however, enhance her credibility by building a collective reputation with the wider membership of her cabinet. Thus, collective enforcement permits a Prime Minister to offer protection to her ministers.

1. Introduction

1.1. Scandal, Resignation, and Protection. In Liberal Democracies scrutiny of ministers is carried out by politicians through legislatures and legislative committees, and through media attention given to specific cases. Such scrutiny often leads to calls for ministerial resignations. These calls are sometimes heeded, and a minister is forced to resign. In other circumstances, the support of the Prime Minister and the wider cabinet is enough to protect the minister’s position. The different possible outcomes reflect the incentives which the different political actors face. Recent research establishes some interesting preliminary empirical regularities which can help us to understand the type of incentives which are at work (Dewan and Dowding, 2005; Huber and Galliardo, 2004; Kam and Indridason, 2003). In this paper we build upon one of these findings. Dewan and Dowding (2005) show that, when there has been a call for a ministerial resignation, the popularity of the government increases when that call is heeded. Thus a Prime Minister can adjust for the negative effect of political scandals and policy failures by replacing a minister involved in such events.

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If the public react positively to the departure of a minister involved in a policy failure or personal scandal, then why does a Prime Minister not always accede to calls for his resignation? An answer stems from observing that a protection policy impacts upon the incentives of a minister. If a minister expects to be fired whenever a call is made for his resignation, then he may distort his activities away from actions that are likely to expose him to such calls. This may be a good thing for the executive if it leads to ministers refraining from an activity which is detrimental not only to the minister’s career but reflects badly upon the government as a whole. If ministers refrain from personal activities not deemed suitable for those in public office, for example if they restrain themselves from dipping their hands into the public purse, then all is well and good.

On the other hand, the incentive for a minister to keep a clean record may detract from the policy objectives of the executive: behaviour which is correlated with resignation calls may also be correlated with actions which are beneficial to the government. Consider, for example, the case where a policy failure arises due to a new initiative put forward by a minister. We would expect that such failures are more likely to arise the more policy initiatives a minister puts forward. The Prime Minister may wish to protect a minister who puts forward policy initiatives thereby creating an incentive for other ministers to do likewise.

We might think that the Prime Minister can clearly differentiate between the case where a minister is subject to criticism due to a policy failure and one who is harried due to some personal scandal. Things may, however, not be so clear cut, since policy-active ministers may be subject to other forms of criticism. Those who are affected by the policy initiatives may wish to discredit the minister responsible in a deliberate attempt to see the minister removed from his post. Such a negative campaign need not focus on the policy relevant aspects of the ministers job. Things can and do get nasty.

In short, it may be costly for ministers to develop policy initiatives if these lead to resignation pressures following a scandal, where “scandal” is a generic term which captures a call for a resignation related to either a policy failure or some personal impropriety. This suggests a formal study of a Prime Minister’s “protection policy” in the light of ministerial scandals.

1.2. Modelling the Protection Policy. In this paper we study a simple model which helps us to explore how different incentives are reflected in the actions of the cabinet. In our model the policy activism of the minister brings its reward through higher performance. But such activism also brings risk. The probability that the minister is involved in a scandal is increasing in his level of policy activism. Thus a minister minimises his risk by sitting tight, and maintaining the status quo in order not to tread on the toes of organised interests who are opposed to reform. Such interest groups include opposition parties, lobbies and media who are in a position to wage a campaign against the minister.\(^2\)

\(^2\)The idea that policy efforts are correlated with political risk is developed by others. Dal Bó, Dal Bó, and Di Tella (2004) model a politician who is either bribed or threatened by an interest group. It is costly for a politician to act against the interest group because the group may harm the politician, and furthermore the
In our model a minister may be in one of two states: (i) a minister may be known for his previous involvement in a scandal, in which case he is tainted; or (ii) the minister may have no record of involvement in a scandal, in which case he is clean. If a clean minister is hit by a scandal, then the Prime Minister makes the choice whether to fire him or protect him. If a tainted minister is hit by a scandal, we assume that political pressures are so great that the Prime Minister is forced to fire him; thus a minister faces a “two strikes and out” rule. As well as exploring the effect of protection we also focus on the ability of a tainted minister to recover from a scandal. Over time, we suppose that scandals are forgotten; a tainted minister hit by such a recovery returns to a state in which his record is clean.

The problem for the Prime Minister is that the public are always willing to believe the worst. That is, even though the public are aware of a correlation between policy activism and scandal, on observing a scandal the executive’s popularity nonetheless falls. It is therefore costly to protect a minister who is tainted. It may nevertheless be optimal to provide some protection if ministers choose higher levels of activity under protection. As a first step, we suppose that a Prime Minister is able to commit to a certain level of a protection for clean ministers who are not tainted by scandal. As the level of protection drops, the Prime Minister increases the probability with which a “first-strike” minister is fired.

At first blush, we might suspect that an increase in protection will increase the political activism of cabinet members: a minister realizes that he is less likely to be fired following a scandal, and therefore is more willing to take a chance by implementing risky policies. This is, in economic parlance, a substitution effect: the minister faces an incentive to substitute away from the status quo, and toward the core objectives of the executive.

There is, however, a second effect. Consider a minister who is tainted by scandal. This tainted minister realizes that he will not be protected from any further scandal, following the “two strikes and out” rule. He faces, therefore, an incentive to “keep his nose clean” in the hope that the scandal is subsequently forgotten. If the scandal is forgotten, then an increased level of protection for otherwise-clean ministers will increase the expected value of such a position; this, in turn, increases the incentive for him to keep his nose clean when tainted. This is, in economic parlance, an income effect: the minister faces an increased incentive to keep his job, and hence biases his actions toward safe policies.

Putting these effects together, we find that a clean minister responds positively to higher levels of both protection and recovery with higher levels of activism. We find the opposite effect for a tainted minister who has a record of scandal. A Prime Minister must take both of these opposing effects into account when formulating her protection policy. The income politician will not receive the bribe. They observe that increased policy activism may lead to resignation calls, by noting that politicians may (p. 7) “. . . claim that their own actions are constrained by the influence of pressure groups that might resort to smear campaigns in the media and legal harassment.” Dal Bó and Di Tella (2003) develop the same model but where the politician may be protected by a political party. Their notion of protection is one where a party prevents costly attacks by pressure groups. In our paper, a Prime Minister experiences political unpopularity in order to resist a resignation call.
effect limits her desire to offer protection. Furthermore, and counter-intuitively, the more likely a minister is to recover from a scandal the lower the protection level.

The results discussed above suppose that a Prime Minister is able to commit to a particular level of protection. The incentive for her to offer protection if a minister is involved in a scandal for the first time is that protected ministers may choose higher levels of policy activism under protection than they would otherwise. On the other hand, the Prime Minister’s popularity is adversely affected by the presence of tainted ministers in her cabinet. Thus, a commitment to a given level of protection is not credible in a one-shot game due to a short term incentive for the Prime Minister to fire. It may, of course, be the case that ministers can act to remove a Prime Minister who goes against her word. However, the threat to do so can itself lack credibility. In particular, if the Prime Minister is an electoral asset for the party then ministers would be loathe to remove her.

Another mechanism which could ensure credible commitment is a Prime Minister’s concern for her own reputation. In repeated interaction she may develop a reputation for protecting ministers and could thus induce higher activism levels. We consider, therefore, the constraints that such a situation imposes on a Prime Minister.

To understand the forces involved, suppose that a Prime Minister pledges protection to an individual minister. If she were to renege on her promise in the face of a scandal, then the minister’s replacement would not believe her in the future; the Prime Minister will lose her credibility. This provides the Prime Minister with an incentive to keep her promises. Alas, if the short-term incentive for her to cave in to resignation calls is too great, then she will be unable to sustain her protection policy.

A possible resolution is for the Prime Minister to exploit her interaction with multiple cabinet members. Suppose, for example, that a failure to protect an individual cabinet member is observed by all of his cabinet colleagues. In this setting, the Prime Minister enjoys the short-term gain from firing only a single minister, but loses her reputation with the entire cabinet. If the cabinet is sufficiently large, then this argument suggests that the long-term loss of reputation is sufficient to outweigh her short-term temptation to fire, and hence may restore credibility to the Prime Minister’s protection policy. In the economics literature, this idea is known as multi-market contact. Bernheim and Whinston (1990), for instance, considered the collusion of oligopolists who interact in more than one market. The central idea is that collusion will be sustained because if a firm cheats (perhaps by cutting its price) in one market, then it will be punished (by, for instance, prompting a retaliatory price war) in multiple markets. The analogy here is that although a Prime Minister is tempted to cheat on an agreement with one minister, she would then be punished by the entire cabinet.

Unfortunately, and as Bernheim and Whinston (1990) argued in their work, this idea has its flaws. Given that a Prime Minister would lose her reputation by firing an individual minister, she may as well fire all tainted ministers; with her reputation in tatters, she will
go all out and reshuffle the entire cabinet. This is important, because there is always the chance that the cabinet will reach a situation in which a large fraction of its members are tainted. In this circumstance, her short-term temptation is the gain from firing all of the tainted ministers; this temptation may well be just as large as the punishment, and at that point she caves in. By a process of backward induction, the Prime Minister’s attempt to maintain her reputation will unravel.

Nevertheless, there are circumstances in which a concern for reputation will lead to a credible protection policy. Perhaps surprisingly, a necessary condition for this to be the case is a degree of heterogeneity in the cabinet. In an illustrative example, we consider a cabinet with two different kinds of ministers: the first kind recover from scandal relatively quickly, whereas the second have no chance of recovery. We find that in this setting the Prime Minister is able to maintain credibility. For some ministers, the temptation to fire would, absent the collective reputation in the cabinet, be too strong, whereas for others it would not. By pooling these effects, the Prime Minister can use the reputational slack in one relationship to compensate for the lack of credibility in another.

This illustrative example provides insight into how the composition of a cabinet affects the ability of Prime Minister to establish a credible protection policy. In a scenario in which she can select different types of ministers (which we do not model explicitly here) one might suspect that she choose high-recovery types only, the more so since such ministers are cheaper to protect. Perhaps surprisingly, these are the types of ministers that lead to credibility problems. Once such a minister is tainted, they will respond by sitting tight and avoiding policy activism in the hope that a scandal blows over. In other words, they become “lame ducks”. For that reason, the Prime Minister faces a strong temptation to fire them. However, the inclusion of low-recovery types can help mitigate this incentive. When low-recovery ministers are hit by scandal, they respond by “living for today” since they have no hope that the effect of the scandal will abate. For that reason, they will soon be hit by a second scandal and will depart. The Prime Minister has a reduced temptation to fire such ministers.

1.3. A Guide to the Paper. In Section 2 we write down our formal model of ministerial turnover, and characterize ministers’ optimal levels of political activism in Section 3. In Section 4 we consider the optimal level of protection when a Prime Minister is able to commit, whereas in Section 5 assess both the credibility of such policies and the cabinet’s role in maintaining a collective reputation. We conclude in Section 6.

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3 This is also true in the model of Bernheim and Whinston (1990). They demonstrated that multi-market contact can enhance the ability of oligopolists to collude when the markets have different characteristics.
2. SCANDAL AND RECOVERY

Here we develop a simple model of scandal arrival and recovery for cabinet ministers.

2.1. Ministerial Activism, Scandals, and Recovery. We imagine a political scenario in which a cabinet is led by a Prime Minister, and focus on the behavior of a particular cabinet minister and his relationship with the Prime Minister. (In Section 5 we extend our analysis to the relationship between the Prime Minister and a multi-member cabinet.)

At each moment $t$ in continuous time, the minister controls a single variable: his level of political activism, denoted $a_t \geq 0$. We interpret this activism as the number of new policy initiatives that are pursued in the ministry. Increased political activism exposes a minister to an increased risk of scandal, and hence subsequent resignation calls. Here, and as noted in Section 1, we interpret a scandal as the failure of a policy initiative. Thus, when the Prime Minister receives a call for a minister’s resignation, this call is based upon a critique of the minister’s political pro-activism, rather than unscrupulous behaviour or straightforward incompetence; alternatively, if it is based on the latter factors, then we suppose that it is the minister’s policy activism that prompted the discovery of such factors, via increased visibility in the media. Formally, we suppose that the arrival of scandals follows a Poisson process, with an arrival rate of $\lambda(a_t)$. This rate is strictly increasing, convex, and continuously differentiable in $a_t$: by increasing individual activism, and hence leading the cabinet to take a more aggressive stance on policy, the minister increases his exposure to political scandals.

A minister may or may not have an established record of involvement in scandals. Prior to the arrival of a scandal, a minister is said to be clean; following the arrival of a scandal, he becomes tainted. A minister remains tainted until the scandal is forgotten. When such amnesia sets in, the minister recovers and returns to a clean state; this reflects the view that, over time, scandals blow over, and stories disappear from the media. In truth, we might expect the media, political opponents, and other relevant actors to keep longer records of a minister’s performance; our aim here, however, is to capture the idea that ministers are able to weather the storm, and return to a fully active state. Formally, we suppose that a minister’s recovery arrives at a Poisson arrival rate of $\rho$. For simplicity, this recovery rate is unaffected by any actions taken. Allowing this recovery rate to depend on the minister’s continuing activism does not change the results in any important way.

2.2. The Role of the Prime Minister. The Prime Minister makes hiring and firing decisions. She is unable to observe the activism of the minister $a_t$, and must make her decisions contingent only upon the the arrival of any scandal and the minister’s current reputation.

For simplicity, we assume that when a scandal hits an already-tainted minister, then resignation pressures are irresistible: such a minister is automatically fired. It follows that a Prime Minister operates, by assumption, a “two strikes and out” firing rule. When a clean minister is hit by scandal, however, the Prime Minister is endowed with greater discretion,
and may take one of two actions: (i) she may protect the minister, so that the minister in question becomes tainted; (ii) she may fire him, in which case a clean replacement maintains the clean reputation of the cabinet post in question.

We restrict attention to the following (stationary) protection policy: when a clean minister is hit by a scandal, the Prime Minister fires that minister (the minister is invited to quit) with probability \( q \); equivalently, the level of protection offered is \( p = 1 - q \). Thus, all else equal, the exposure of a clean minister to the loss of his job following a call for his resignation may be limited. A tainted minister, on the other hand, is fully exposed to such risks.

Central to our paper is an investigation of the impact of different ministerial protection policies. One such policy is the complete absence of protection: any minister (whether clean or tainted) is automatically fired following a call for his resignation. Since this acts as a benchmark for our analysis, we will refer to such a regime as the operation of a “squeaky clean” protection policy. Formally, it corresponds to \( q = 1 \), or equivalently \( p = 0 \).

2.3. Commitment and Credibility. Ideally (from her perspective) the Prime Minister would be able to pre-commit to a particular protection policy. For some of our analysis, we suppose that she is able to do just that. For other analysis, however, the Prime Minister must ensure that her ministerial protection policy is incentive compatible. Given that full commitment is impossible, we suppose that ministers in the cabinet are able to observe whether she operates her stated policy. This is tantamount to assuming that ministers are able to observe the probability with which she fires a scandalized minister.

An immediate objection to such a stance is that ministers will be able to observe the actual decision taken (that is, fire or protect) but not the probability distribution over these decisions. Nevertheless, this objection may be overcome via a number of mechanisms. One such mechanism is to suppose that, for instance, the clamour for the resignation of a minister is not fixed, but subject to some noise. The Prime Minister’s policy would then be to protect a minister so long as demands for the minister’s resignation are not too large. Alternatively, we might suppose that the extent of the failure of a policy initiative (for that is our interpretation of a political scandal) is observed by the entire cabinet, and the Prime Minister promises to fire ministers when the failure is sufficiently large. Rather than include such mechanisms within our model, and appealing to a desire for parsimony, we go ahead and suppose that the level of protection exercised by the Prime Minister is observed.

Given that ministerial protection is observed, and full pre-commitment is impossible, we must consider a situation in which a Prime Minister deviates from her stated protection policy. Since such a deviation would likely arise from the Prime Minister firing a scandalized minister to whom she had pledged protection, we suppose that, following such a deviation, all cabinet ministers assume that the Prime Minister, from that moment on, will operate a squeaky clean hiring-and-firing policy. In turn, given that this is the case, the Prime Minister will no longer face an incentive to protect tainted ministers. Thus we assume that if the
Prime Minister deviates, and fails to offer sufficient protection for a scandalized minister, then she chooses to fire all tainted ministers from her cabinet. Essentially, she re-shuffles.

In summary, at time $t = 0$ all ministers are clean. The Prime Minister states a protection policy, characterized by the firing probability $q$. Cabinet members assume that the Prime Minister will follow her stated policy, unless she deviates. If she does, then all tainted ministers are fired. From the time on, any minister hit by a scandal is automatically fired, and hence the cabinet remains in a squeaky-clean state.

2.4. Payoffs. We turn to payoffs. A minister enjoys a flow payoff from holding his position, and a zero flow payoff if fired by the Prime Minister. The flow payoff from cabinet membership is strictly increasing in the activism of the minister’s department for $a_t < \bar{a}$, and decreasing for $a_t > \bar{a}$. Thus, $\bar{a} > 0$ represents the otherwise-ideal level of political activism, the minister’s flow payoff is single-peaked around this value; in the absence of any other factors, a minister would choose a policy activism of $a_t = \bar{a}$.

We also assume that the flow payoff is affected by the minister’s reputation. Formally, a minister’s flow payoff is $v_H(a_t)$ when he is clean, and $v_L(a_t)$ when the minister is tainted. We assume that $v_H(a_t) > v_L(a_t)$ so that, other things equal, a minister would rather be free of scandal. Both of these functions are assumed concave and differentiable, and are maximized at $a_t = \bar{a}$. A minister discounts the future at rate $\gamma$. Hence, if the minister is fired at time $T$, then he enjoys a payoff of $\int_0^T \exp(-\gamma t)v_{R_t}(a_t)\,dt$, where $R_t \in \{H, L\}$ is the minister’s reputation (that is, clean or tainted) at time $t$.

The Prime Minister cannot be fired. We recognize that, at some point in time, the electorate (or others such as her party) may choose to relieve her of position. Nevertheless, we will appeal to discounting in order to capture the limits to political tenure. The Prime Minister enjoys a flow payoff from the performance of ministers in her cabinet. That flow payoff is reflected in functions $w_L(a_t)$ and $w_H(a_t)$, which have similar properties to $v_L$ and $v_H$. In particular, we will assume that the Prime Minister shares an ideal degree of political activism $\bar{a}$ with her ministers. She also discounts the future at rate $\gamma$.

2.5. Numerical Specifications. For our illustrations, we adopt specific functional forms.

With little loss of generality, we will assume that the arrival rate of scandals increases linearly with a minister’s political activism: formally, $\lambda(a) = \bar{\lambda} + a$. Our interpretation is that as a minister increases his portfolio of policy initiatives, he increases the opportunities for policy failure, and hence for his political opponents to call for his resignation. We assume that $\bar{\lambda} > 0$, so that even if a minister sits tight, by setting $a = 0$, he still faces the risk of a scandal. This, in turn, implies that a minister will, with positive probability, be forced to resign after a finite time in position; cabinet membership does not carry tenure.
Turning to payoffs, we will impose a specification in which flow payoffs are determined by a quadratic-loss function around the ideal intensity of political activism $\bar{a}$. Specifically,

$$v_R(a) = \bar{v}_R - \frac{\theta_R}{2} \times (\bar{a} - a)^2,$$

where $R \in \{H, L\}$ is the minister’s reputation. Here, $\bar{v}_R$ is simply a constant term arising from the desire to hold political office. We may expect, for instance, that $\bar{v}_H > \bar{v}_L$; a tainted minister may need to spend more of his time defending himself against media investigation.

The second term is a familiar quadratic-loss term, reflecting a minister’s desire for the cabinet to attain its ideal level of political activism. We assume that a minister wishes to remain in office even when he chooses to “sit tight” and hence

$$v_R(0) = \bar{v}_R - \frac{\theta_R}{2} \times \bar{a}^2 > 0.$$  

This is equivalent to assuming that the benefits of holding office are sufficiently large, or equivalently the penalties of political inactivity (as indexed by $\theta_R$) are not too great. In tandem, we employ a similar quadratic specification for the Prime Minister, so that

$$w_R(y) = \bar{w}_R - \frac{\psi_R}{2} \times (\bar{a} - a)^2$$

is the flow payoff to the Prime Minister stemming from the political activities of a particular minister. When we extend to consider a full cabinet, the Prime Minister’s total flow payoff will be the simple sum across cabinet members.

In our simple model, the Prime Minister cannot be fired, and so the payoff for office-holding (that is, $\bar{w}_R$) is always enjoyed. This payoff, however, may vary according to the reputation of the minister in question. Furthermore, we allow for $\psi_R \neq \theta_R$, so that the Prime Minister may differ from her ministers in her desire to maintain the ideal level of political activism.

3. POLICY ACTIVISM

By assumption, the Prime Minister offers a level of protection $p = 1 - q$ to each of her ministers. Since the reputation of other departments does not enter into a minister’s payoffs, we are able to consider each minister in isolation. Doing so, let us write $a_H$ for the equilibrium activism of a clean minister, and $a_L$ for the activism of a tainted minister. On the equilibrium path, we write $V_L$ for the present-discounted payoff of a tainted minister and $V_H$ for the present-discounted payoff of a clean minister. For now, we assume that the Prime Minister is able to credibly commit to a protection policy.

3.1. The Value of a Ministerial Position. We now consider the value equations that must be satisfied by $V_H$ and $V_L$. We first consider the payoff of a clean minister. This minister enjoys a flow payoff of $v_H(a_H)$. Two events may occur to change this: (i) the minister is hit by a scandal and then fired; or (ii) the minister is hit by a scandal, and
protected. Combining the flow payoff with these two effects, we obtain

\[ \gamma V_H = v_H(a_H) - \lambda(a_H)qV_H - \lambda(a_H)(1 - q)(V_H - V_L) \]

\[ = v_H(a_H) - \lambda(a_H)[V_H - pV_L] \quad \text{where} \quad p = 1 - q. \]

We turn to the payoff of a tainted minister. He enjoys a flow payoff of \( v_L(a_L) \). Two events may occur to change his status: (i) the minister is hit by a scandal and automatically fired; and (ii) the minister recovers from the previous scandal, and his reputation is restored:

\[ \gamma V_L = v_L(a_L) - \lambda(a_L)V_L + \rho(V_H - V_L). \]

These equations may be solved for \( V_H \) and \( V_L \).\footnote{In fact, the explicit solutions are simply:

\[ V_L = \frac{(\gamma + \lambda(a_H))v_L(a_L) + \rho v_H}{(\gamma + \lambda(a_H))(\gamma + \rho + \lambda(a_L)) - \rho \lambda(a_H)} \]

\[ \text{and} \quad V_H = \frac{v_H(a_H) + \rho \lambda(a_H)}{\gamma + \lambda(a_H)} \times V_L, \]

which by inspection have the stated properties.}

Without doing so explicitly, it is easy to see that both \( V_H \) and \( V_L \) are increasing in the recovery rate \( \rho \) and the level of protection \( p \).

3.2. Optimal Activism. We now consider the optimal choice of \( a_H \) and \( a_L \). The problem is nicely behaved, and hence we may consider the two first-order conditions:

\[ v'_H(a_H) = \lambda'(a_H)[V_H - pV_L] \]

\[ v'_L(a_L) = \lambda'(a_L)V_L. \]

The interpretation is straightforward. With reputation \( R \), an increase in activism \( a_R \) increases the flow payoff to a minister by \( v'_R(a_R) \). It also increases the arrival rate of a scandal \( \lambda(a_R) \). The effect of a scandal differs according to the minister’s reputation; for instance, when the minister is tainted a scandal causes the loss of his job, and hence the loss of \( V_L \). In contrast, when a minister is clean he loses \( V_H \), but if protected (that is, when \( p > 0 \)) he may retain his position yielding a value of \( V_L \).

Studying these first-order conditions, and bearing in mind the concavity of \( v_R(a_R) \) and convexity of \( \lambda(a_R) \), comparative statics are straightforward. Notice that \( a_L \) falls as \( V_L \) rises. When a minister is tainted, his activism is determined by his desire to hold on to his job. Any increase in the value of his career (as reflected by \( V_L \)) results in a reduction of political activism. Thus, for such a tainted minister, changes in any parameters of the problem will feed through entirely via what we may call an income effect. Any parameter change (for instance, a change in the recovery rate or in the level of protection offered by the Prime Minister) that raises the value of being a tainted minister will result in increased caution on the part of the minister: a reduction in activism \( a_L \).

In contrast, when a minister is clean, there are both income and substitution affects present. To see this, notice that the primary restraint on a clean minister’s activism is the penalty of
being hit by a scandal: this is captured by the term $V_H - pV_L$. As this term falls, the penalty falls with it, and hence activism $a_H$ will increase. By inspection, an increase in protection $p$ will lead to a reduction in $V_H - pV_L$. This is a substitution effect: by offering protection, a Prime Minister is able to encourage risk-taking behaviour. On the other hand, an increase in protection (and, indeed, in the recovery rate $\rho$) will tend to increase both $V_H$ and $V_L$. These are income effects, and the net effect on $V_H - pV_L$ is ambiguous.

3.3. Protection and Recovery. To ascertain the net effect of increased protection (similar analysis will apply to other changes) we differentiate the value equation with respect to $p$:

\[
\gamma \frac{dV_H}{dp} = \left[ v_H'(a_H) - \lambda'(a_H)(V_H - pV_L) \right] \frac{da_H}{dp} - \lambda(a_H) \times \frac{d}{dp} [V_H - pV_L] \\
= -\lambda(a_H) \times \frac{d}{dp} [V_H - pV_L],
\]

where the inequality follows from the substitution of the first-order condition for $a_H$. Thus, $V_H - pV_L$ is decreasing in $p$ so long as $V_H$ is increase in $p$. If this is so, then an increase in $p$ leads to an increase in the activism of a minister $a_H$. Summarising:

**Lemma 1.** A local change in $\rho$, $p$, or both leads to an increase in $a_H$ if and only if it increases the value $V_H$ of being a clean minister. A local change leads to an increase in $a_L$ if and only if it reduces the value $V_L$ of being a tainted minister.

The implication here is that an increase in the protection level (so long as it increases the value of a clean minister’s job, as it will do under many parameter configurations) will succeed in raising activism; the combined income effects on $V_H$ and $V_L$ do not succeed in offsetting the substitution effect. On the other hand, the same policy will have the countervailing effect of reducing the activism of a tainted minister. We obtain the following proposition.

**Proposition 1.** An increase in either protection or the recovery rate will increase the policy activism of a clean minister, but reduce the activism of a tainted minister.

The effect of increased protection on a clean minister seems uncontroversial: by protecting him, the Prime Minister introduces a safety net, and hence allows him to be more active. As we can see, the total effect is somewhat more subtle, as it feeds through both income and substitution effects. The presence of income effects now allows us to understand the effect on the tainted minister: such a minister finds the position as a clean minister to be more valuable, and hence is tempted to “sit tight” and wait for recovery. Thus, if a Prime Minister chooses to offer protection, she must bear in mind the fuller effects of this policy.

Of course, the secondary effect on $a_L$ does not take place when there is no chance of recovery. If $\rho = 0$, then $V_H$ does not enter into the value equation for a tainted minister. Thus, an increase in protection has no effect on $V_L$, and in turn no effect on $a_L$. Increased protection unambiguously increases political activism so long as recovery is impossible; this will be the case if scandals are never forgotten.
3.4. **Exposure to Scandals.** Our model, while simple, reveals that the effects of protection and recovery are somewhat subtle. The same is true when we turn our attention to changes in the arrival rate of scandals. Let us adopt the functional form $\lambda(a) = \bar{\lambda} + a$. Thus, the arrival rate of scandals is equal to basic arrival rate $\bar{\lambda} > 0$, plus a term that is linear in political activism. In this environment, an increase in $\bar{\lambda}$ has no direct effect on $\lambda'(a)$; its effect must feed entirely through any income effects. Based on the lemma derived above, the effect of an exogenous increase in exposure to scandals may be ascertained: such an increase will reduce the value of a minister’s position, whether clean or tainted. Since both $V_H$ and $V_L$ fall, we will see a reduction in $a_H$ but an increase in $a_L$.

**Proposition 2.** An exogenous increase in exposure to political scandals will reduce the political activism of clean ministers, but enhance the activism of tainted ministers.

The interesting effect is on tainted ministers: as a tainted minister faces increased exposure, the value of his job falls. He has an enhanced incentive to “live for today” and increase his activism. This effect will dominate in a world with no protection, to which we now turn.

3.5. **A Squeaky Clean Cabinet.** Before concluding this section, we turn to consider the behaviour of ministers who participate in a squeaky clean cabinet; that is, a cabinet in which no protection is afforded to ministers. In this environment, ministers are always fired when they attract a scandal. The value equation and first order condition for a minister are simply

$$\gamma V_H = v_H(a_H) - \lambda(a_H)V_H \quad \text{and} \quad v'_H(a_H) = \lambda'(a_H)V_H.$$ 

In this world, there is no protection, and hence a minister never enters the tainted state. This, in turn, implies that recovery plays no role. The exogenous exposure to scandals, however, still has an effect. An increase in $\bar{\lambda}$ will reduce $V_H$, and hence increase $a_H$. Thus, in a squeaky clean world, an exogenous increase in exposure to scandals results in more, not less, activism, and hence a further increase in the arrival rate of scandals. Understanding the important part played by the income effect is key to this. When $\bar{\lambda}$ is high, all ministers realise that they are bound to be fired soon, and hence (as above) they live for today.

The implications are interesting. Suppose, for instance, that the underlying hazard rate of a minister is high, perhaps because of risk taking in the past. This will encourage him to take more political risks in the future. Similarly, if a minister has played it safe in the past, he will continue to do so. There is a sense, therefore, in which both high levels of activism and an adherence to the status quo are each, in turn, self-reinforcing modes of behaviour.

4. **Protection**

We turn now to an analysis of the Prime Minister’s protection policy. The Prime Minister’s flow payoff is the simple sum of flow payoffs obtained from the activism of each of her ministers. Furthermore, we assume here that she is able to commit credibly to her protection
policy. Given these assumptions, it will be sufficient to focus on her relationship with a single minister. (In Section 5, we will remove the ability to commit, and the existence of a multi-member cabinet will impact upon the feasibility of different protection regimes.)

Prior to our analysis, we first develop intuition for the results that follow. The Prime Minister must choose the degree of protection offered to one of her ministers. As the analysis of Section 3 reveals, however, she must be aware of both the substitution and income effects of increasing protection. Furthermore, an increase in protection will lead to a higher incidence of tainted ministers. Since (following Proposition 1) tainted ministers reduce their activism in response to increased protection, such ministers essentially become “lame ducks.”

4.1. The Prime Minister’s Objective. We follow the notation used in Section 3. Specifically, the Prime Minister offers a level of protection \( p = 1 - q \) to an individual minister. That minister engages in activism \( a_H \) when clean, and \( a_L \) when tainted. We write \( W_H \) for the present discounted payoff of the Prime Minister when the minister is a clean state, and \( W_L \) when he is tainted. Based on our earlier logic, \( W_H \) and \( W_L \) must satisfy the two equations:

\[
\gamma W_H = w_H(a_H) - p\lambda(a_H)(W_H - W_L), \quad \text{and} \quad \gamma W_L = w_L(a_L) + (\rho + \lambda(a_L))(W_H - W_L).
\]

The intuition is as before: when the minister is clean, the Prime Minister enjoys a flow payoff of \( w_H(a_H) \). If a scandal arrives and the minister is protected, then the Prime Minister loses \( W_H - W_L \). The second equation may be interpreted in a similar way. Solving these two equations simultaneously, we obtain

\[
\gamma W_H = \frac{w_H(a_H)(\gamma + \rho + \lambda(a_L)) + w_L(a_L)p\lambda(a_H)}{\gamma + \rho + p\lambda(a_H) + \lambda(a_L)}, \quad \text{and} \quad \gamma W_L = \frac{w_H(a_H)(\rho + \lambda(a_L)) + w_L(a_L)(\gamma + p\lambda(a_H))}{\gamma + \rho + p\lambda(a_H) + \lambda(a_L)}.
\]

We assume that the minister begins with a clean reputation. The Prime Minister’s problem, therefore, is to choose the level of protection \( p \) to maximize \( W_H \) subject to the activism levels \( a_H \) and \( a_L \) being optimally chosen by the minister.

4.2. The Conflicting Effects of Protection. Armed with these expressions, we can identify the different effects of an increase in protection. Notice that \( \gamma W_H \) is the weighted sum of \( w_H(a_H) \) and \( w_L(a_L) \). Thus, a change in \( p \) affects these two flow payoffs via a change in \( a_H \) and \( a_L \), and also changes the relative weighting of them. Following Proposition 1, an increase in \( p \) prompts an increase in \( a_H \) and hence an increased flow payoff in the clean state. On the other hand, the income effect reduces \( a_L \) and hence the flow payoff in the tainted state. There is a further replacement effect, however. Increasing \( p \) directly increases the transition rate from clean to tainted, and hence shifts the weighted average in favour of \( w_L(a_L) \). The effect is exacerbated by the increase in \( \lambda(a_H) \) and reduction in \( \lambda(a_L) \). In
summary, increased protection has the desired effect of raising activism, but only for clean ministers. If $w_L(a_L) < w_H(a_H)$, then all other effects work against the Prime Minister.

The conflict in the effects of protection mean that it might be optimal to offer no protection at all. To demonstrate this fact, we simplify by setting $\lambda(a) = \tilde{\lambda} + a$, and calculate the effect of the initial element of protection by evaluating $dW_H/dp$ at $p = 0$. We have

$$\frac{dW_H}{dp} > 0 \iff w_H'(a_H)(\gamma + \rho + \lambda(a_L)) \frac{\partial a_H}{\partial p} > \lambda(a_H) [w_H(a_H) - w_L(a_L)]$$

This inequality may or may not be satisfied. In fact, substituting in the quadratic-loss specification for the Prime Minister, the inequality reduces to:

$$\psi_H(\bar{a} - a_H)(\gamma + \rho + \tilde{\lambda} + a_L) \frac{\partial a_H}{\partial p} > (\tilde{\lambda} + a_H) \left[ \bar{w}_H - \bar{w}_L + \frac{\psi_H(a_H - \bar{a})^2}{2} - \frac{\psi_L(a_L - \bar{a})^2}{2} \right].$$

Observe that $\bar{w}_H$ is the office-holding element of the Prime Minister’s payoff when the minister clean, and that this falls to $\bar{w}_L$ when the minister is tainted. When $\bar{w}_H - \bar{w}_L$ is sufficiently large, the inequality derived above will fail. Thus, when the Prime Minister is greatly concerned with a direct loss of payoff from a scandalized minister, she will wish to offer no protection at all. On the other hand, this inequality is always satisfied in other scenarios. When the effect of increased protection on $a_H$ is sufficiently large, then the inequality holds.

To gain clearer insight into the factors that influence the Prime Minister’s desire to offer protection, we consider a special case. Let us consider an environment in which payoffs follow the quadratic specification described in Section 2.5, and set $\theta_H = \theta_L$, $\psi_H = \psi_L$, and $\bar{u}_H = \bar{u}_L$. Furthermore, let us eliminate the possibility of recovery by setting $\rho = 0$. Under these circumstances, when the Prime Minister eliminates all protection, we know that $a_L = a_H$. The inequality derived above then reduces to

$$\frac{(\bar{a} - a_H)(\gamma + \tilde{\lambda} + a_L)}{(\tilde{\lambda} + a_H)} \times \frac{\partial a_H}{\partial p} > \frac{\bar{w}_H - \bar{w}_L}{\psi}.$$ 

By inspection, when $\bar{w}_H - \bar{w}_L$ is sufficiently low relative to the Prime Minister’s desire $\psi$ to achieve the desired level of political activism, this inequality will be satisfied, and some positive level of protection will always be desirable.

4.3. Protection and Recovery in Equilibrium. The first relationship we are concerned with is the effect of the recovery rate $\rho$ on the equilibrium protection level. One might think that the more likely a minister is to recover from a scandal the more likely he is to be protected. When recovery increases, the corresponding number of tainted ministers who are under protection at any given time decreases as tainted ministers recover and enter the clean state. Clearly, when the attention span on a scandal is short and thus the Prime Minister expects the scandal to blow over, there is a greater incentive toward protection.

Figure 1 plots $W_H$ on protection for different values of $\rho$. The comparative statics are surprising: the optimal level of protection is in fact decreasing in $\rho$, indeed as $\rho \to 0$ then
full protection is optimal. Focusing upon the substitution and income effects provides the correct intuition. We know from the analysis of equilibrium effort levels that as $\rho$ goes up $a_H$ increases and hence $\lambda(a_H)$ goes up also. This means that, as the hazard rate for clean ministers goes up, more ministers enter the tainted state at the optimal level of protection. We also know that as $\rho$ goes up $a_L$ decreases and hence $\lambda(a_L)$ goes down. This means that fewer tainted ministers exit the cabinet under the “two strikes” rule. We see then that recovery increase the relative cost of protection and, as such, the overall income effect of an increase in $\rho$ drives down the level of protection which is offered in equilibrium.

This comparative static highlights the role which the Prime Minister plays in managing the level of policy activism in the cabinet. In particular it highlights the dilemma which the Prime Minister faces when she has only one instrument, protection, available to her. She would like her clean ministers to be policy active since, dependent on her value of $\psi$, she benefits directly from such activism. However she needs to ensure too many ministers with clean reputations do not become scandalised. Lowering protection offsets the positive effect which an increase on recovery has on the activism of clean ministers. With tainted ministers the Prime Minister has the opposite concern. At the equilibrium protection level an increase in recovery reduces the policy activism of tainted ministers. These ministers are in effect “lame ducks” who will sit tight in the hope that they recover from the scandal which has beset them. Thus an increase in recovery requires a corresponding decrease in protection to offsets this lame-duck effect. Of course, the Prime Minister will not be overly concerned about the higher activism of tainted ministers since, under the two-strikes rule, these ministers can be replaced whilst maintaining an optimal protection policy for the cabinet as a whole.
We turn to analysis of the effects of the baseline hazard term $\lambda$. Our immediate intuition is that, as the exogenous hazard rate increases, more ministers become tainted and the level of ministerial protection will be lower. However as in the analysis of the effects of recovery we need to focus upon the overall transition rate of ministers from the clean to the tainted state and also out of the tainted state when ministers are fired from the cabinet under the two-strikes rule. Moreover we need to focus attention on both the income and substitution effects. We know from the previous analysis that higher levels of $\lambda$ lead to a decrease in $a_H$ and, as clean ministers reduce their activism, $\lambda(a_H)$ falls accordingly. Thus fewer clean ministers enter the tainted state. However, an increase in $\lambda$ leads to an increase in $a_L$. This again is due to the income effect: an increase in $\lambda$ reduces the value of a ministerial career and increases $a_L$ in line with the “live for today” attitude. This in turn increases the hazard rate for ministers when in the tainted state and as $\lambda(a_L)$ goes up the exit rate of tainted ministers from the cabinet goes up also. The net effect of an increase in the baseline hazard is then a decrease in the transition rate of ministers into the tainted state but an increase in the rate at which tainted ministers leave that state through exiting the cabinet. This net effect allows the Prime Minister to increase protection at the margins, thus inducing higher levels of activism from clean ministers.

5. Credibility

So far we have assumed that the Prime Minister can credibly commit to her protection policy, and so losses due to inactivity may be offset by increasing protection. In dynamic settings, where time-inconsistent preferences preclude commitment, reputation may play a role. The existence of a multi-member cabinet may generate a concern for reputation such that the Prime Minister is able to credibly commit to her policy. Were the Prime Minister
to defect from a stated policy then this defection is observed by all of her ministers; thus
the Prime Minister faces sacrificing her reputation not only with regard to the individual
minister concerned but with her entire cabinet.

5.1. Credibility in a Multi-Member Cabinet. To identify the effect of a multi-member
cabinet, we suppose that, if the Prime Minister deviates from her stated protection pol-
icy, then all ministers act, from then on, as if the Prime Minister automatically fires any
transgressing ministers. Another way of saying this is that a single deviation from a stated
protection policy leaves the Prime Minister’s reputation, with regard to protecting her min-
isters, in tatters. Following a deviation, clean ministers will employ activism \( \tilde{a} \) which is
the level of activism were no protection available. Since, following a deviation, the Prime
Minister is no longer constrained to maintain a good reputation, we assume that upon devi-
ating once only the Prime Minister reverts to a “keep it clean” regime, firing all incumbent
ministers who are tainted and firing also all ministers who subsequently become tainted.

We write the present discounted value of the relationship between the Prime Minister and
a minister in her cabinet at the start of this reversionary phase as \( \tilde{W} = v(\tilde{a})/\gamma \). For the
Prime Minister to be able to credibly commit to her protection policy it must be the case
that the Prime Minister would rather retain a minister who has become tainted than to let
the minister go. The credibility constraint is simply \( W_L \geq \tilde{W} \).

One might think, in line with standard arguments, that as the cabinet’s size increases reputa-
tion effects will be binding. As the number of ministers increases, the loss of policy activity
which the Prime Minister faces due to a deviation acts as a disincentive toward reneging on
the protection policy. Of course, the greatest incentive to defect from her protection policy
pertains to the case where \( p > 0 \) and the entire cabinet is tainted. With the entire cabi-
net being tainted, the Prime Minister faces a large incentive to deviate from her protection
policy and in fact, if \( nW_L < n\tilde{W} \iff W_L < \tilde{W} \), she will do so. Therefore, if and only if,
\( W_L \geq \tilde{W} \) can the Prime Minister credibly commit to a protection policy when all ministers
are tainted.

Clearly the existence of a multi-member cabinet makes no difference in this case. Consider
now the case where there is a single clean minister in the cabinet and all other ministers are
tainted. If this \( \tilde{W} \geq W_L \) then the Prime Minister cannot credibly commit to protecting this
minister since, if he becomes tainted then the entire cabinet is tainted also. By induction on
\( n \) we obtain the following

**Proposition 3.** The existence of a multi-member cabinet of identical ministers does not
allow the Prime Minister to make a credible commitment to protection, when no such com-
mmitment could be made in the absence of such a cabinet.

Although the exposition is straightforward, the result is nevertheless surprising. A large
cabinet does not in and of itself produce the desired reputation effect which would allow
the Prime Minister to credibly protect her ministers. We now turn to the case where there is a multi-member cabinet consisting of heterogeneous ministers. We illustrate the effect of heterogeneity with a specific two-minister example using our numerical specifications.

5.2. Credible Commitment with Heterogenous Ministers. In the previous section we have shown that, where the Prime minister is involved in bilateral relationships with homogeneous ministers, a concern for her reputation does not allow her to credibly commit to her protection policy. We now explore whether these reputation effects are present when allowing for heterogeneity between ministers. Such heterogeneity occurs if, for example, the penalty which the Prime Minister incurs due to the inactivity of one minister is lower or higher than that incurred for another. Alternatively we might think of the recovery rate for one minister being lower or higher than for another minister, due perhaps to the relative seriousness of the scandals in which they are involved.

To keep things simple we focus on the case where the cabinet consists of two members $i$ and $j$. Since each minister is purely concerned with the activity in his own department, their activism levels are simply $a_H$ and $a_L$ though we now index these activity levels as $a_{Hi}$, $a_{Li}$ and $a_{Hj}$, $a_{Lj}$ to indicate the activity levels of ministers $i$ and $j$ respectively. We illustrate the role of reputation in this example by allowing a single exogenous parameter $\rho$ to vary by minister. Correspondingly we set $\rho_i = 0$ and $\rho_j = \frac{1}{2}$ whilst allowing the endogenous level of protection, $p_i$ and $p_j$, to vary. To impose heterogeneity upon the cabinet we assume that minister $i$ can only be replaced by a minister who is identical to $i$ and similarly minister $j$ can only be replaced by a minister who is identical to $j$. The Prime Minister’s flow pay-off is the sum of flow pay-offs obtained from the activism of each of her ministers. We write $W_{Hi}$ and $W_{Li}$ as the value contribution of minister $i$ in the clean and tainted states respectively, and similarly write $W_{Hj}$ and $W_{Lj}$.

For our numerical specifications we set $\psi_H = \psi_L = 2$, and $\bar{w}_H = \bar{w}_L = 2$ and, with regard to the ministers problem we set $\theta_H = \theta_L = 1$, $a = 1$, $\bar{\lambda} = 1$ and $\bar{\nu} = 2$. In addition we set the interest rate $\gamma$ at $\frac{8}{10}$. The value functions are plotted in figure 3 which in addition show the penalties which the Prime Minister incurs due to the inactivity of one minister is lower or higher than that incurred for another. Alternatively we might think of the recovery rate for one minister being lower or higher than for another minister, due perhaps to the relative seriousness of the scandals in which they are involved.

For these values of $\rho$ the contribution of minister $i$ in this cabinet is

$$\gamma W_{Hi} = \frac{w_H(a_{Hi})(\gamma + \lambda(a_{Li})) + w_H(a_{Li})p_i\lambda(a_{Hi})}{\gamma + p_i\lambda(a_{Hi}) + \lambda(a_{Li})},$$

$$\gamma W_{Li} = \frac{w_H(a_{Hi})(\lambda(a_{Li})) + w_L(a_{Li})(\gamma + p_i\lambda(a_{Hi}))}{\gamma + p_i\lambda(a_{Hi}) + \lambda(a_{Li})}.$$  

Whereas the contribution of minister $j$ is

$$\gamma W_{Hj} = \frac{w_H(a_{Hj})(\gamma + \frac{1}{2} + \lambda(a_{Li})) + w_H(a_{Li})p_j\lambda(a_{Hj})}{\gamma + \frac{1}{2} + p_j\lambda(a_{Hj}) + \lambda(a_{Li})},$$

$$\gamma W_{Lj} = \frac{w_H(a_{Hj})(\frac{1}{2} + \lambda(a_{Li})) + w_L(a_{Li})(\gamma + p_j\lambda(a_{Hj}))}{\gamma + \frac{1}{2} + p_j\lambda(a_{Hj}) + \lambda(a_{Li})}.$$
would like to offer full protection to minister $i$ and a lower level of protection for minister $j$. Interestingly, the Prime Minister seeks to protect the minister who is less likely to recover from scandal. With no recovery available for minister $i$, the Prime Minister must use her protection policy to induce higher levels of policy activism from that minister.

Note that $W_{Li}$ is always greater than $\tilde{W}_i$. For minister $i$ the Prime Minister would always be better off offering any level of protection than firing. If the cabinet consisted only of minister $i$, or if minister $j$ were identical to $i$, any offer of protection would be credible. In
our example with heterogenous ministers, however, the cabinet contains minister \( j \) who has a higher recovery rate. Note that for minister \( j \) protection pays only when he is in the clean state, since \( \hat{W}_{Hj} > \hat{W}_j \). Once minister \( j \) is tainted, protection is more costly than firing since \( \hat{W}_{Lj} \) always lies below \( \hat{W}_j \). Thus if the cabinet consisted only of minister \( j \), or if minister \( i \) were identical to minister \( j \), any offer of protection would lack credibility. We now ask whether the existence of a cabinet which contains minister \( i \), who has a lower recovery rate, enables the Prime Minister to extend a credible commitment of protection to minister \( j \) who has a higher recovery rate.

We start our analysis with both ministers in the clean state of the world. From figure 3 we observe that, in this state, the Prime Minister would clearly offer full protection \( p^*_i = 1 \) to minister \( i \) and would offer minister \( j \) a level of protection \( p^*_j = 0.6 \). This level of protection maximises the Prime Minister’s pay-off when \( j \) is clean and minimises the cost of protecting him in the event of a scandal. Suppose that minister \( i \) is hit by a scandal. The benefit to the Prime Minister from the protection policy is the current discounted value \( \hat{W}_{Li} + \hat{W}_{Hj} \). If she instead reneges on the proposed level of protection and fires minister \( i \) she receives the current discounted value of \( \hat{W}_{i} \) plus \( \tilde{W}_j \). From figure 3 we observe that the inequality

\[
\hat{W}_{Li} + \hat{W}_{Hj} \geq \hat{W}_i + \hat{W}_j
\]

is satisfied so that, when \( j \) is clean and \( i \) is tainted, the commitment to a protection policy involving \( p^*_i \) and \( p^*_j \) is credible.

Suppose that, instead of minister \( i \) it is minister \( j \) who is hit by scandal when previously both ministers had been clean. Although \( \hat{W}_{Hi} > \hat{W}_i \) it is also the case that \( \hat{W}_{Lj} < \hat{W}_j \). Were she to renge on protecting minister \( j \), the Prime Minister stands to gain \( \hat{W}_j \) whilst losing only \( \hat{W}_{Lj} \). Clearly, if the Prime Minister considered her relationship with minister \( j \) in isolation, she would wish to renge on any level of protection and so any commitment is non-credible. However, in a heterogenous cabinet the Prime Minister must take into account the effect of her action with respect to minister \( j \) upon her relationship with minister \( i \). Indeed were she to renge on protecting \( j \) she stands not only to gain the current discounted value of \( \hat{W}_j - \hat{W}_{Lj} \) but to lose \( \hat{W}_{Hi} - \hat{W}_i \). From figure 3 we observe that the inequality

\[
\hat{W}_{Hi} - \hat{W}_i \geq \hat{W}_j - \hat{W}_{Lj}
\]

holds so that when \( i \) is clean and \( j \) is tainted, the commitment to protection levels \( p^*_i \) and \( p^*_j \) is credible.

Clearly the biggest incentive for the Prime Minister to defect occurs when both ministers are tainted. Consider the case where minister \( i \) is tainted and \( j \) is hit by a scandal. Following the reasoning above we need only check that the gain from defection with respect to minister \( j \), which in this case is \( \hat{W}_j - \hat{W}_{Lj} \), is smaller than the cost of defection with respect to minister \( i \), which in this case is \( \hat{W}_{Hi} - \hat{W}_i \). Similarly in the case where where minister \( j \) is tainted and minister \( i \) becomes tainted also, for commitment to be credible it must also be the case that
the gain from defection with respect to minister $j$ is smaller than the cost of defection with respect to minister $i$. In fact we observe from figure 3 that the required inequality is indeed satisfied

$$W_{Li} - \bar{W}_i \geq \bar{W}_j - W_{Lj}.$$  

We see then that when minister $i$ is tainted and minister $j$ becomes tainted also, or when $j$ is tainted and $i$ become tainted also, the commitment to protection levels $p^*_i$ and $p^*_j$ is credible.

The effect of introducing heterogeneity into a multi-member cabinet is that the Prime Minister will show concern for the net effect of her actions upon the level of activism of the cabinet as a whole. Surprisingly we find that, the inclusion of minister $i$ who has a lower rate of recovery allows the prime minister to credibly commit in a cabinet including minister $j$ who has a lower level of recovery. Note that, although the Prime Minister can credibly commit to her optimal policy of providing $p^*_i$ and $p^*_j$, she cannot commit to any level of protection. A promise of full protection to her cabinet, for example, would not be credible. Hence the Prime Minister’s ability to protect ministers from resignation calls is limited by her incentive to maintain credibility.

6. Concluding Remarks

We have explored how a Prime Minister may use the hiring and firing of ministers, to pursue her political objectives. Both she and her ministers are keen to be policy active. Such activism, however, exposes ministers to the risk of resignation calls due to policy failures, and subsequent unpopularity. Ministers, therefore, face a moral hazard problem: they will shy away from activism in order to avoid the scandals that would lead to the loss of their jobs. We have focussed on the role of the Prime Minister in protecting her ministers from such consequences of their policy activism. A protection policy can provide the correct incentives for cabinet ministers to be policy active, whereas the absence of such a policy may lead to overtly risk adverse behaviour on the ministers part.

We view this aspect of the relationship between the Prime Minister and her executive as a crucial factor in maintaining the value of a ministerial career. As such our model fits into a broader literature which examines the effect of institutions on the quality of the political elite. As noted by Caselli and Morelli (2004), a preponderance of a “bad politicians” affects the value of a political career such that talented candidates exempt themselves from public life. Besley and Case (1995) have looked at the effect of elections as institutional mechanisms which can mitigate against this affect. Whilst Dal Bó and Di Tella (2003) have focussed on the role of political parties as a means of protection for “good politicians”. Our model is the first which we know of which formally analyses the hiring and firing decisions which are made by the chief of the executive and its effects of the value of a political career.

In focussing upon the effect of the protection policy on the value of a ministerial career, we reached some surprising results. In our model the preferences of the Prime Minister and her
ministers are aligned in that both desire higher levels of policy activism. However, whereas
the promise of protection enhances the activism of those who are free from scandal, the
same promise encourages tainted ministers to sit tight. This is due to the income effect of
a minister’s concern for his future career. Anything that increases the value of a career will
make a minister more sensitive to the loss of his job. A protection policy will do just that.
In contrast, a shorter expected job tenure will focus a minister’s attention on the short run,
providing an incentive to “live for today” and increase policy activism. Thus, ministers who
suffer from an exogenously higher risk of scandal or who have been exposed to scandal in
the past and have little chance of recovery prove to be more likely to be policy active.

This insight sheds light onto two issues. First, we observe that some ministers appear to
be dramatically more exposed to scandals than others. Most commentators attribute this
to personality traits of the ministers involved. The income effect demonstrates that only a
small tendency toward scandal can lead to greater exposure. The initial tendency leads to
a shortened expected tenure, and thus increased political activism, reinforcing a minister’s
exposure to scandals and subsequent resignation. Second, a widely held view is that the
incumbents of some departments have a higher hazard rate than incumbents of others. The income effect can provide new insights here. If the incumbent in a department is policy
active, then his successor faces an increased risk of subsequent policy failures. Given that
the initiatives of his predecessor may come back to haunt him, the successor faces a lower
expected tenure and adopts a “live for today” attitude by hastening the implementation of
policy reforms. In summary, we expect a department’s reputation for policy activism and
the associated policy failures to be self-reinforcing.

The income effect also illuminates the Prime Minister’s protection policy, which may vary
with other parameters in surprising ways. An increase in the ability of ministers to recover
from scandal decreases the optimal level of protection which is offered. The protection
increases with an minister’s exogenous exposure to scandal. Our explanations highlighted
the effects of the protection policy on the transition rates between the minister’s states. For
example, since recovery increases the activism of clean ministers and decreases that of tainted
ministers the Prime Minister is concerned with what we have termed the “lame duck” effect.

We have also provided a new rationale for cabinet governance. By modeling the cabinet
as a set of independent relationships between the minister and the Prime Minister we are
able to identify the effect of a political cabinet. Krehbiel (1993), famously, queried how
the world would look if, instead of being organised into political parties, legislators simply
acted according to their preferences; thus he challenged political scientists to find evidence
of “partisan” behaviour. We ask a similar question of the role of cabinets with regard to
the relationship between ministers and the Prime Minister: Does the existence of a cabinet

6For example, the British Home Office is often seen as a ministerial graveyard with many promising political
careers having come to a premature end there, due to failed policy initiatives. Most commentators treat this
effect as a structural feature of the British cabinet system of government.
lead to behaviour which would be different to that which would be observed in the absence of such a cabinet? The role of a cabinet hinges upon the fact that the Prime Minister’s protection policy may suffer from a lack of credibility, due to a short-term incentive to boost poll ratings by firing a tainted minister. Thus the existence of a multi-member cabinet may help her to keep her promises.

This issue is somewhat subtle, in that the existence of a multi-member cabinet does little to establish credibility in of and by itself. Instead, the cabinet system is of use when the ministerial team is heterogeneous. This aspect of our model is a straightforward application of the multi-market contact idea (Bernheim and Whinston, 1990) which has, so far, received little attention in the political science arena.7

The institutional setting for our model does not take into account the partisan composition of the governing coalition. Diermeier and Merlo (2000), for example, look at the mid-term cabinet reshuffle as a means of reallocating, between the parties, the office benefits initially distributed at the start of a government term. That element does not figure in our model, but we do think that the income effects which we highlight in our institutional setting are relevant in the multi-party setting also.

REFERENCES


7 A notable exception is a recent paper by Stasavage and Guillaume (2002), who investigate conditions which help sustain monetary unions. They argue,

“In the case of international agreements, fear of losing the benefits from parallel agreements in the areas of trade, aid or security can dissuade even a government with strong preferences for looser monetary policy from exiting.” (p. 121)

This idea has been described as “linkage politics” by Lohmann (1997).


