

Handicaps on Timing to Improve Reputation

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Abstract

An agent may be able to address a task at different times, with the state of nature more favorable to the task in some periods over others. Success on a task will therefore more greatly improve the agent's reputation following success on a task if he is constrained in choosing when to address the task than if he enjoys flexibility in timing. These considerations may explain why presidents emphasize achievements in their first hundred days in office, and why performance of the economy in only some quarters of a president's term affect elections.

Keywords: Reputation, Principal-agent, Policy making

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1 Introduction

Common approaches to retrospective voting assume that voters are irrational or myopic. Why should they care about unemployment or economic growth in the election year, ignoring other years? This paper offers an explanation. Suppose an incumbent aims to signal his ability in controlling the economy. Voters may attribute good performance of the economy in an arbitrary period to luck, or to a good state of nature. But if the incumbent says he will stimulate the economy in December of each year, or in a leap year, then he sets up a test and can demonstrate his ability. So if voters expect a stimulus in an election year, the incumbent should provide it, and voters are rational using that to measure ability. An incumbent can be thought of as having to “pull a rabbit out of a hat.” The smaller the hat, or the shorter the time period, the more impressive the trick. A similar rationale may explain why new presidents are eager to accomplish much in their first hundred days in office.¹ Indeed, many journalists saw President Carter as a failure because he achieved little in his first hundred days compared to Roosevelt’s achievements (Rozell 1989, p. 40). And some presidents see achievement in the first hundred days as important, as when President Clinton pledged to have the most productive 100-day period in modern history (Gergen 1993).

This paper explains such behavior by considering handicaps. A master chess player proves his ability by playing with some missing pieces, or even playing blind. If he can win with such handicaps, then he must be exceptionally good. A similar approach may explain some behavior by politicians and managers concerned about their reputations. In particular, I shall show how an agent who knows he can succeed even under unfavorable conditions can signal his ability by constraining his freedom to address a task when conditions are most likely favorable. The ideas discussed below build on the insight by the evolutionary biologists Zahavi and Zahavi (1997): weak individuals are more likely captured by predators than are strong individuals, and ornaments or handicaps which hurt the weak more than they hurt the strong can increase the difference in predation rates. So the stronger ones will choose to produce larger ornaments that handicap them, signaling their strength to potential predators. For example, a gazelle which sights a wolf and jumps high into the air several times before fleeing, signals that it is a

¹For evidence on greater legislative activity in the first hundred days of a presidential administration, see Frensdreis, Tatalovich, and Schaff (2001).

swift runner, easily able to outrun the wolf, and so discourages the wolf from pursuing it. Similarly, the cost a peacock incurs in carrying its elaborate and weighty tail-feathers, which interfere with food gathering, signals to potential mates that it is especially fit to provide for its offspring.

2 Literature

2.1 Retrospective voting

One phenomenon this paper addresses is that voters evaluate an incumbent's performance not over his full term of office, but over some more limited period. The Introduction already mentioned the importance of a president's first hundred days. Evidence also suggests that votes for president were best predicted by per capita change in GNP in the second quarter of the election year (Fair 1978). Conditions in the rest of a president's term are mostly irrelevant, with economic conditions in quarter 13 of a president's term having half the effect of economic conditions in quarter 14 on the presidential election, and economic conditions in quarters 9-12 having about a sixth of the effect (Bartels 2012).

2.2 Reputation

An incumbent may increase his chances of winning election by pandering to the public, taking actions the public may incorrectly believe are best (Maskin and Tirole 2004, and Smart and Sturm 2003). If a project will likely fail even under a skilled leader, a leader (whether skilled or not) may prefer projects likely to fail over projects likely to succeed (Majumdar and Mukand 2004). Indeed, a politician with a bad reputation may favor a highly risky policy—if the policy fails, he would have lost the next election anyway, but the policy succeeds, his reputation and so his chances of re-election improve. This idea is applied by Hess and Orphanides (1995) to claim that a president with a bad reputation may risk war to give him an opportunity to improve his reputation. Relatedly, if voters can learn about a politician's ability from the performance of a new project he undertakes, then an incumbent ignorant of his own ability will adopt too many projects if he is at risk of losing re-election, and will adopt too few projects if he is likely to win reelection (Biglaiser and Mezzetti 1997).

Reputational concerns may lead a politician to terminate a policy that he, but not the voters, knows has failed (Beniers and Dur 2007). And reputational concerns can give rise to political correctness: an adviser who wishes to avoid a reputation for bias may not truthfully reveal his information (Morris 2001).

2.3 Delay

Postponement of adopting a policy is efficient when transition costs are high. Postponement may also be optimal when uncertainty about future events make it worthwhile to wait for further information. These points are made by Feldstein (1976) in his analysis of tax reform. The effects of delay on transition costs and the investment decisions of firms are discussed by Kaplow (1986). Delay may also appear in bargaining. The seminal article is Rubinstein (1982), whose model is applied to legislatures by Baron (1989) and Harrington (1990). In examination of bargaining, Admati and Perry (1987) and Cramton (1992) show that bargainers may delay to communicate their relative strengths.

Delay in macroeconomic stabilization can arise from a battle of attrition: any stabilization policy would harm some group, so each group wants to force a policy that protects its interests (Alesina and Drazen 1991). When gradual decontrol of prices may induce hoarding, the induced political pressures make continuation of decontrol less likely, and therefore make immediate decontrol more attractive (Van Wijnbergen 1992).

3 Assumptions

The agent can address two tasks, or issues, A and B. The outcome on a task is either success or failure. The agent is in office for at most two terms, each with two periods, 1 and 2. The initial focus is on the first term. In each period, the agent can address only one task, A or B. In period 2 of the term he addresses the task he had not addressed in period 1.²

The prior probability that the agent has High ability (is an H type) is h . An H-type succeeds on each task regardless of the state of nature. A Low-ability agent (an L type) succeeds on a task only if the state of nature

²I could instead assume that in period 2 the agent addresses the task on which he failed in period 1. That does not change the results.

is favorable to that task. The state of nature is Favorable with probability f . If the outcome is Bad in some period, then the agent is revealed to have Low ability.³

3.1 Principal

The principal observes the outcomes of the agent's actions, and observes the task the agent addressed in each period. The principal observes neither the state of nature nor the agent's ability.

The timeline is as follows

- Ability of agent determined
- State of nature in period 1 determined
- Agent addresses task A or task B
- Outcome of task determined
- Agent addresses task not previously addressed
- State of nature determined
- Outcome of tasks determined

3.2 Results

3.3 Flexible timing

Consider the agent's performance when he can choose what task to address in which period, or when he enjoys flexible timing. In period 1 the agent observes one of the four possible states of nature: favorable to A and favorable to B, favorable to A but not to B, and so on. With probability $1 - (1 - f)^2$ the state of nature favors at least one task. Without loss of generality, call the task the state of nature favors, if it favors any, task A. With probability $(1 - f)^2$ the state of nature is unfavorable to both tasks.

³We can generalize the model to have an H-type succeed with probability less than 1, but greater than that of an L-type. And we can have an L-type succeed with positive probability when the state of nature is unfavorable.

So consider the probability at the end of period 2 that the principal believes the agent is an H-type. A necessary condition for believing the agent is an H type is that the outcome is Good in both periods. If the outcome is Good in both periods, the probability that the agent is an H type is

$$pr(H|GG) \equiv \frac{\Pr(H|GG) = pr(GG|H)pr(H)}{pr(GG|H)pr(H) + pr(GG|L)pr(L)}. \quad (1)$$

The probability of $GG|L$ is the probability that an L-type agent will succeed in both periods. In period 1, he will succeed if the state of nature favors either task A or task B. That event occurs with probability $1 - (1 - f)^2$. In period 2, the agent will address the task not addressed in period 1. The probability that the state of nature favors success in period 2 on that task is f . Thus, the probability that an L-type will succeed on both tasks, given that he can choose when to address each task, is

$$(1 - (1 - f)^2)f. \quad (2)$$

The probability that the agent is an H-type given that the agent succeeded on both tasks is

$$\frac{h}{h + ((1 - (1 - f)^2)f)(1 - h)}. \quad (3)$$

3.4 Constrained timing

Contrast this result to the principal's beliefs when in period 1 the agent must address task A, and in period 2 must address task B. The probability that the agent is an H-type given that he succeeded on both tasks and that the timing is set exogenously is

$$\frac{h}{h + (f^2)(1 - h)}. \quad (4)$$

Comparing (3) to (4) shows that the probability that an agent is viewed as good following success on both tasks is greater if he was constrained than if he was flexible. Therefore, a High ability agent would prefer that timing be constrained—he knows he will succeed on both tasks, and therefore can increase his reputation if timing is constrained.

3.5 Outcomes when agent can be replaced

The informational value of fixed timing comes at the cost of worse performance by L types. We can ask whether overall performance is better when timing is constrained than when it is flexible. To make the comparison, consider outcomes when a person can serve at most two terms of office, with each term consisting of two periods. Because term 2 is the terminal period, there is no benefit of constraining an agent in that term, and so I assume that the agent is flexible in term 2. That assumption allows an L-type to perform better in term 2 than if he is constrained, and therefore reduces the benefits of having constrained timing in term 1.

Consider first outcomes when the agent is unconstrained in term 1. With probability h the agent in the first term has high ability, he performs well on both tasks, is re-appointed, and performs well on both tasks in term 2. Let the gain from a good outcome be G , and the gain from a bad outcome be 0. Then with a high-ability agent the gain over the four periods in the two terms is $4G$.

With probability $1 - h$ the agent in term 1 has low ability. As discussed above, in period 1 of term 1, he will succeed if the state of nature favors either task A or task B. That event occurs with probability $1 - (1 - f)^2$. In period 2 of the first term, the agent will address the task not addressed in period 1. The probability that the state of nature favors success in period 2 on that task is f . Thus expected output by a low-ability agent in term 1 is $G(1 - (1 - f)^2) + Gf$. The agent will be reappointed if he succeeded on both tasks in term 1. That occurs with probability $(1 - (1 - f)^2)f$, and the gain in the second term is again $G(1 - (1 - f)^2) + Gf$.

An agent in term 1 who had failed on at least one task is revealed to be an L-type, so is not reappointed. His replacement has high ability with probability h , and low ability with probability $1 - h$. So when the agent in his first term fails at least once, expected output in term 2 is $h2G + (1 - h)(G(1 - (1 - f)^2) + Gf)$.

Combining all these terms, expected output over the two terms when

timing is constrained in term 1 is

$$\begin{aligned}
& h4G+ \\
& (1-h) \\
& \quad [\\
& \quad G(1-(1-f)^2)+Gf+ \\
& \quad (1-(1-f)^2)f(G(1-(1-f)^2)+Gf)+ \\
& \quad (1-((1-(1-f)^2)f))(h2G+(1-h)(G(1-(1-f)^2)+Gf)) \\
& \quad] \\
& \tag{5}
\end{aligned}$$

Now consider constrained timing, so that in period 1 the agent is expected to address task A. A high-ability agent will succeed on all tasks, generating a gain over the four periods of $4G$. A low-ability agent in his first term will succeed on the task he must address in each period with probability f , and so expected output in term 1 is $2fG$. With probability f^2 he succeeds on both tasks in term 1, is reappointed, and so has expected output in term 2 of $G(1-(1-f)^2)+Gf$. With probability $1-f^2$ the agent in term 1 fails on at least one task, and so is replaced. Expected output by the new agent in term 2 is then $h2G+(1-h)(G(1-(1-f)^2)+Gf)$.

Expected output over the two terms when timing is constrained in period 1 is thus

$$\begin{aligned}
& h4G+ \\
& (1-h) \\
& \quad [\\
& \quad 2fG+ \\
& \quad f^2(G(1-(1-f)^2)+fG)+ \\
& \quad (1-f^2)(h2G+(1-h)(G(1-(1-f)^2)+Gf)) \\
& \quad] \\
& \tag{6}
\end{aligned}$$

Comparing output under flexible and constrained timing, it is clear that for $h=0$, it is best to have flexibility—flexibility in timing improves the performance of a low-ability agent, and there are no high-ability agents to find. For $h=1$, it does not matter whether the agent is constrained or flexible—he will do well in either case. For $f=1$, an agent of any time will always succeed on the task he addresses, so outcomes are identical under constrained and flexible timing. For $f=0$, an L-type always fails regardless of timing, so once again outcomes under flexible and constrained timing are the same.

For less extreme values of f and h , we look at the difference between (5) and (6),

$$g(1-f)(h^2(f+1)(f-1)(f-2) + fh(2-f^2) + f). \quad (7)$$

If $f \leq 1$ then all terms are positive, and so the value of (7) is positive so that flexible timing yields greater expected output. Nevertheless, an incumbent in period 1 has an incentive to address a particular task, say A, in period 1, before he knows whether the state of nature favors that task. For if the public expects an incumbent to address task A in period 1, and the incumbent does not, then the public may believe that he has low ability, and will not re-elect him.

4 Conclusion

It is well known that reputational considerations can distort the behavior of an agent. The model in this paper is an application of this major idea. What is new is consideration of the timing of policy, and consideration of handicaps, wherein an agent purposely limits his freedom of action.

This idea of handicaps explored here can apply to additional issues of timing. It may explain the the length of the window, why 100 days rather than 10? If the window is too small, then even a high-ability type might fail. If the windows is too long, then even a low-ability type may succeed. And handicaps appear outside issues of timing. The idea can explain what instruments an incumbent allows himself. Suppose a high-quality agent can succeed on a task even if he uses a poor instrument, whereas a low-ability agent requires use of a strong instrument or of several instruments. The a high-quality agent would want to signal his type by restricting his use of instruments, which would force a low-quality agent to do the same so as to avoid revealing his low quality. Such considerations can explain why incumbent politicians may favor limits on their powers.

5 Notation

f Probability state of nature favors the task

G Benefit from success on a task

h Prior probability that agent has High ability

H_{GG}^{Fixed} Posterior probability agent has High ability given that the agent succeeded in both periods and that he was constrained in timing

H_{GG}^{Flex} Posterior probability agent has High ability given that the outcome was good in both periods and the agent could choose the order in which he addresses the tasks.

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