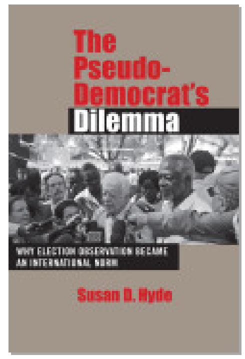
The Pseudo-Democrat's Dilemma

Hyde, Susan D.



Published by Cornell University Press

Hyde, Susan D.
The Pseudo-Democrat's Dilemma: Why Election Monitoring Became an International Norm.
1 ed. Cornell University Press, 2011.
Project MUSE., <a href=" https://muse.jhu.edu/.

Appendixes

APPENDIX A

Formalization of Signaling Game

The theory presented in chapter 1 is based on a signaling game, which is outlined briefly in this appendix. The game models the decision by incumbent governments to invite international observers. It is a finite game of imperfect information, in which incumbent governments can signal their commitment to democratic elections by inviting observers and receiving their endorsement. Because it is not modeled as a dynamic game, it does not formalize the over-time changes in the norm of election observation. However, equilibria from the game can be used to approximate different periods of the election-monitoring norm development and are helpful in highlighting both the conditions under which leaders should be expected to invite observers and how changing parameters in the model influence the decision calculus of incumbent leaders and democracy promoters.

Actors and Game Sequence

Incumbent regimes are represented by i, and can be one of two types, a true democrat (T) or a pseudo-democrat (P), $i \in \{T, P\}$. Democracy promoters are denoted by D and are the intended recipients of signals sent by the incumbent. The incumbent chooses whether to invite observers and whether to cheat. International observers may be invited by the incumbent and issue reports on the quality of the election, but they are not the sender or the receiver of a signal.

The sequence of moves is as follows. Prior to the start of the game, democracy promoters set the level of the democracy premium, or the contingent benefits, available to a government recognized as democratizing. In the first stage, the type of the incumbent is determined by chance.

The probability that the incumbent is of type T is represented by γ, where $0 \leq \gamma \leq 1$ and the corresponding probability of P is $1-\gamma$.

In order to focus on the decision to invite observers, I limit the model to the simplest case in which true-democrats never cheat ($M = 0$), and the pseudo-democrat always cheats ($M > 0$). Excluding the long-term consolidated democracies, democracy promoters prior beliefs are that $\gamma < 1/2$.

The incumbent chooses whether to invite international observers ($J = 1$) or not ($J = 0$). All governments pay a marginal cost when inviting observers, called a *sovereignty cost*, denoted by Y, with $Y \geq 0$. All cheating is costly, and cost of fraud is a function of whether observers are invited $c(J)$.

After choosing whether to invite observers, the incumbent chooses the level of manipulation, which includes any effort required to conceal election fraud ($M > 0$). Pseudo-democrats cheat at some optimal level, M^*, and the probability of victory increases in M. All cheating is costly, and the level of cheating is assumed to be directly proportional to its cost.

Nature moves, and the incumbent can win or lose the election, or $e \in \{L, W\}$. The base probability that an incumbent wins the election is denoted by p. For simplicity, I assume that the probability of victory is the same for both types, absent fraud. The probability of victory with fraud is denoted as q. Fraud increases the probability of victory, so q is always greater than p. Observers can influence the probability of victory indirectly by deterring fraud or making it more expensive to commit the equivalent level of fraud. If the incumbent loses the election, the payoff is zero, even if observers are invited.[1] I assume that when observers are invited ($J = 1$), the costs of fraud, or $c(1)$ is greater. When observers are present, they are assumed to make election fraud more difficult or more costly, thereby requiring more fraud in order to generate the same probability of victory, as illustrated in figure 1.1 (chapter 1).

Following the election, democracy promoters update their beliefs about the government's type based on whether the incumbent government won or lost, whether observers were invited, and whether observers criticized the election or not. The report of observers is denoted by R. If cheating is detected, observers issue a negative report, $R = -1$, and if cheating is not detected, observers issue a positive report, $R = 1$. If observers are not invited, R is denoted as 0. The probability that observers find evidence of cheating is r. If there is no fraud, no evidence of cheating is produced. The reports issued by observers inform the updated beliefs of democracy-promoters

1. Note that the decision to hold elections is not included in the model. This assumption could be relaxed in future iterations.

about a government's commitment to democracy. The international community reverts back to its prior beliefs about the incumbent's type ($\gamma < 1/2$) when beliefs are not pinned down by Bayes' rule off the equilibrium path. Given the observed behavior of the incumbent, the outcome of the election, and the reports of observers, if any, democracy promoters accept the results of the election ($X = 1$), or reject them ($X = 0$). If the incumbent does not win, observers always accept the result of the election as a sign that the country is democratizing, but the incumbent is no longer in office to receive benefits.

Summary of Timeline

Stage 1: The incumbent, i, determines whether to invite J.
Stage 2: The election outcome is realized.
Stage 3: If i wins, observers issue a report on the election, R based on whether fraud was uncovered.
Stage 4: D accepts or rejects the results of the election.
Stage 5: Payoffs are accrued.

Payoffs

International benefits are allocated to the incumbent regime after they have chosen whether to invite observers, they have won or lost, and after democracy promoters have accepted or rejected the results of the election. The size of international benefits tied to democracy are exogenous, set before elections take place, and are denoted by $A \geq 0$. They are based on the relative value of a country's characteristics to international actors and whether democracy promoters' accept or reject the results of the election, which is informed by the observer report R. B denotes the benefits of winning office such as salary and domestic prestige that are not dependent on the government's type. Let B denote the benefits of winning office such as salary and domestic prestige that are not dependent on the government's type. The payoff to an incumbent is:

$$\begin{cases} B + A - Y \text{ if } W = 1, J = 1 \;\&\; X = 1; \\ B - Y \text{ if } W = 1, J = 1 \;\&\; X = 0; \\ B \text{ if } W = 1 \text{ and } J = 0; \\ 0 \text{ if election is lost.} \end{cases}$$

Democracy promoters are better off when they accurately support democratizing states. They gain V when they accurately reward democratic governments and avoid rewarding pseudo-democratic governments. I assume that $V > 0$ when any democracy premium exists. Thus, the payoff to democracy promoters is:

$$\begin{cases} V \text{ if } X = 1 \text{ and } i = T; \\ V \text{ if } X = 0 \text{ and } i = P; \\ \quad 0 \text{ otherwise.} \end{cases}$$

Proposition 1: There is a unique equilibrium to this game, depending on the value of the democracy premium (A) and the sovereignty costs of inviting observers (Y):

If $A = 0$, then neither T nor P invites. D rejects the results of the election.

If $\frac{(Y + c(1) - c(0))}{q(1-r)} > A > \frac{Y}{p}$, then T invites and P does not. D accepts the results of the election if and only if the incumbent invites observers and no fraud is detected.

If $A > \frac{(Y + c(1) - c(0))}{q(1-r)} > \frac{Y}{p}$, then T and P invite observers. D accepts the results of the election if and only if the incumbent invites observers and no fraud is detected.

PROOF: The incumbent invites when the expected utility of inviting observers is greater than the utility of not inviting observers, or $EU_i(1,R) > EU_i(0,0)$.

For T, if no democracy premium exists, or $A = 0$, then $EU_T(1,1) = pB - Y$ and $EU_T(0,0) = pB$. By assumption, $Y > 0$, so $EU_T(1,1) \not> EU_T(0,0)$. If the democracy premium is sufficiently greater than the sovereignty cost, T invites. Recall that T never cheats. Thus, T invites when $A > \frac{Y}{p}$. In the simplified case in which T is certain of victory, T invites when $A > Y$.

For P, if $A = 0$, $EU_P(0,0) = qB - c(0)$, and $EU_P(1,R) = qB - c(1) - Y$. By assumption, $c(1) > c(0)$ and $Y > 0$. Thus, $EU_P(1, M_1) \not> EU_P(0, M_0)$, because $qB - c(M_1) - Y \not> qB - c(M_0)$. Even if T invites, and $A >$

$\frac{Y}{p}$, P does not invite when the additional cost of cheating in front of observers is too high. Even in the most likely case in which P is certain of victory ($q = 1$) and certain that no fraud will be discovered by observers ($r = 0$), P does not invite so long as $c(1) - c(0) + Y > A$. P invites if and only if the democracy premium, A, is sufficiently large to outweigh the sovereignty costs and the additional cost of cheating in front of observers.

D accepts the results of the election if and only if $J = 1$ and $R = 1$. If $J = -1$, D rejects the results of the election, as $\mu(T \mid 1, -1) = 0$. If $R = 0$, and the incumbent wins the election, D's post-election belief about the incumbent's type is $\mu(T \mid 0, 0) = \gamma$. By assumption, $\gamma < 1/2$. Therefore, D rejects the results of the election when observers are not invited.