

# Political Science: the scientific study of political behavior

(How's that for a tautology?)

# What is political behavior

- Subset of human behaviors that involves the use of power
  - What is power?
    - Influence
- So... power is involved when people can't accomplish their goals without
  - Trying to influence the behavior of others
  - Trying wrestle free of the influence of others

# Exit, Voice and Loyalty

A reconsideration of Hirschman's  
classic

# Responses to deleterious changes in one's environment

- Fuel efficient cars are suddenly imported from Japan
- The national currency drops in value
- The supreme court rules that corporate prayer in public schools is unconstitutional
- Decline in the quality of mangos at your local fruit stand

# Three possible responses

- Exit
  - Accept change in environment and change one's behavior in attempt to optimize goal-attainment in new environment
- Voice
  - Attempt to change environment back to original condition in order to avoid the need to change one's behavior
- Loyalty
  - Accept change in environment, do not change behavior

# When is behavior “political”?

- Voice requires influence
  - In order to change one’s environment, one typically needs to change the behavior of other people ...so...
- politics is involved when voice is used....but its also involved whenever voice is *considered*.
  - The decision whether to respond with exit, voice, or loyalty is a political decision... so politics doesn’t *begin* when voice is chosen.

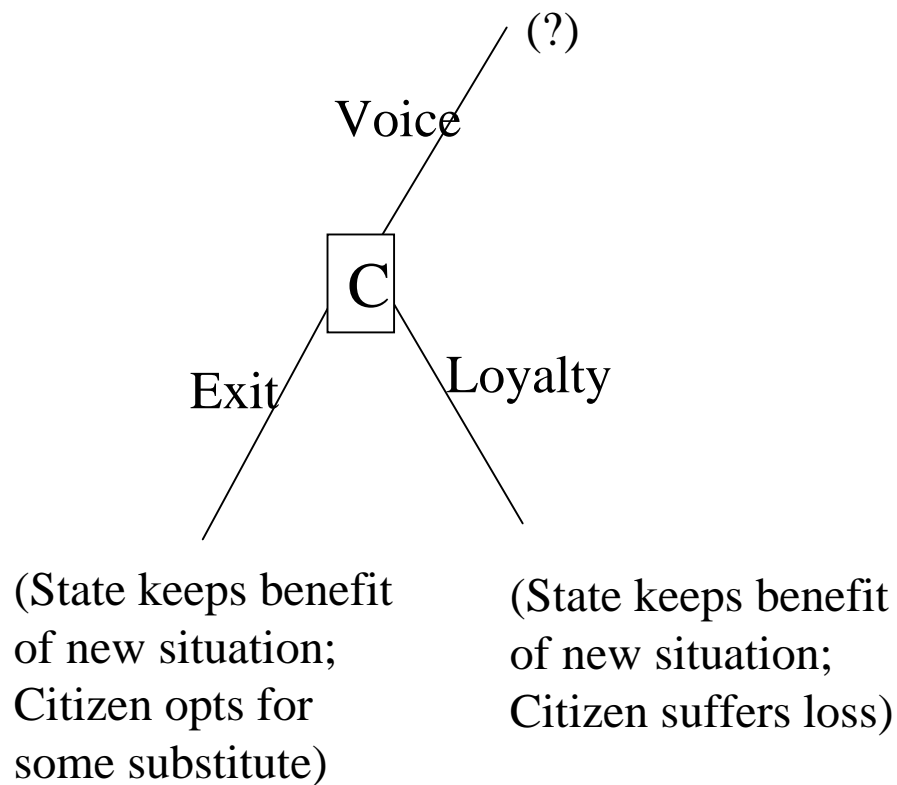
# Exit, Voice, and Loyalty Game

- Pre-history.....
  - deleterious shock results in transfer of a benefit from a citizen to the state
- Citizen must decide
  - Accept change and act the same way it always has (Remain Loyal (L))?
  - Accept change and change one's behavior (E)?
  - Try to get benefit back (V)?

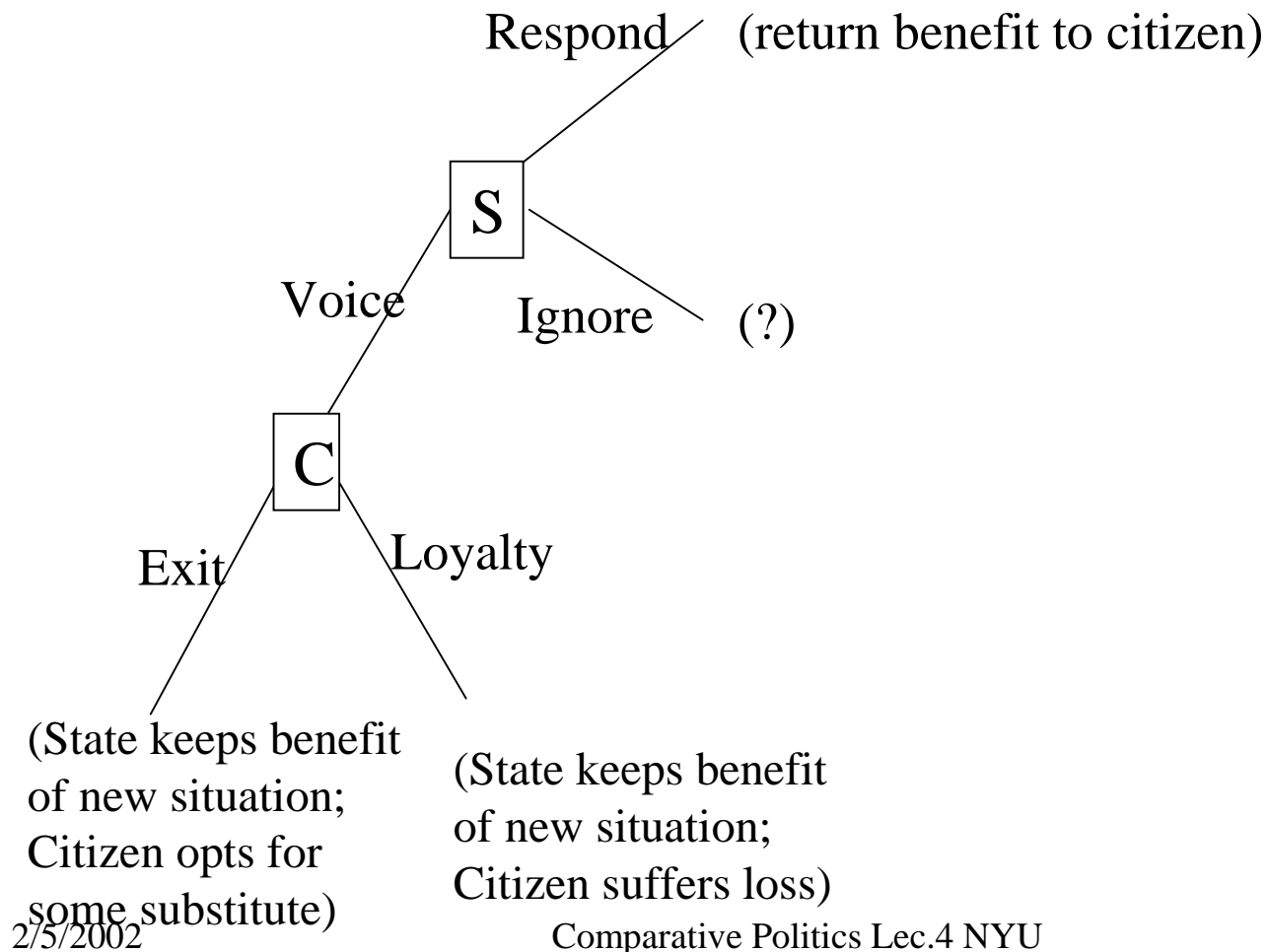
# Examples:

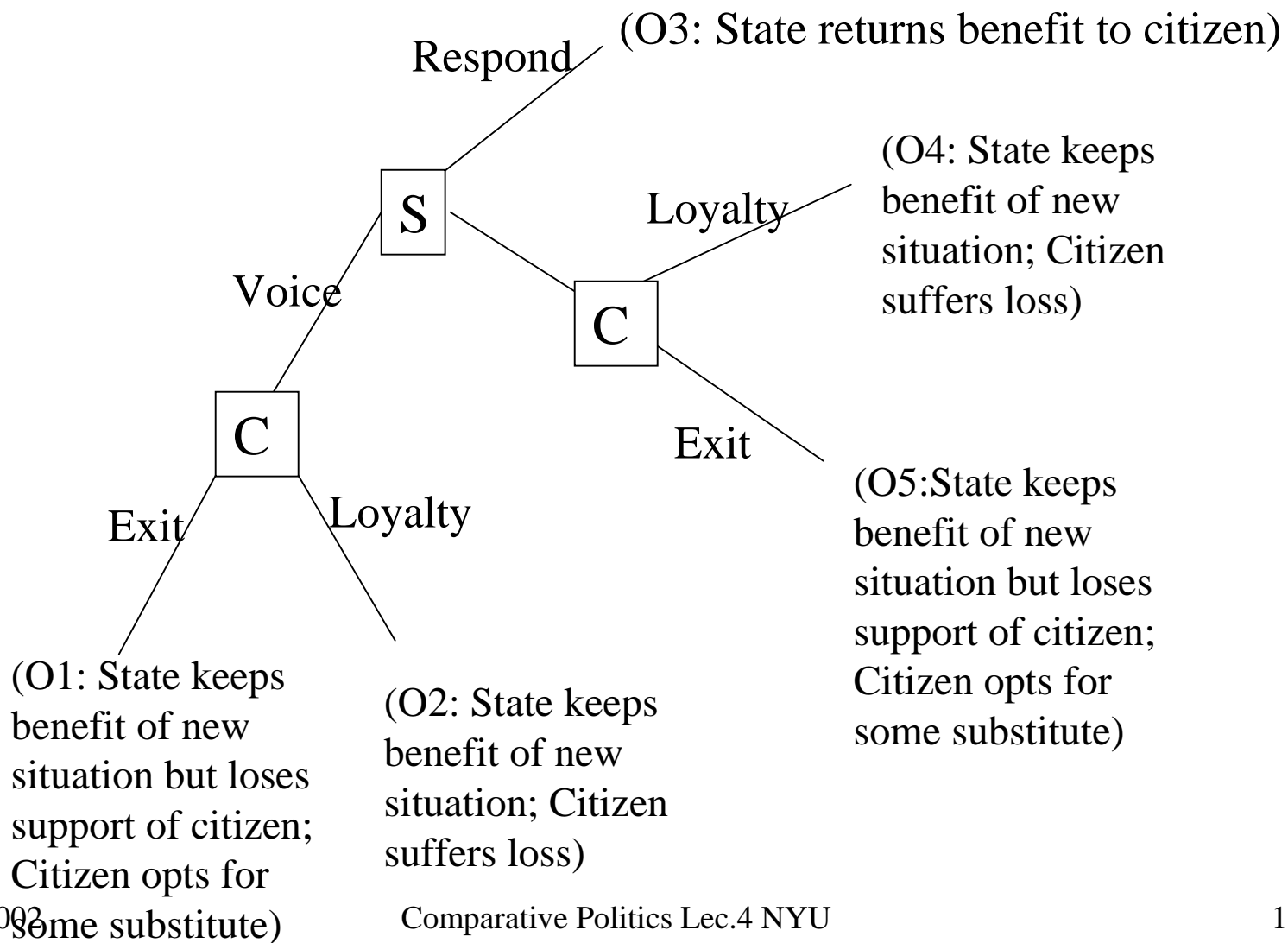
Stimulus	Loyalty	Exit	Voice
Increase in taxes	Pay taxes, keep mouth shut	Reallocate portfolio to avoid tax increase	Organize tax revolt
Local jurisdiction outlaws handgun	Turn in guns, keep mouth shut	Move to Idaho	Join NRA, militia group, etc.
Mangos start to taste "lousy"	Eat mangos... keep mouth shut	Buy Kiwis	Complain to store owner
Government places \$1,000 withdrawal limit on bank accounts	Lose weight	Insist on being paid in cash, keep money under mattress, use credit cards, barter, emigrate,	Set fire to government buildings, throw President out of office,

# Citizen's response depends on expected response of the state



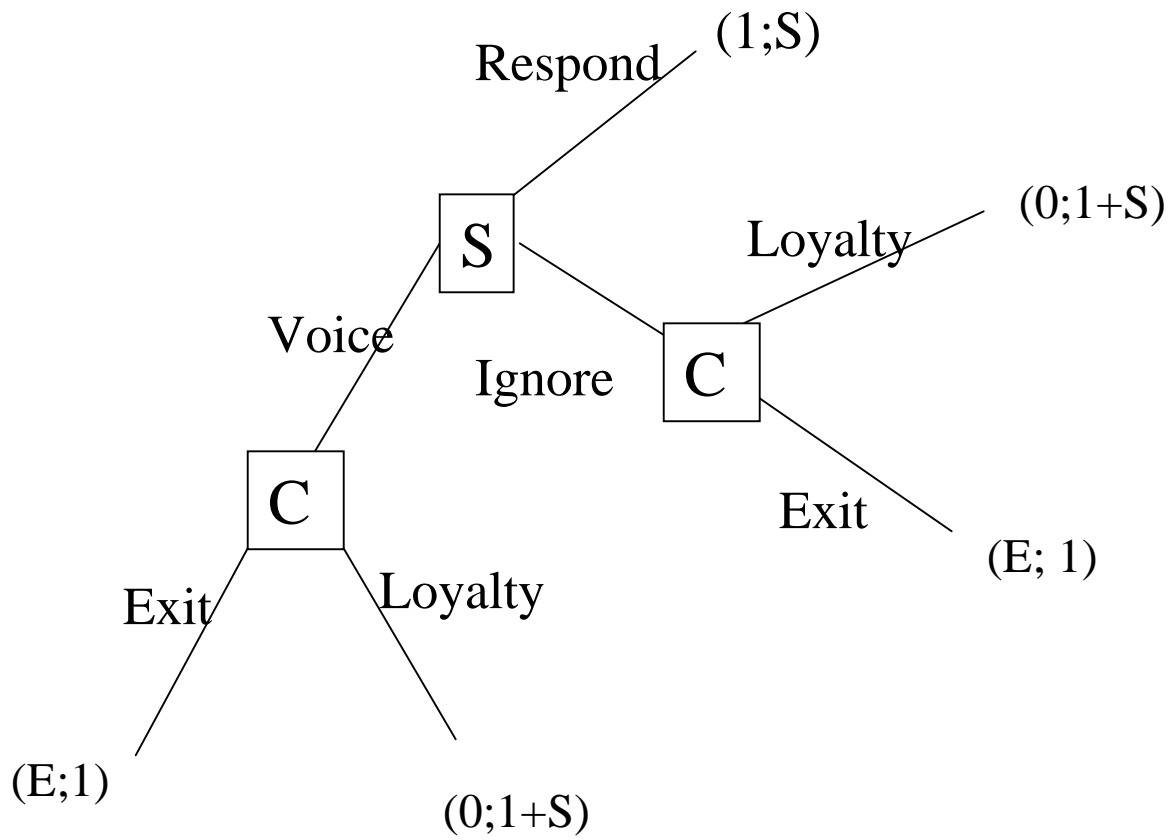
# State's response depends on its expectation of citizen's response





# Turning outcomes into pay-offs

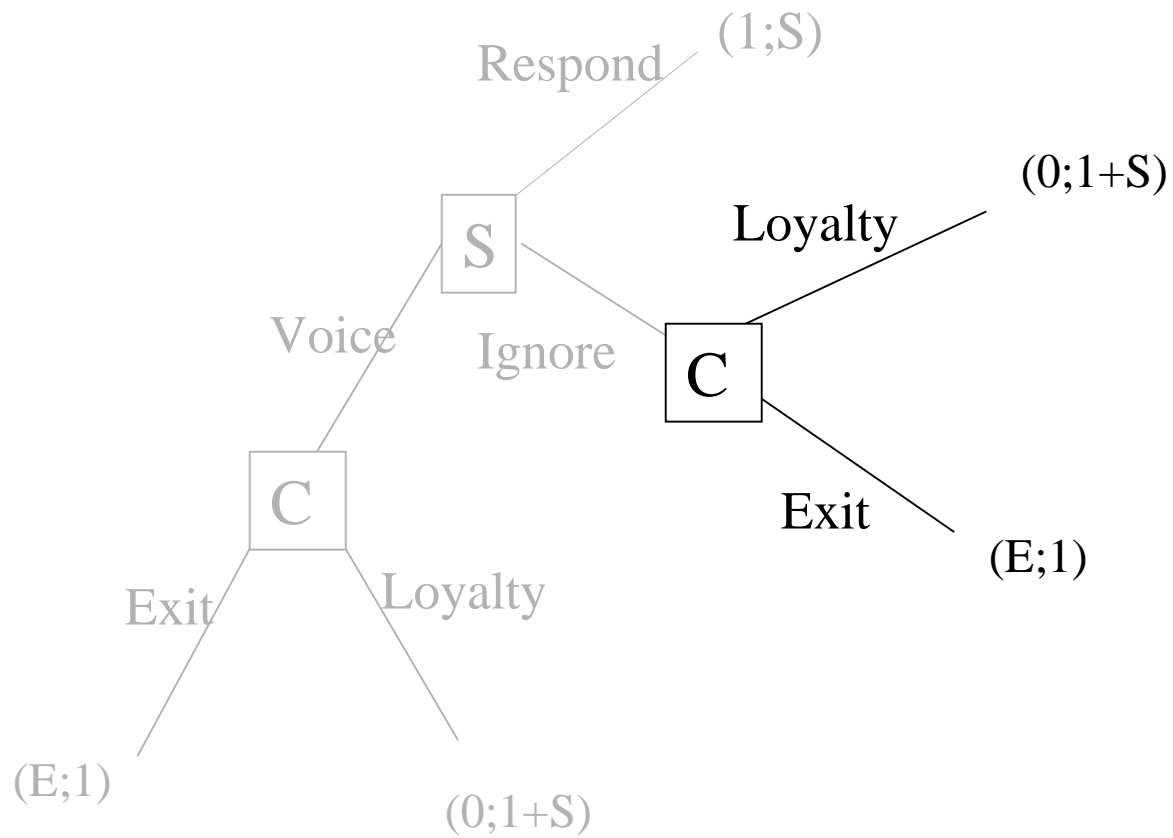
Outcome	Description	Value assigned by	
		Citizen	State
1	State keeps benefit of new situation; Citizen opts for some substitute	E	1
2	State keeps benefit of new situation and support of citizen; Citizen suffers loss	0	1+S
3	State returns benefit but keeps support of citizen	1	S
4	Same as 2	0	1+S
5	Same as a	E	1



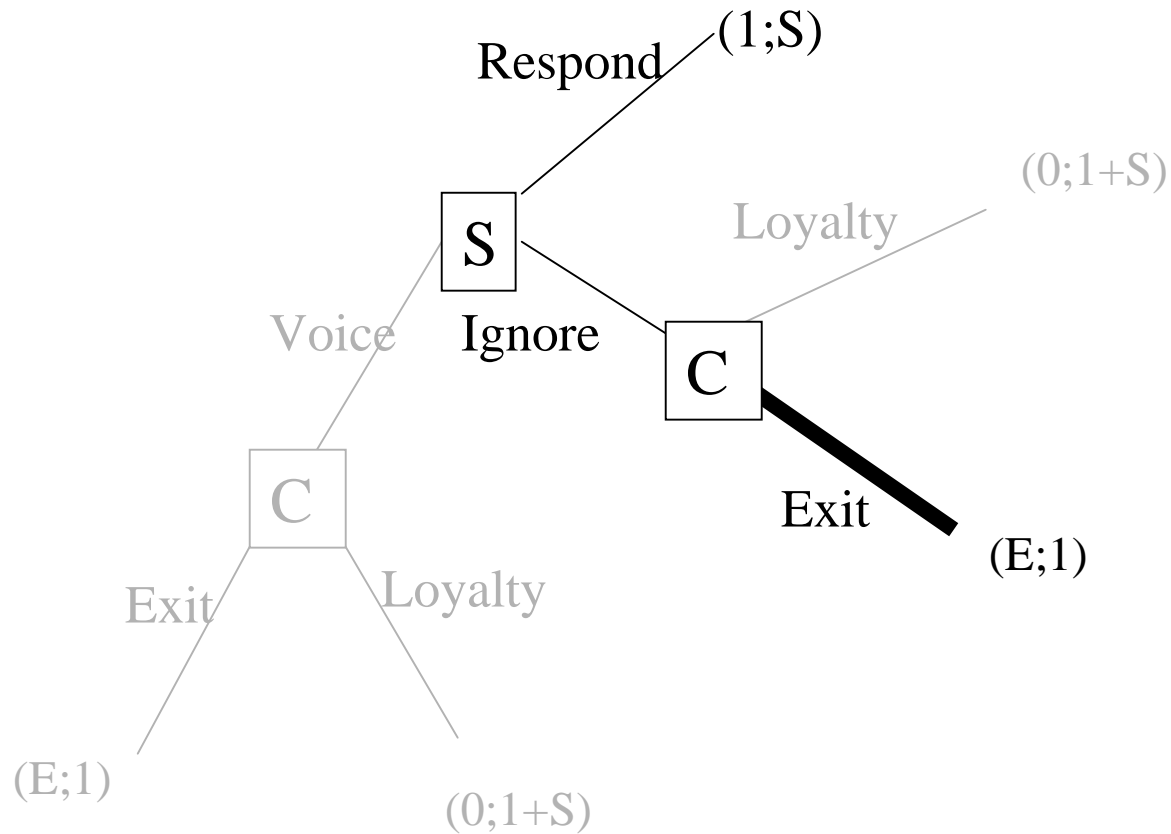
# How do we know what will happen?

- Backward's Induction
  - Begin at the end and reason backwards

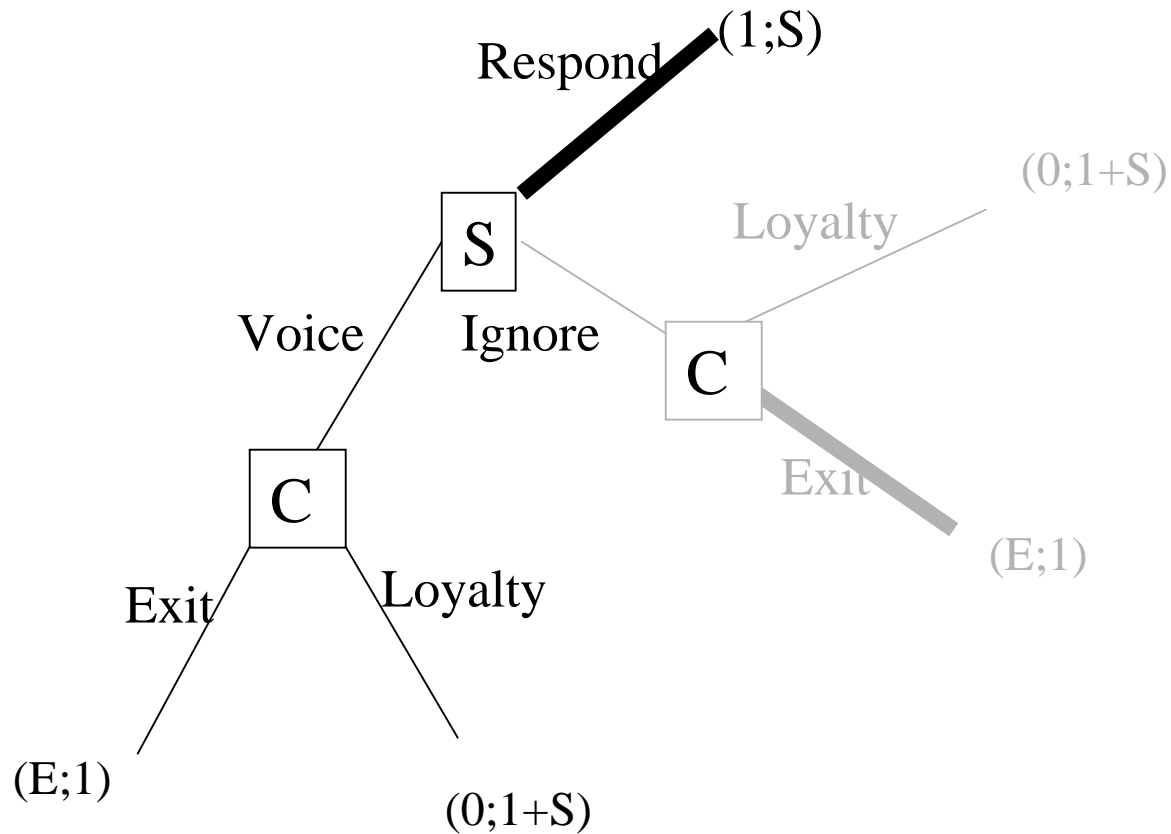
# End Game



# State response to voice when exit threats are credible ( $E > 0$ )



Citizen's choice when it has credible exit threats ( $E > 0$ ) and the state depends on its support  $S > 1$



Equilibrium behavior when:

1.) value citizen places on a substitute is better than what it gets from loyalty, but not so high that its better than a return the status quo ante ( $0 < E < 1$ )

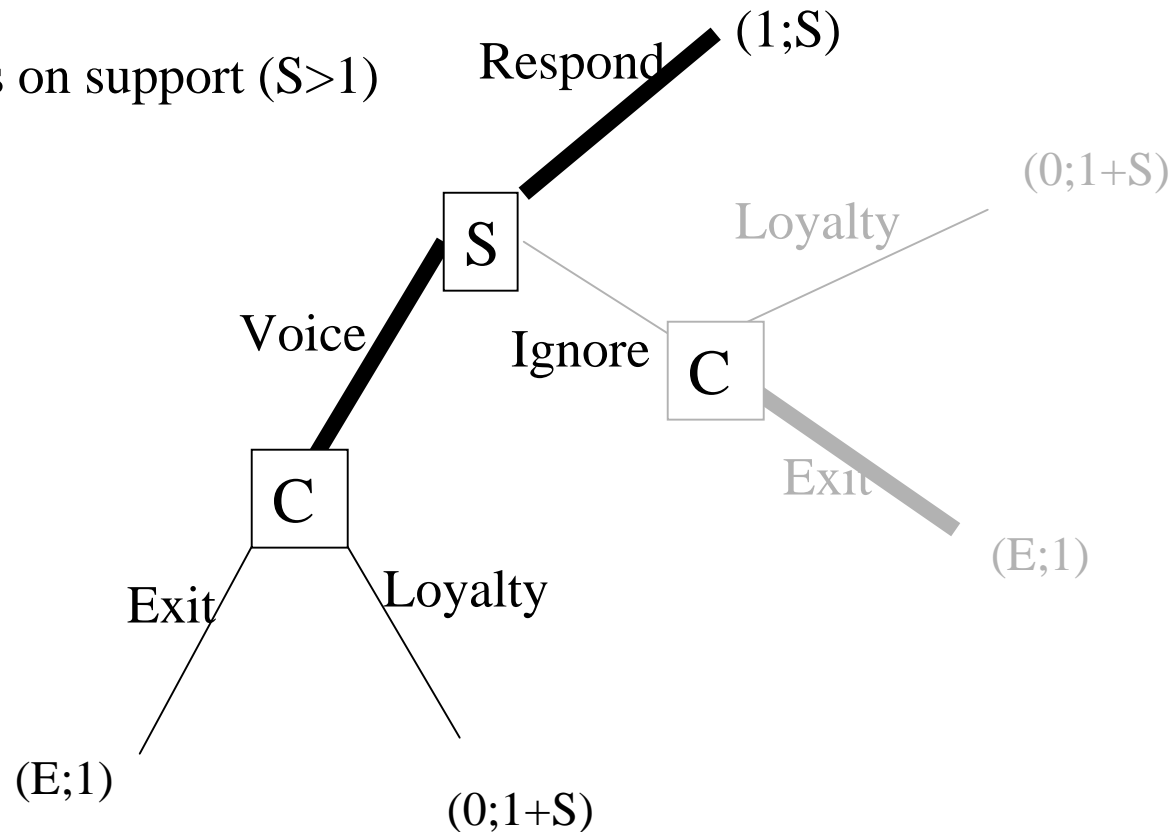
and

2.) State depends on support ( $S > 1$ )

Eq. Strategy:

(C's 1<sup>st</sup> action, C's 2<sup>nd</sup> action; S's action)

(V,E;R) is a sub-game perfect equilibrium



# Definitions

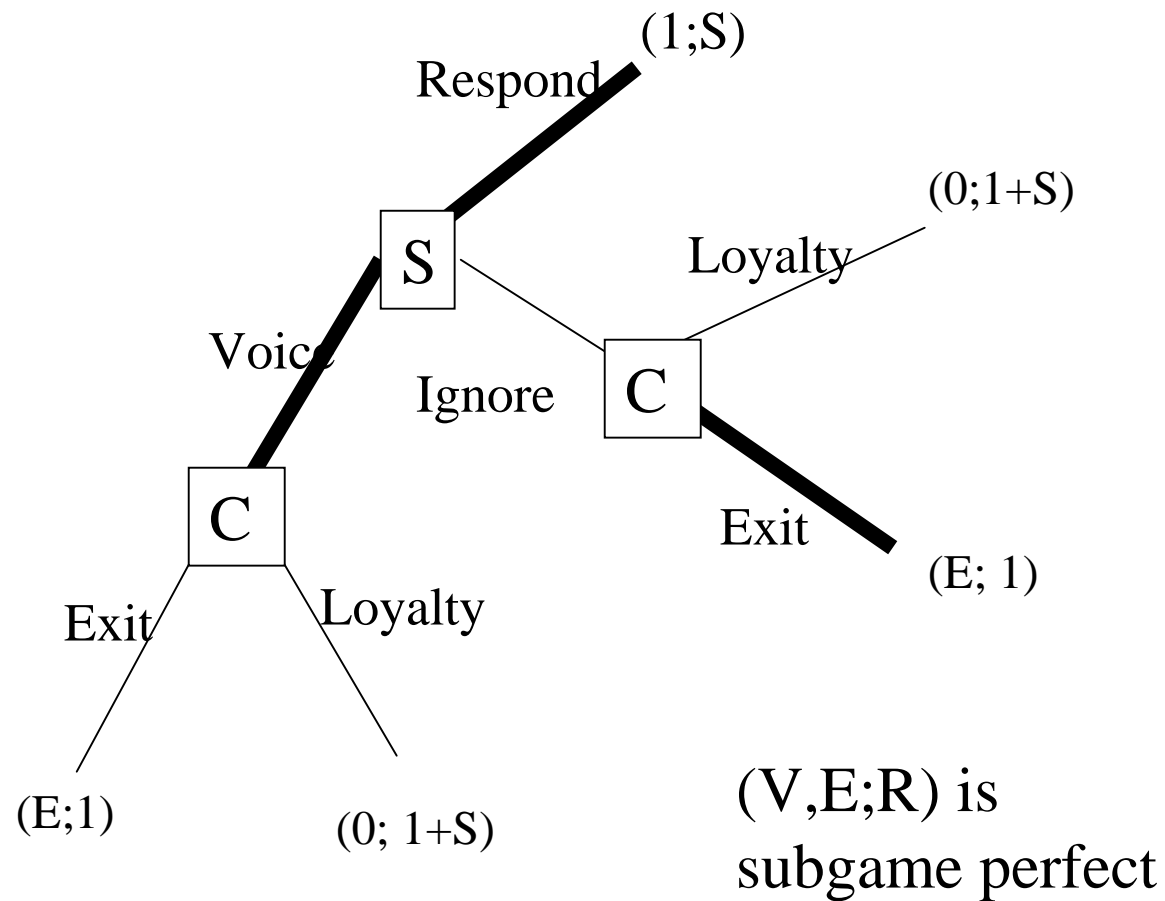
A strategy is a *complete* plan that specifies what an actor would do at any conceivable decision point (node).

A Nash equilibrium is a set of strategies that are best replies to each other on the equilibrium path

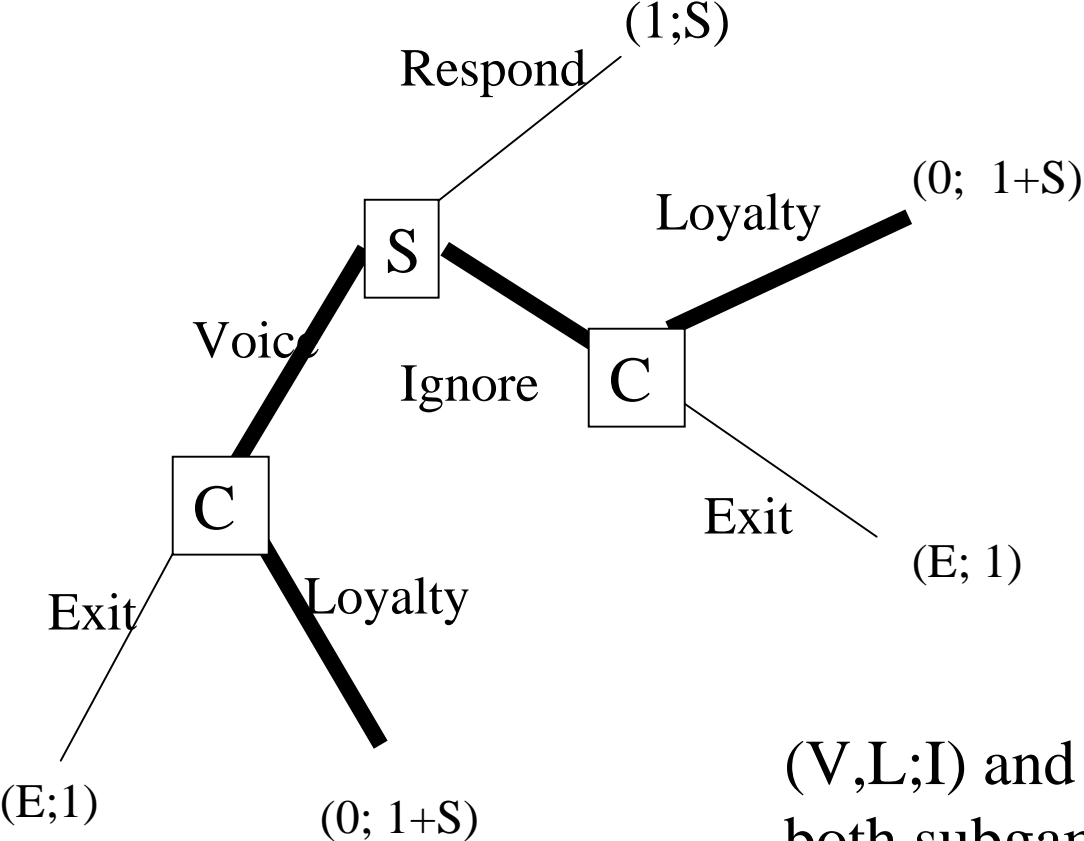
A subgame is a part of a game beginning at one node and including all succeeding nodes that forms a game by itself.

A subgame perfect equilibrium is a set of strategies such that each player plays a Nash equilibrium in every subgame

Equilibrium behavior when citizen has credible exit threat ( $0 < E < 1$ ) and state is dependent ( $S > 1$ ).

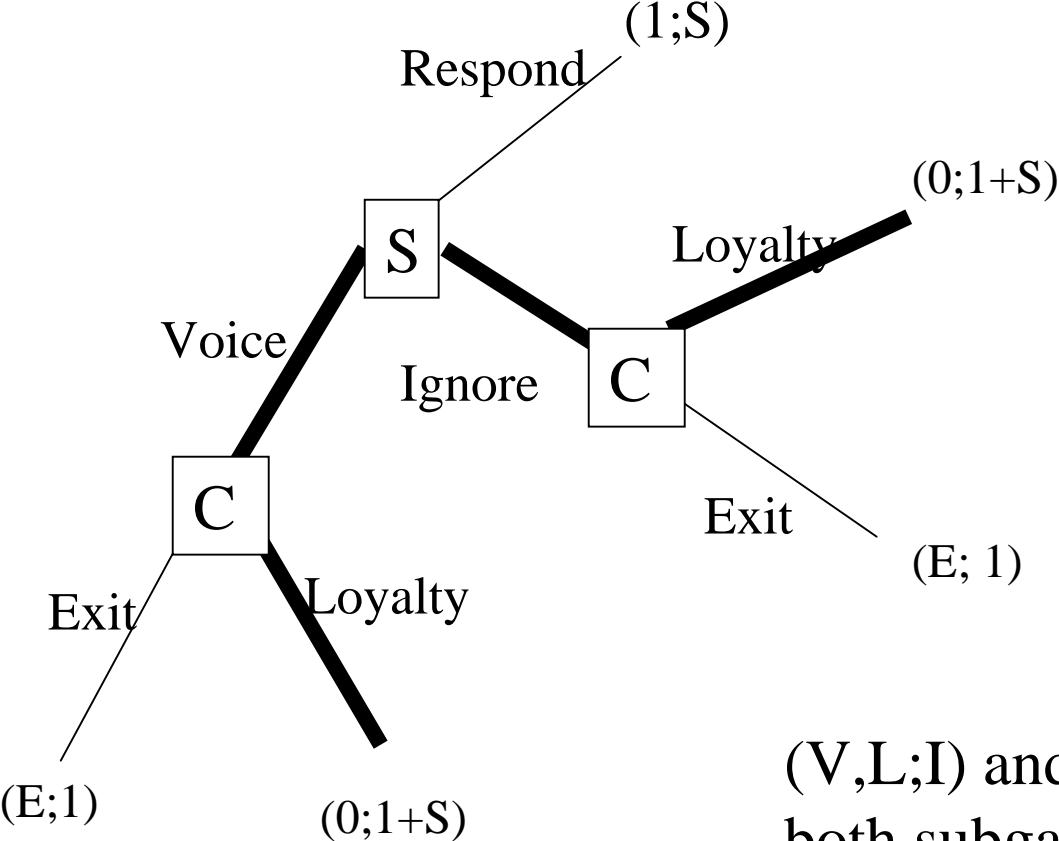


Equilibrium behavior when citizen has no credible exit threat ( $E < 0$ ) and state depends on citizen's support ( $S > 1$ ).



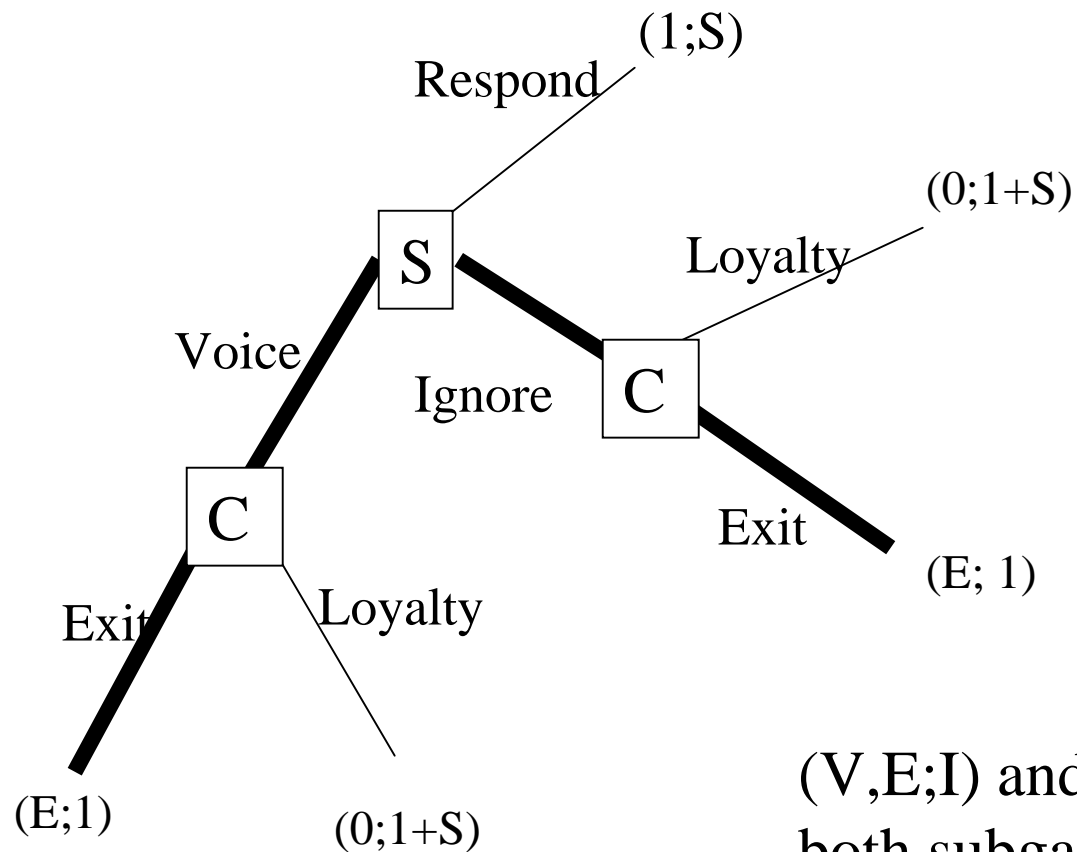
(V,L;I) and (L,L;I) are both subgame perfect

Equilibrium behavior when citizen has no credible exit threat ( $E < 0$ ) and state is relatively autonomous ( $S < 1$ ).



$(V, L; I)$  and  $(L, L; I)$  are both subgame perfect

Equilibrium behavior when citizen has a credible exit threat ( $E > 0$ ) and state is relatively autonomous ( $S < 1$ ).

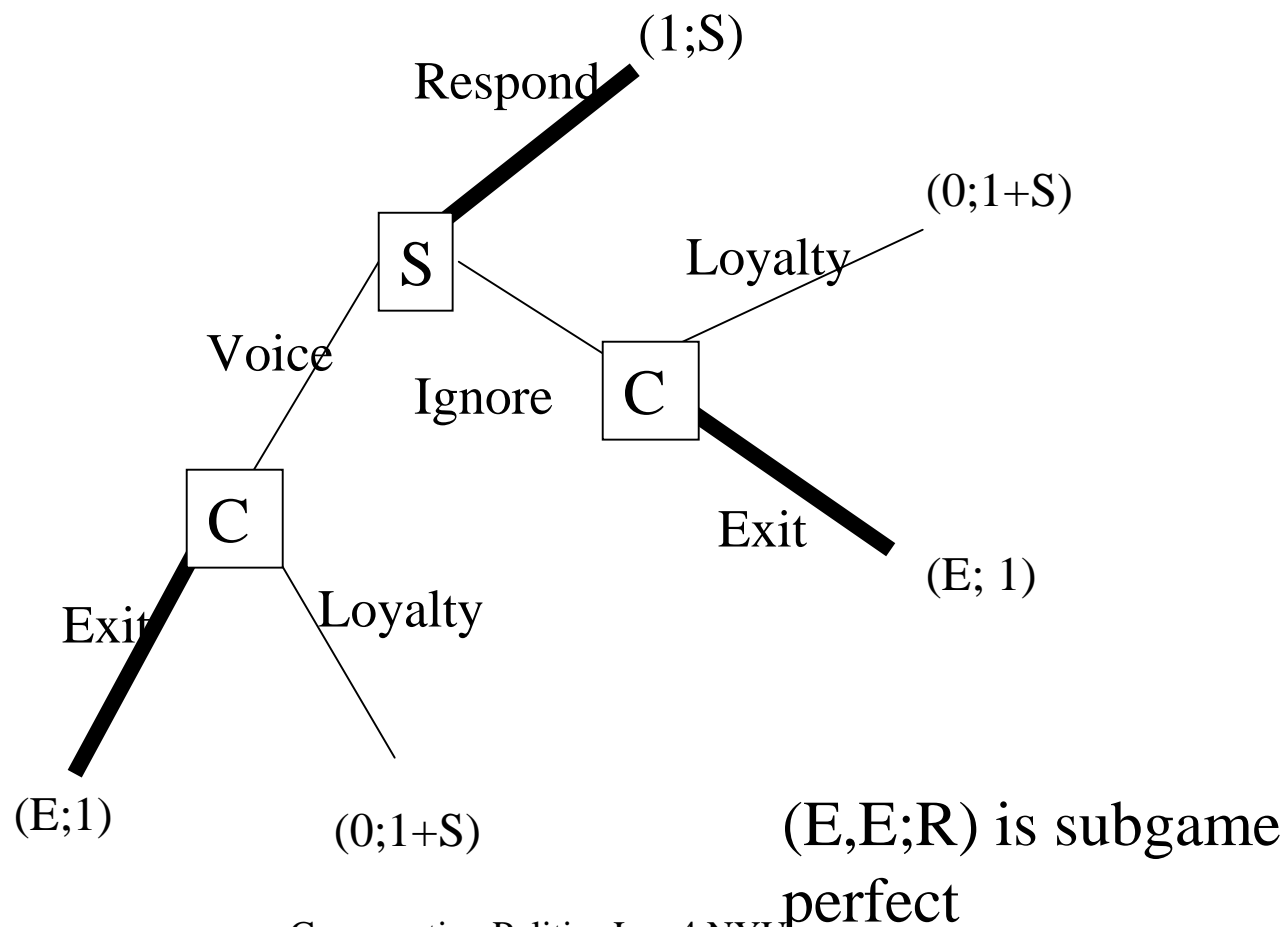


# Summary of subgame perfect equilibria

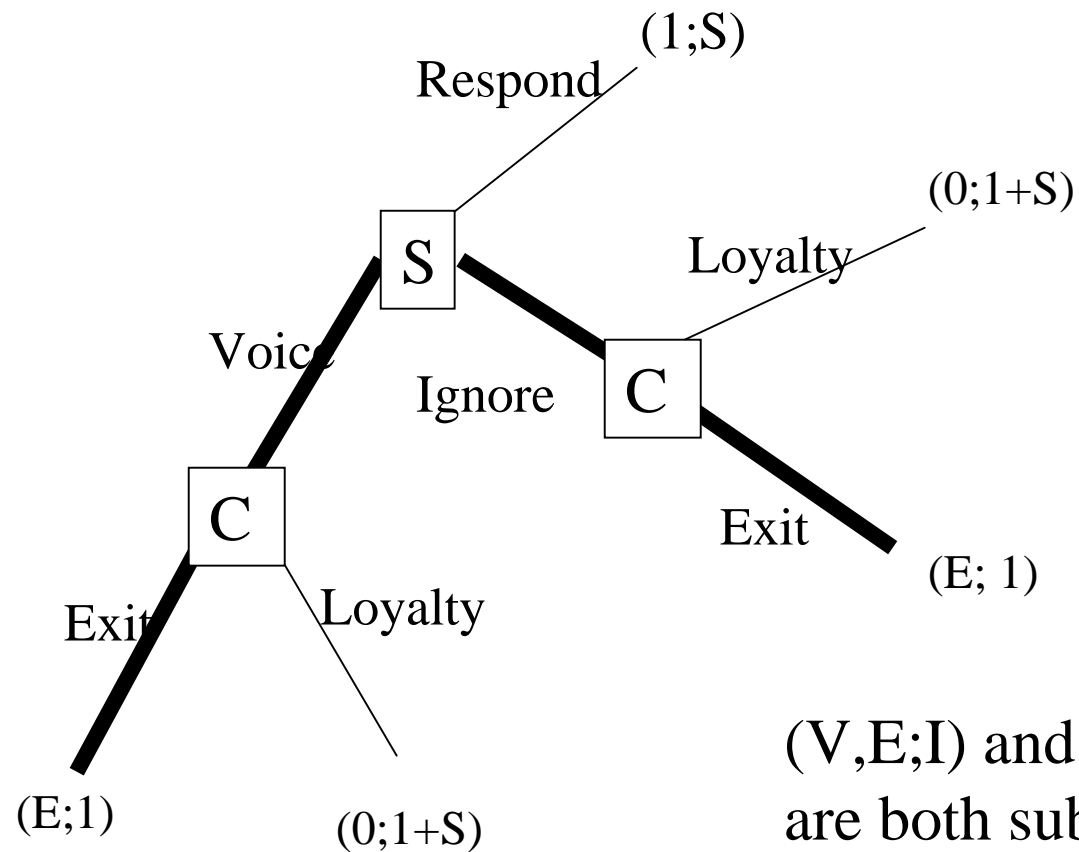
State is:

		State is:	
		Relatively autonomous $S < 1$	Dependent $S > 1$
Citizen has:	Has credible exit threats ( $1 > E > 0$ )	(Voice, Exit; Ignore) (Exit, Exit; Ignore)	(Voice, Exit; Respond)
	Does not have credible exit threats ( $E < 0$ )	(Voice, Loyalty; Ignore) (Loyalty, Loyalty; Ignore)	(Voice, Loyalty; Ignore) (Loyalty, Loyalty; Ignore)

Equilibrium behavior when citizen prefers substitute to the benefit of state response ( $E > 1$ ) and state is dependent ( $S > 1$ )



Equilibrium behavior when citizen prefers substitute to the benefit of state response ( $E > 1$ ) and state is relatively autonomous ( $S < 1$ )



(V,E;I) and (E,E;I)  
are both subgame  
perfect

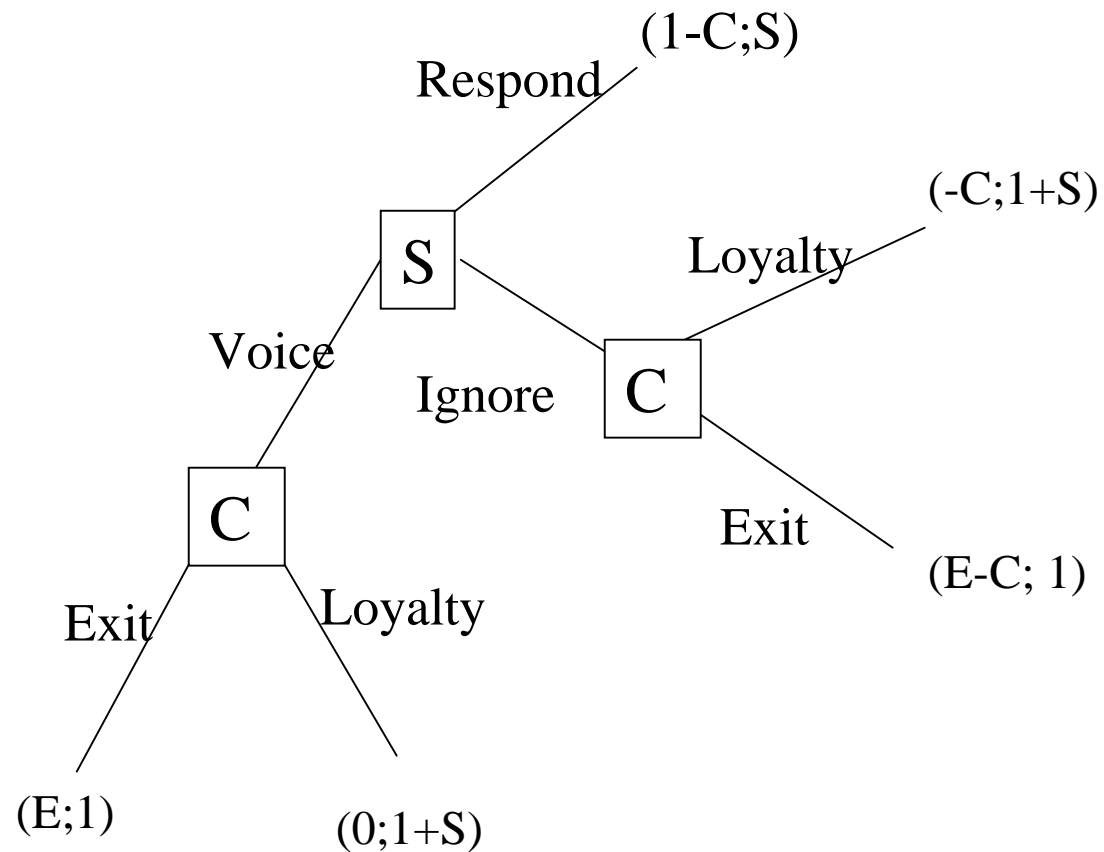
# Summary of subgame perfect equilibria

State is:

Relatively autonomous  
 $S < 1$                       Dependent  
 $S > 1$

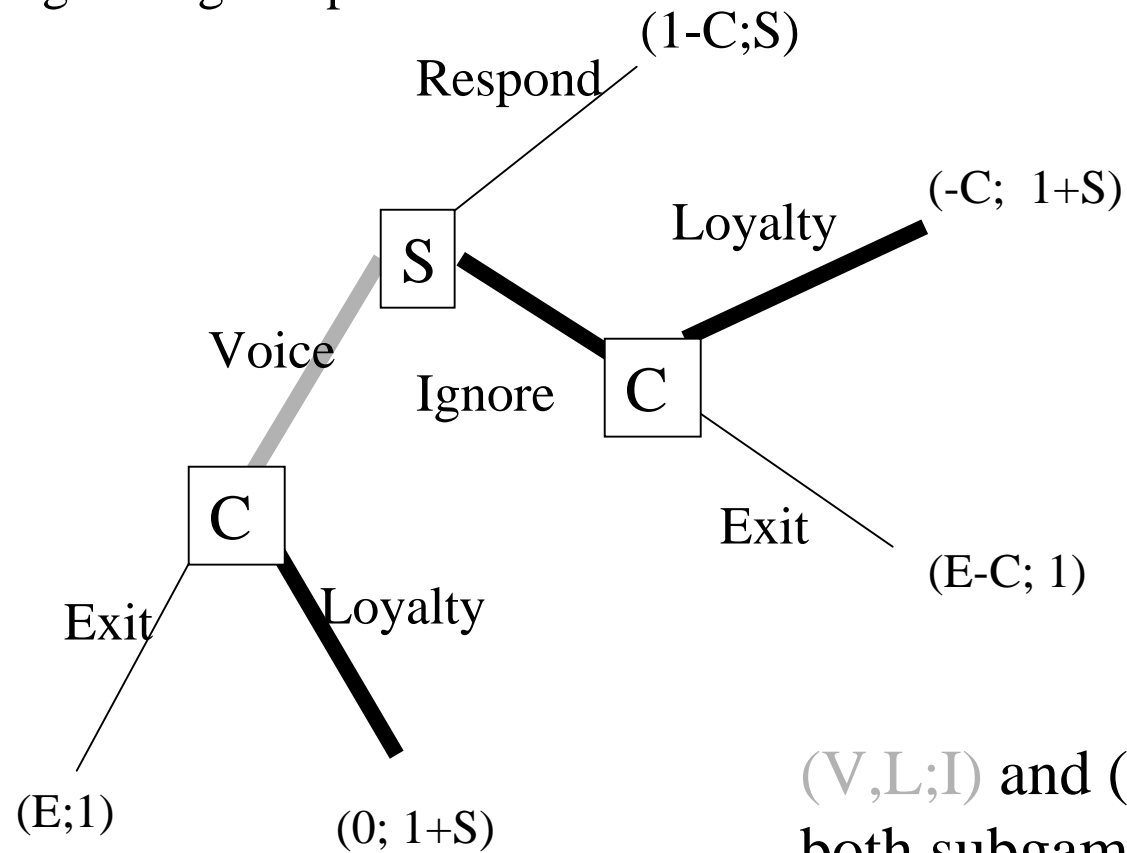
Citizen has:	Preference for substitute ( $E > 1$ )	(Exit,Exit; Ignore) (Voice,Exit; Ignore)	(Exit,Exit; Respond)
	Has credible exit threats ( $1 > E > 0$ )	(Voice,Exit; Ignore) (Exit, Exit; Ignore)	(Voice,Exit;Respond)
	Does not have credible exit threats ( $E < 0$ )	(Voice,Loyalty;Ignore) (Loyalty,Loyalty;Ignore)	(Voice,Loyalty;Ignore) (Loyalty,Loyalty;Ignore)

When voice is costly ( $1-E > C > 0$ ) does behavior change?



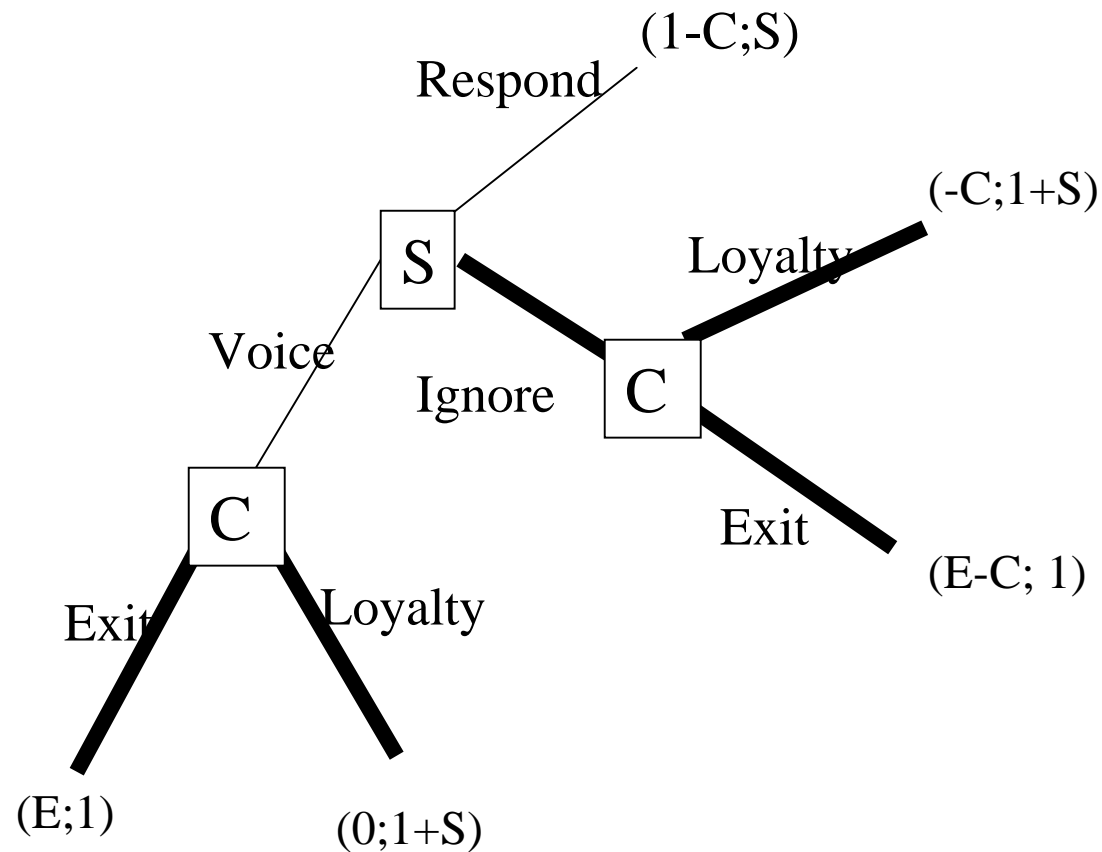
Example: Recall that both (Voice, Loyalty; Ignore) and (Loyalty, Loyalty; Ignore) are subgame perfect equilibria when the citizen has no credible exit threat ( $E < 0$ ) and state depends on citizen's support ( $S > 1$ ) is . Would costly voice change our expectations about behavior?

Yes! Whenever the state is expected to ignore the use of voice, using voice is no longer equilibrium behavior. For example, when the citizen has no credible exit threat ( $E < 0$ ) and the state depends on citizen's support ( $S > 1$ );  $(V, L; I)$  is no longer subgame perfect



$(V, L; I)$  and  $(L, L; I)$  are both subgame perfect

More generally, when the state is autonomous and using voice is costly, citizens choose exit or loyalty at the beginning of the game

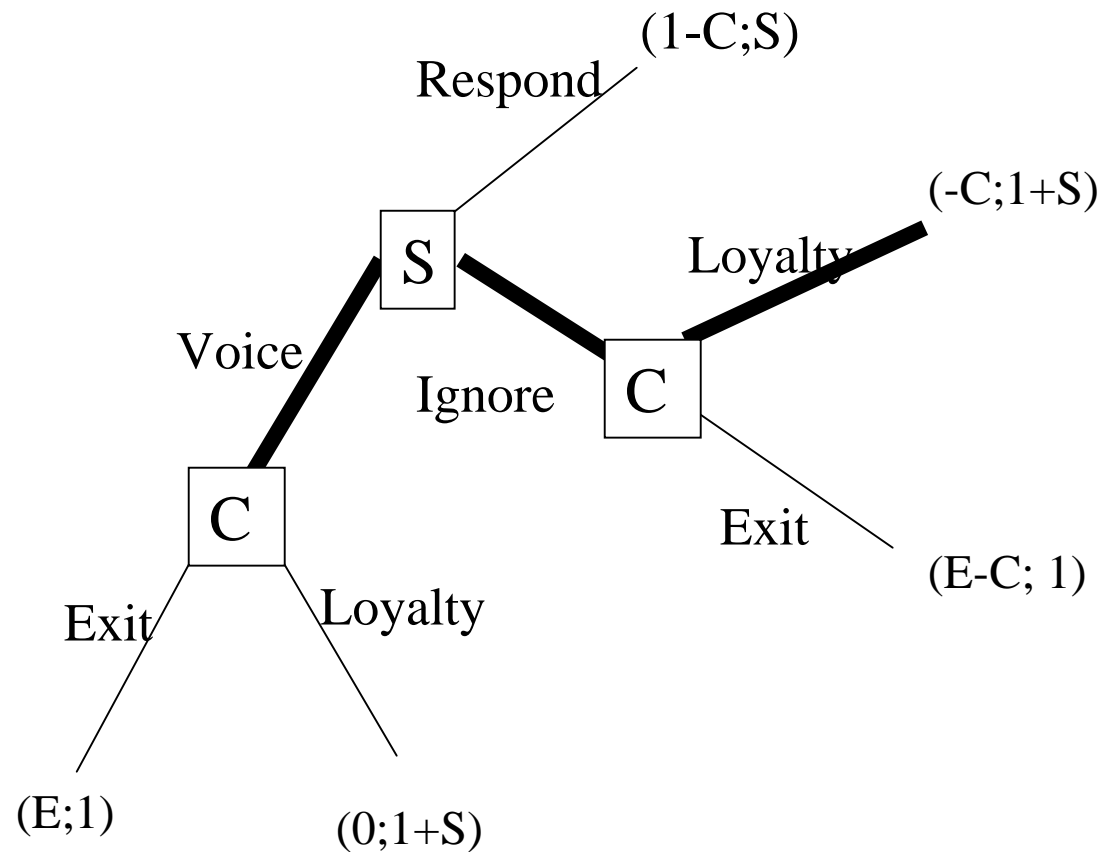


# Summary of subgame perfect equilibria when voice is costly

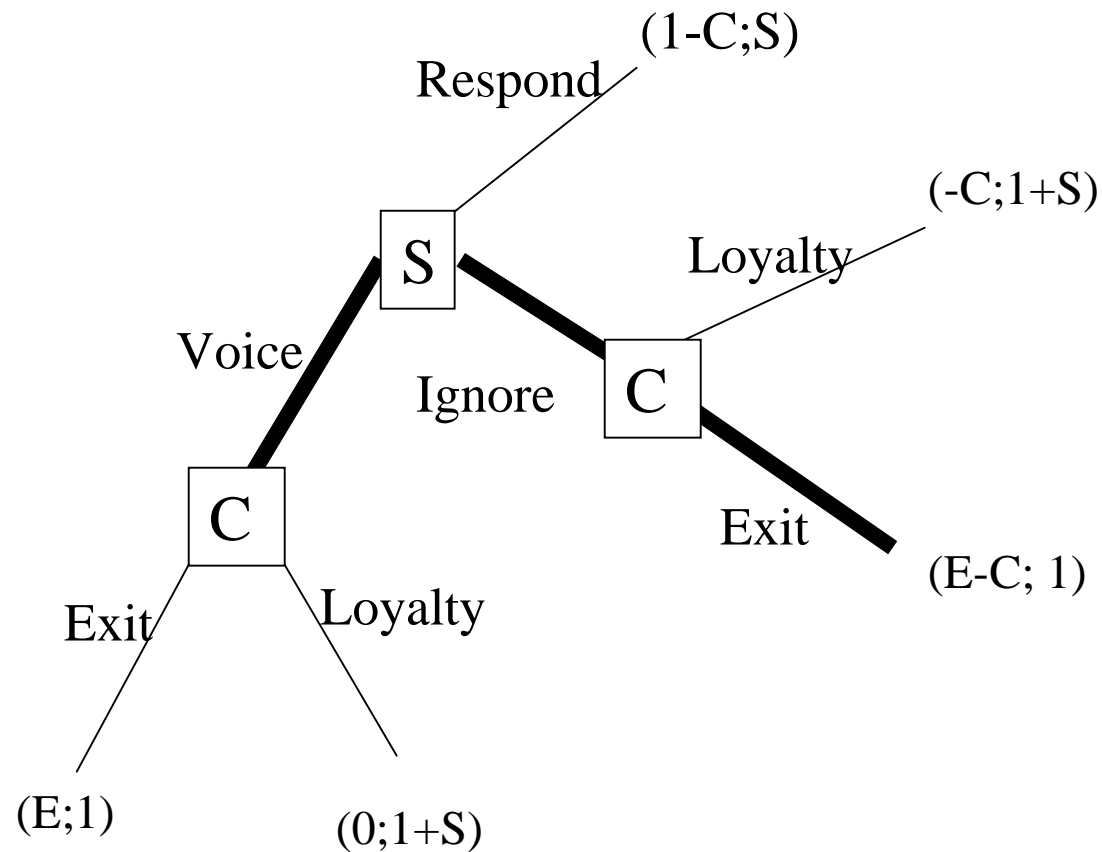
State is:

		Relatively autonomous $S < 1$	Dependent $S > 1$
Citizen has:	Preference for substitute ( $E > 1$ )	(Exit,Exit; Ignore) (Voice,Exit; Ignore)	(Exit,Exit; Respond)
	Has credible exit threats ( $1 > E > 0$ )	(Voice,Exit; Ignore) (Exit,Exit; Voice)	(Voice,Exit; Respond)
	Does not have credible exit threats ( $E < 0$ )	(Voice,Loyalty; Ignore) (Loyalty,Loyalty; Ignore)	(Voice,Loyalty; Ignore) (Loyalty,Loyalty; Ignore)

When voice is intrinsically beneficial to the citizen ( $c < 0$ ), the citizen has not credible exit threat ( $E < 0$ ), and the state is relatively autonomous ( $S < 1$ )



When voice is intrinsically beneficial to the citizen ( $c < 0$ ), the citizen has a credible exit threat ( $E > 0$ ), and the state is relatively autonomous ( $S < 1$ )



# Summary of subgame perfect equilibria when voice is intrinsically beneficial $c < 0$

State is:

		Relatively autonomous $S < 1$	Dependent $S > 1$
Citizen has:	Preference for substitute $(E > 1)$	(Exit,Exit; Ignore) (Voice,Exit; Ignore)	(Voice,Exit; Respond)
	Has credible exit threats $(1 > E > 0)$	(Voice,Exit; Ignore)	(Voice,Exit; Respond)
	Does not have credible exit threats $(E < 0)$	(Voice,Loyalty;Ignore) (Loyalty,Loyalty;Ignore)	(Voice,Loyalty;Ignore) (Loyalty,Loyalty;Ignore)

# Conclusions

- Influence is relevant only when perfect substitutes are not available (I.e. when exit is costly)
- When voice is likely to be effective states have an incentive to prevent bad shocks
- Voice is effective only when it is costly

# Conclusions – when voice is costly

- Voice is used only when exit threats are credible and the state depends on citizen's support
- Loyalty is used when exit threats are not credible
- Exit is used when state is relatively autonomous and exit threats are credible
  - Thus, when the state observes the use of voice, it can learn something about the citizen

# Conclusions – when voice is intrinsically beneficial

- Voice is used all the time
  - So the state can not learn anything about the citizen by observing voice