Online Appendix

Exit, Voice, and Loyalty Game

In Table 1 in the main text, we note that there are four subgame perfect Nash equilibria in the Exit, Voice, and Loyalty Game shown in Figure 1. We now formally present the equilibria, along with their proofs. To keep things simple and avoid knife-edge scenarios, we assume throughout that (i) the citizen will only exit if her exit payoff is strictly greater than her loyalty payoff, $E > 0$; (ii) the government will only respond positively to the citizen's use of voice if the value of having a loyal citizen is strictly greater than the value of the benefit it took from the citizen in the pre-history of the game, $L > 1$; and (iii) the citizen will not use voice if her exit payoff is strictly greater than the payoff she would receive if the government responded positively to her use of voice, $E > 1 - c$. As noted in the text, we also assume that the use of voice is costly for the citizen, $c > 0$, and that the government values having a loyal citizen, $L > 0$. Equilibria are written in the following form: (Citizen's first action, Citizen's second action; Government's action).

Equilibrium 1. (Exit, Exit; Ignore) *is the subgame perfect Nash equilibrium strategy profile if* $L \leq 1$ *and* $E > 0$*.*

Proof. The citizen chooses to exit, $E - c$, at the last decision node rather than remain loyal, $0 - c$, if $E > 0$. The government ignores the citizen's use of voice, 1, rather than responds positively to it, L, if $L \leq 1$. Knowing this, the citizen chooses to exit, E, at the initial decision node rather than remain loyal, 0, or use her voice, $0 - c$. □

Equilibrium 2. (Voice, Exit; Respond) *is the subgame perfect Nash equilibrium strategy profile if* $L > 1$ *and* $0 < E \leq 1 - c$*.*

Proof. The citizen chooses to exit, $E - c$, at the last decision node rather than remain loyal, $0 - c$, if $E > 0$. The government responds positively to the citizen's use of voice, L, rather than ignores it, 1, if $L > 1$. Knowing this, the citizen chooses to use voice, $1 - c$, at the initial decision node rather than remain loyal, 0, or exit, E, so long as $E \leq 1 - c$. □

Equilibrium 3. (Exit, Exit; Respond) *is the subgame perfect Nash equilibrium strategy profile if* $L > 1$*,* $E > 0$*, and* $E > 1 - c$*.*

Proof. The only difference with Equilibrium 2 is that the citizen chooses to exit at the initial decision node, which requires that $E > 1 - c$. □

Equilibrium 4. (Loyalty, Loyalty; Ignore) *is the subgame perfect Nash equilibrium strategy profile if* $E \leq 0$*.*

Proof. The citizen chooses to remain loyal, $0 - c$, at the last decision node rather than exit, $E - c$, if $E \leq 0$. The government ignores the citizen's use of voice, $1 + L$, rather than responds positively to it, L, because $L > 0$ by assumption. Knowing this, the citizen chooses to remain loyal, 0, at the initial decision node rather than use voice, $0 - c$, or exit, E. □

The Extended Exit, Voice, and Loyalty Game

In Table 2 in the main text, we note that there are four subgame perfect Nash equilibria in the Extended Exit, Voice, and Loyalty Game shown in Figure 2. We now formally present the equilibria, along with their proofs. In addition to the assumptions that we made in the Exit, Voice, and Loyalty Game to avoid knife-edge scenarios, we now also assume that the government will not predate if the value of having a loyal citizen is strictly greater than the value of the benefit it could take from the citizen, $L > 1$. We also now assume that the citizen's use of voice is costly for the government, $c_g > 0$, and that the value of the citizen's exit option is less than the value of her benefit, $E < 1$. Equilibria are written in the following form: (Government's first action, Government's second action; Citizen's first action, Citizen's second action).

Equilibrium 5. (Predate, Ignore; Exit, Exit) *is the subgame perfect Nash equilibrium strategy profile if* $L \leq 1$ *and* $E > 0$*.*

Proof. The citizen chooses to exit, $E - c$, at the last decision node rather than remain loyal, $0 - c$, if $E > 0$. The government ignores the citizen's use of voice, $1 - c_g$, rather than respond positively, $L - c_g$, if $L \leq 1$. If the government predates, the citizen chooses to exit, E, rather than use voice, $E - c$, or remain loyal, 0, because $E, c > 0$ by assumption. Knowing this, the government chooses to predate, 1, rather than not predate, L, because $L \leq 1$. □

Equilibrium 6. (Don't Predate, Respond; Voice, Exit) *is the subgame perfect Nash equilibrium strategy profile if* $L > 1$ *and* $0 < E \leq 1 - c$*.*

Proof. The citizen chooses to exit, $E - c$, at the last decision node rather than remain loyal, $0 - c$, if $E > 0$. The government responds positively to the citizen's use of voice, $L - c_g$, rather than ignore it, $1 - c_g$, if $L > 1$. If the government predates, the citizen chooses to use voice, $1 - c$, rather than exit, E, or remain loyal, 0, if $0 < E \leq 1 - c$. Knowing this, the government chooses not to predate, L, rather than predate, $L - c_g$, because $c_g > 0$ by assumption. □

Equilibrium 7. (Don't Predate, Respond; Exit, Exit) *is the subgame perfect Nash equilibrium strategy profile if* $L > 1$*,* $E > 0$*, and* $E > 1 - c$*.*

Proof. The citizen chooses to exit, $E - c$, at the last decision node rather than remain loyal, $0 - c$, if $E > 0$. The government responds positively to the citizen's use of voice, $L - c_g$, rather than ignore it, $1 - c_g$, if $L > 1$. If the government predates, the citizen chooses to exit, E, rather than remain loyal, 0, or use voice, $1 - c$, if $E > 1 - c$. Knowing this, the government chooses not to predate, L, rather than predate, 1, because $L > 1$. □

Equilibrium 8. (Predate, Ignore; Loyalty, Loyalty) *is the subgame perfect Nash equilibrium strategy profile if $E \leq 0$.*

Proof. The citizen chooses to remain loyal, $0 - c$, at the last decision node rather than exit, $E - c$, if $E \leq 0$. The government ignores the citizen's use of voice, $1 + L - c_g$, rather than respond positively, $1 - c_g$, because $L > 0$ by assumption. If the government predates, the citizen chooses to remain loyal, 0, rather than exit, E, or use her voice, $0 - c$, because $E \leq 0$ and $c > 0$. Knowing this, the government chooses to predate, $1 + L$, rather than not predate, L. □

The Exit, Voice, and Loyalty Democratization Game

In Table 3 in the main text, we note that there are three subgame perfect Nash equilibria in the Exit, Voice, and Loyalty Democratization Game shown in Figure 3. We now formally present the equilibria, along with the proofs. To keep things simple and avoid knife-edge scenarios, we assume that the citizen will only disinvest if her payoff from disinvesting is strictly greater than her payoff from continuing to invest at the same level as before, $E > (1-\tau_H)Y$, and that the government will only respond to the citizen's objection and revert to the lower tax rate if its payoff from doing so is strictly greater than the payoff it receives from imposing the high tax rate and having the citizen disinvest, $\delta > 1 - \frac{\tau_L Y}{\tau_H Y}$. We also assume that the use of voice is costly for the citizen, $c > 0$, and that the high tax rate is strictly greater than the low tax rate, $\tau_H > \tau_L \geq 0$. Finally, we note in the main text that we restrict our analysis to those scenarios where voice is a realistic option, $c \leq (\tau_H - \tau_L)Y + \sum_{t=1}^{\infty} \delta^t[(1-\tau_L)Y - E]$.[1] Equilibria are written in the following form: (Citizen's first action, Citizen's second action; Government's action).

Equilibrium 9. (Disinvest, Disinvest; Ignore) *is the subgame perfect Nash equilibrium if $E > (1 - \tau_H)Y$ and $\delta \leq 1 - \frac{\tau_L Y}{\tau_H Y}$.*

Proof. The citizen chooses to disinvest at the last decision node rather than continue investing if she has a credible exit threat, $E > (1 - \tau_H)Y$. The government ignores the citizen's objection to the tax hike if

$$\tau_L Y + \sum_{t=1}^{\infty} \delta^t(\tau_L Y) \leq \tau_H Y, \tag{3}$$

[1]For voice to be a realistic option, it must be the case that the citizen's payoff from outcome O_1 in Figure 3 is less than or equal to her payoff from outcome O_3. This will be the case if

$$(1 - \tau_H)Y + \sum_{t=1}^{\infty} \delta^t E \leq (1 - \tau_L)Y - c + \sum_{t=1}^{\infty} \delta^t(1 - \tau_L)Y, \tag{1}$$

which simplifies to:

$$c \leq (\tau_H - \tau_L)Y + \sum_{t=1}^{\infty} \delta^t[(1 - \tau_L)Y - E]. \tag{2}$$

which simplifies to

$$\left(\frac{1}{1-\delta}\right)\tau_L Y \leq \tau_H Y. \tag{4}$$

Solving for δ, we get

$$\delta \leq 1 - \frac{\tau_L Y}{\tau_H Y}. \tag{5}$$

Knowing this, the citizen chooses to disinvest at the initial decision node rather than object or continue investing. □

Equilibrium 10. (Object, Disinvest; Respond) *is the subgame perfect Nash equilibrium if* $E > (1-\tau_H)Y$, $\delta > 1 - \frac{\tau_L Y}{\tau_H Y}$, *and* $c \leq (\tau_H - \tau_L)Y + \sum_{t=1}^{\infty}\delta^t[(1-\tau_L)Y - E]$.

Proof. The citizen chooses to disinvest at the last decision node rather than continue investing if she has a credible exit threat, $E > (1-\tau_H)Y$. The government responds positively to the citizen's objection to the tax hike if

$$\delta > 1 - \frac{\tau_L Y}{\tau_H Y}. \tag{6}$$

Knowing this, the citizen chooses to object to the tax hike at the initial decision node rather than disinvest or continue investing, because she has a credible exit threat, $E > (1-\tau_H)Y$, and because voice is not too costly, $c \leq (\tau_H - \tau_L)Y + \sum_{t=1}^{\infty}\delta^t[(1-\tau_L)Y - E]$, by assumption. □

Equilibrium 11. (Invest, Invest; Ignore) *is the subgame perfect Nash equilibrium if* $E \leq (1-\tau_H)Y$.

Proof. The citizen chooses to continue investing at the last decision node rather than disinvest if she lacks a credible exit threat, $E \leq (1-\tau_H)Y$. The government ignores the citizen's objection to the tax hike so long as

$$\tau_H Y + \sum_{t=1}^{\infty}\delta^t(\tau_H Y) \geq \tau_L Y + \sum_{t=1}^{\infty}\delta^t(\tau_L Y), \tag{7}$$

which is always the case because $\tau_H > \tau_L$. Knowing this, the citizen chooses to continue investing at the initial decision node rather than object or disinvest. □

The Exit, Voice, and Loyalty Game: Incomplete Information

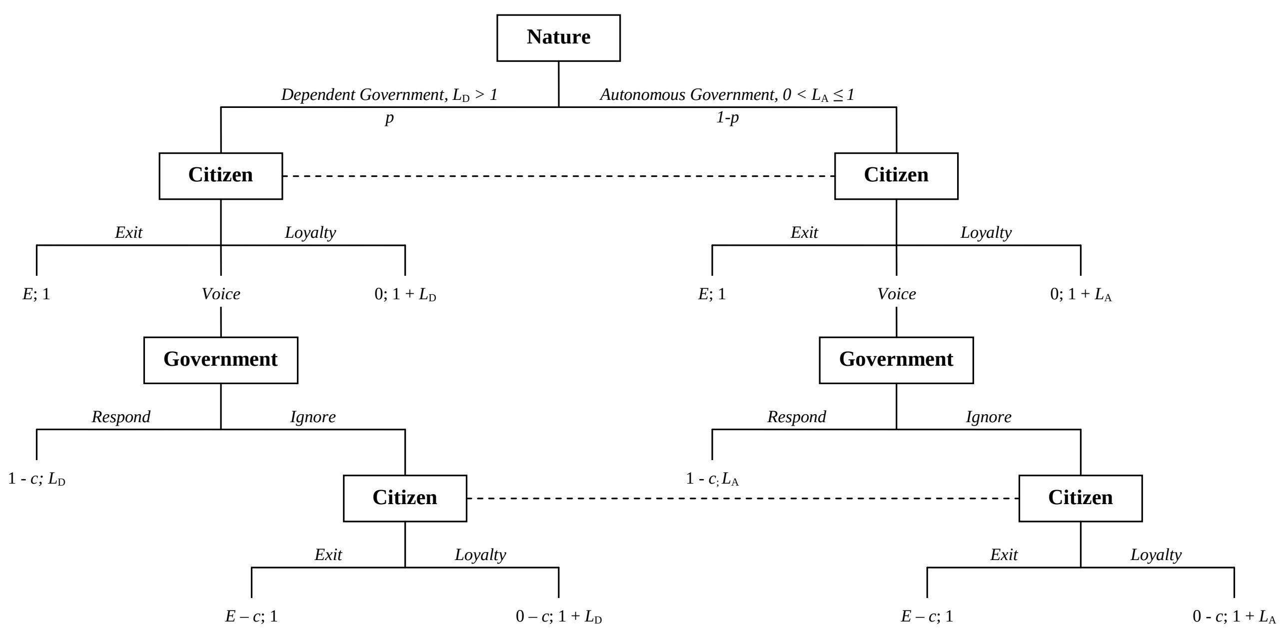
In Section 4 in the main text, we discuss how incomplete information affects the power relationship between citizens and the government. We now present versions of the EVL game where (i) the citizen lacks information about whether the government is dependent or autonomous, and (ii) the government lacks information about whether the citizen has a credible exit threat or not.

Incomplete Information on the Part of the Citizen

The EVL game where the citizen is unsure whether the government is *dependent*, $L_D > 1$, or *autonomous*, $0 < L_A \leq 1$, is shown in Figure 4. While the government knows whether it is dependent or autonomous, the citizen only has beliefs about the government's type. Specifically, the citizen believes that the government is dependent with probability p and autonomous with probability $1 - p$. To keep things simple and avoid knife-edge scenarios, we assume that the citizen only exits if her exit payoff is strictly greater than her loyalty payoff, $E > 0$, and that she only uses her voice if she believes that the government is dependent with probability $p > \frac{c}{1-E}$. Additionally, we also assume that the use of voice is costly for the citizen, $c > 0$, that a dependent government values having a loyal citizen more than the benefit that it took from her, $L_D > 1$, and that an autonomous government values having a loyal citizen but not strictly more than the benefit it took from her, $0 < L_A \leq 1$. There are three unique perfect Bayesian equilibria, which are depicted in Table 4. Equilibria are written in the following form: {(Citizen's first action, Citizen's second action), (Dependent Government's action, Autonomous Government's action), probability Citizen assigns to history (Dependent Government)}.

We now prove that the equilibria shown in Table 4 are the only perfect Bayesian equilibria. Note that the citizen has six possible strategies given that she has three possible actions at her first

Figure 4: Exit, Voice, and Loyalty Game when the Citizen has Incomplete Information



Note: E is the citizen's exit payoff, 1 is the value of the benefit taken from the citizen by the government in the pre-history of the game, L_A is the value an autonomous government obtains from having a loyal citizen who does not exit, L_D is the value a dependent government obtains from having a loyal citizen who does not exit, and c is the citizen's cost of using voice. It is assumed that $c > 0$, $L_D > 1$, and that $0 < L_A \leq 1$.

Table 4: Perfect Bayesian Equilibria when the Citizen has Incomplete Information

#	Equilibrium	Equilibrium Type	Outcome
E9	{(Loyalty, Loyalty), (Ignore, Ignore), p} if $E \leq 0$ for all p	Pooling	Citizen chooses loyalty.
E10	{(Exit, Exit), (Respond, Ignore), p} if $E > 0$ and $p \leq \frac{c}{1-E}$	Separating	Citizen exits.
E11	{(Voice, Exit), (Respond, Ignore), p} if $E > 0$ and $p > \frac{c}{1-E}$	Separating	Citizen uses voice. Dependent governments respond positively to voice, whereas autonomous governments ignore it. If voice is ignored, the citizen exits.

Notes: All equilibria are written in the following form: {(Citizen's first action, Citizen's second action), (Dependent Government's action, Autonomous Government's action), probability Citizen assigns to history (Dependent Government)}.

decision node and two at her second. We know by assumption, though, that a citizen who chooses to exit at her last decision node will not choose to remain loyal at her first decision node. We also know by assumption that a citizen who chooses loyalty at her last decision node will not choose to exit at her first decision node. Thus, we can eliminate all but four strategies for the citizen: {(Exit, Exit), (Loyalty, Loyalty), (Voice, Exit), (Voice, Loyalty)}. The government has four potential strategies given that each type of government has two possible actions at their decision nodes: {(Respond, Respond), (Respond, Ignore), (Ignore, Respond), (Ignore, Ignore)}.

Thus, we have sixteen possible strategy profiles. However, we know by assumption that an autonomous government always ignores the citizen's use of voice. We also know that a dependent government responds positively to voice if it expects the citizen to exit at her last decision node, but that it ignores voice if it expects the citizen to remain loyal. As a result, we can eliminate all but four strategy profiles:

- (Loyalty, Loyalty), (Ignore, Ignore)
- (Exit, Exit), (Respond, Ignore)
- (Voice, Exit), (Respond, Ignore)
- (Voice, Loyalty), (Ignore, Ignore)

In Table 4, we claim that the first three of these strategy profiles can be combined with a belief system to form a perfect Bayesian equilibrium. The proofs are shown below.

Equilibrium 12. **{(Loyalty, Loyalty), (Ignore, Ignore),** p**}** *is the perfect Bayesian equilibrium if* $E \leq 0$ *for all* p*.*

Proof. The citizen chooses to remain loyal, $0 - c$, at the last decision node rather than exit, $E - c$, if $E \leq 0$. In these circumstances, both types of government ignore the citizen's use voice, $1 + L_i$, rather than respond positively to it, L_i, because $L_i > 0$ for $i = A, D$ by assumption. Knowing this, the citizen chooses to remain loyal, 0, irrespective of the government's type, at the initial decision node rather than exit, E, or use voice, $0 - c$. □

Equilibrium 13. **{(Exit, Exit), (Respond, Ignore),** p**}** *is the perfect Bayesian equilibrium if* $E > 0$ *and* $p \leq \frac{c}{1-E}$*.*

Proof. The citizen chooses to exit, $E - c$, at the last decision node rather than remain loyal, $0 - c$, if $E > 0$. In these circumstances, an autonomous government ignores the citizen's use of voice, 1, rather than respond positively to it, L_A, because $L_A \leq 1$ by assumption. In contrast, a dependent government responds positively to the citizen's use of voice, L_D, rather than ignore it, 1, because $L_D > 1$ by assumption. Knowing this, the citizen chooses to exit, E, at the initial decision node rather than remain loyal, 0, or use voice, $p(1 - c) + (1 - p)(E - c)$, so long as $p \leq \frac{c}{1-E}$. □

Equilibrium 14. **{(Voice, Exit), (Respond, Ignore),** p**}** *is the perfect Bayesian equilibrium if* $E > 0$ *and* $p > \frac{c}{1-E}$*.*

Proof. The only difference with Equilibrium 11 is that the citizen chooses to use voice rather than exit at the initial decision node. This requires that $p > \frac{c}{1-E}$. □

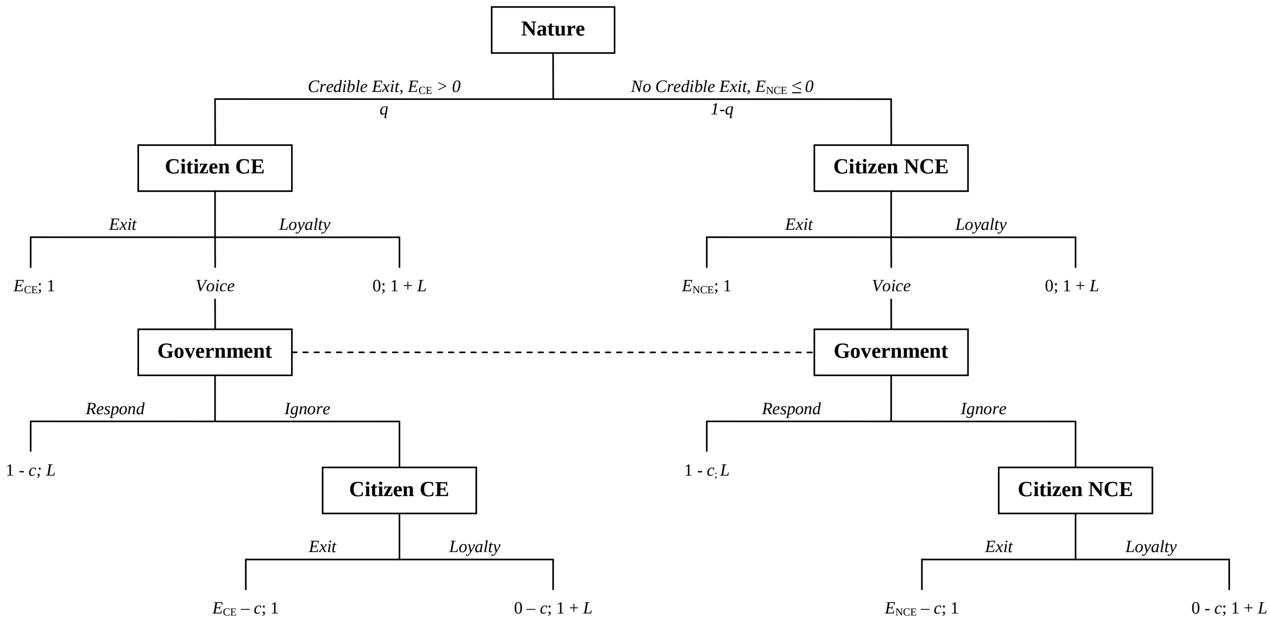
The remaining strategy profile {(Voice, Loyalty), (Ignore, Ignore)} cannot be combined with a belief system to form a perfect Bayesian equilibrium.

Proof. The only difference with Equilibrium 9 is that the citizen chooses to use voice rather than remain loyal at initial decision node. For the citizen to use voice, $(p(0 - c) + (1 - p)(0 - c))$, rather remain loyal, 0, it would have to be the case that $0 - c > 0$. However, this can never be the case because $c > 0$ by assumption. □

Incomplete Information on the Part of the Government

The EVL game where the state is unsure whether the citizen has *a credible exit* threat, $E_{CE} > 0$, or *no credible exit* threat, $E_{NCE} \leq 0$, is shown in Figure 5. While the citizen knows her own type, the government only has beliefs about the citizen's type. Specifically, the government believes that the citizen has a credible exit threat with probability q and does not have a credible exit threat with probability $1 - q$. To keep things simple and avoid knife-edge scenarios, we assume that a citizen without a credible exit threat uses voice only if the cost of using voice is strictly less than the value of her benefit, $c < 1$, that a citizen with a credible exit threat exits only if her exit payoff is strictly greater than the payoff she would receive if the government responded positively to her use of voice, $E_{CE} > 1 - c$, and that the government will respond positively to the citizen's use of voice only if it believes that the citizen has a credible exit threat with probability $q > \frac{1}{L}$. Additionally,

Figure 5: Exit, Voice, and Loyalty Game when the Government has Incomplete Information



Note: E_{CE} is the exit payoff for the citizen with a credible exit threat, E_{NCE} is the exit payoff for the citizen without a credible exit threat, 1 is the value of the benefit taken from the citizen by the government in the pre-history of the game, L is the value the government obtains from having a loyal citizen who does not exit, and c is the citizen's cost of using voice. It is assumed that $c, L > 0$, $E_{CE} > 0$ and that $E_{NCE} \leq 0$.

we also assume that the use of voice is costly for the citizen, $c > 0$, that the government values having a loyal citizen, $L > 0$, that the Type NCE citizen's exit payoff is less than or equal to her loyalty payoff, $E_{NCE} \leq 0$, and that the Type CE citizen's exit payoff is strictly greater than her loyalty payoff, $E_{CE} > 0$. There are three unique perfect Bayesian equilibria, which are depicted in Table 5. Equilibria are written in the following form: {(Type CE's first action, Type CE's second action; Type NCE's first action, Type NCE's second action), (Government's action), probability Government assigns to history (Type CE, Voice)}.

We now prove that the equilibria shown in Table 5 are the only perfect Bayesian equilibria. Note that the citizen has 36 possible strategies given that each citizen type has three possible actions at their first decision node and two at their second. We know by assumption, though, that Type CE citizens always prefer to exit rather than remain loyal and that Type NCE citizens always prefer to remain loyal than exit. As a result, we can eliminate all but four possible strategies for the citizen: {(Exit, Exit; Loyalty, Loyalty), (Voice, Exit; Loyalty, Loyalty), (Voice, Exit; Voice, Loyalty), (Exit, Exit; Voice, Loyalty)}. The government has two potential strategies given that it has two possible actions at its information set: {(Respond), (Ignore)}.

Thus, we have eight possible strategy profiles. However, we know that both types of citizen never use voice if they expect the government to ignore them. As a result, we can eliminate all but five strategy profiles:

Table 5: Perfect Bayesian Equilibria when the Government has Incomplete Information

#	Equilibrium	Equilibrium Type	Outcome
E12	{(Exit, Exit; Loyalty, Loyalty), (Ignore), q} if $q \leq \frac{1}{L}$	Separating	Type CE citizen exits and Type NCE citizen remains loyal.
E13	{(Exit, Exit; Loyalty, Loyalty), (Respond), q} if $c > 1$ for the Type NCE citizen, $E_{CE} > 1 - c$ for the type CE citizen, and $q > \frac{1}{L}$	Separating	Type CE citizen exits and Type NCE citizen remains loyal.
E14	{(Voice, Exit; Voice, Loyalty), (Respond), q} if $c < 1$ for the Type NCE citizen, $E_{CE} < 1 - c$ for the Type CE citizen, and $q > \frac{1}{L}$	Pooling	Both types of citizen use voice and the government responds positively.

Notes: Equilibria are written in the following form: {(Type CE's first action, Type CE's second action; Type NCE's first action, Type NCE's second action), (Government's action), probability Government assigns to history (Type CE, Voice)}.

- (Exit, Exit; Loyalty, Loyalty), (Ignore)
- (Exit, Exit; Loyalty, Loyalty), (Respond)
- (Voice, Exit; Voice, Loyalty), (Respond)
- (Voice, Exit; Loyalty, Loyalty), (Respond)
- (Exit, Exit; Voice, Loyalty), (Respond)

In Table 5, we claim that the first three of these strategy profiles can be combined with a belief system to form a perfect Bayesian equilibrium. The proofs are shown below.

Equilibrium 15. {(Exit, Exit; Loyalty, Loyalty), (Ignore), q**}** *is the perfect Bayesian equilibrium if* $q \leq \frac{1}{L}$.

Proof. The Type CE citizen chooses to exit, $E_{CE} - c$, at the last decision node rather than remain loyal, $0 - c$, because $E_{CE} > 0$ by assumption. The Type NCE citizen chooses to remain loyal, $0 - c$, at the last decision node rather than exit, $E_{NCE} - c$, because $E_{NCE} \leq 0$ by assumption. Because the government's information set is never reached in this equilibrium, the government's beliefs need only be consistent with its choice to ignore voice. The government ignores the citizen's use of voice, $q(1) + (1 - q)(1 + L)$, rather than respond positively, L, if $q \leq \frac{1}{L}$. Expecting the government to ignore her voice, a Type CE citizen chooses to exit, E_{CE}, at the initial decision node rather than remain loyal, 0, or use voice, $E_{CE} - c$, while a Type NCE citizen chooses to remain loyal, 0, rather than exit, E_{NCE}, or use voice, $0 - C$. □

Equilibrium 16. {(Exit, Exit; Loyalty, Loyalty), (Respond), q**}** *is the perfect Bayesian equilibrium if $E_{CE} > 1 - c$ for the type CE citizen, $c \geq 1$ for the Type NCE citizen, and $q > \frac{1}{L}$.*

Proof. The only difference with Equilibrium 12 is that the government responds positively to voice. The government responds positively to voice if $q > \frac{1}{L}$. Expecting the government to respond positively to her use of voice, a Type CE citizen chooses to exit, E_{CE}, at the initial decision node rather than remain loyal, 0, or use voice, $1 - c$, if $E_{CE} > 1 - c$, while a Type NCE citizen chooses to remain loyal, 0, rather than use voice, $1 - c$, or exit, E_{NCE}, if $c \geq 1$. □

Equilibrium 17. {(Voice, Exit; Voice, Loyalty), (Respond), q**}** *is the perfect Bayesian equilibrium if $E_{CE} \leq 1 - c$ for the Type CE citizen, $c < 1$ for the Type NCE citizen, and $q > \frac{1}{L}$.*

Proof. The Type CE citizen chooses to exit, $E_{CE} - c$, at the last decision node rather than remain loyal, $0 - c$, because $E_{CE} > 0$ by assumption. The Type NCE citizen chooses to remain loyal, $0 - c$, at the last decision node rather than exit, $E_{NCE} - c$, because $E_{NCE} \leq 0$ by assumption. The government's information set is reached in equilibrium. By Bayes' rule and the fact that both types of citizens choose to use voice at their initial decision nodes, the government assigns probability q to the history (CE, Voice). Given this belief, it is optimal for the government to respond positively to voice if $q > \frac{1}{L}$. Expecting the government to respond positively to the use of voice, a Type CE citizen chooses to use voice, $1 - c$, at the initial decision node rather than exit, E_{CE}, or remain loyal, 0, if $E_{CE} \leq 1 - c$, while a type NCE citizen chooses to use voice, $1 - c$, rather than remain loyal, $0 - C$, or exit, E_{NCE}, if $c < 1$. □

We now demonstrate that the two remaining strategy profiles do not form part of a perfect Bayesian equilibrium.

The strategy profile {(Voice, Exit; Loyalty, Loyalty), (Respond)} cannot be combined with a belief system to form a perfect Bayesian equilibrium.

Proof. The Type CE citizen chooses to exit, $E_{CE} - c$, at the last decision node rather than remain loyal, $0 - c$, because $E_{CE} > 0$ by assumption. The Type NCE citizen chooses to remain loyal, $0 - c$, at the last decision node rather than exit, $E_{NCE} - c$, because $E_{NCE} \leq 0$ by assumption. The government's information set is reached in this potential equilibrium. By Bayes' rule and the fact that the Type CE citizen uses voice and the Type NCE citizen remains loyal, the government assigns probability $q = 1$ to the history (CE, Voice). Given this belief, it is optimal for the government to respond if $L > 1$. Expecting the government to respond positively to the use of voice, a Type CE citizen chooses to use voice at the initial decision node if $E_{CE} \leq 1 - c$, and a Type NCE citizen remains loyal if $c \geq 1$. These last two conditions are incompatible, though, because $E_{CE} \leq 1 - c$ requires that $1 \geq c$. □

The strategy profile {(Exit, Exit; Voice, Loyalty), (Respond)} cannot be combined with a belief system to form a perfect Bayesian equilibrium.

Proof. The Type CE citizen exits, $E_{CE} - c$, at the last decision node rather than remains loyal, $0 - c$, because $E_{CE} > 0$ by assumption. The Type NCE citizen remains loyal, $0 - c$, at the last decision node rather than exits, $E_{NCE} - c$, because $E_{NCE} \leq 0$ by assumption. The government's information set is reached in this potential equilibrium. By Bayes' rule and the fact that the Type CE citizen exits and the Type NCE citizen remains loyal, the government assigns probability $q = 0$ to the history (CE, Voice). Given this belief, it is never optimal for the government to respond because it obtains L if it responds positively to the use of voice and $1 + L$ if it ignores it. $\square$