Citizen–Candidates

(cf. *Persson and Tabellini*, 5.3)
key differences from models of chapter 3 :
(1) parties care about policies (not just about winning)
(2) parties can't commit to a policy (except for the policy they really want)

[for (1) without (2), see 5.1 in *Persson and Tabellini*]

Same Policy Model

public expenditure g financed by proportional income tax ; people differ in income ; preferences represented by

$$W^i(g) = c^i + H(g)$$

so preferences are single–peaked, and person i's preferred policy is $g^*(y^i)$ such that

$$H'(g^*(y^i)) = \frac{y^i}{\bar{y}} \tag{1}$$

so that preferred $g^*(y^i)$ is a decreasing function of the person's income, and the median of the preferred policies is $g^*(y^m)$, where y^m is the median income

Entry Costs

now it costs $\epsilon > 0$ for a candidate to run for office
(NOT refunded if the candidate wins)

so cost of running is ϵ, benefit of running is that you may influence the policy which is chosen

Default Policy

what if nobody wants to run?

then some “default policy” $\bar{g}$ gets chosen

$\bar{g}$ exogenous, and known to everyone

Will Anyone Run?

if nobody else runs in the election, $\bar{g}$ gets chosen

but then if one person, of income y^i enters, she wins for sure (she's the only candidate), and gets to implement her most–favoured policy $g^*(y^i)$

so she'll choose to run (when no–one else is running) if

$$W^i[g^*(y^i)] - \epsilon > W^i(\bar{g}) \tag{2}$$

Median Candidate, One–Party Equilibrium

no–one chooses to enter if they can't influence the outcome (either by getting elected, or by siphoning off enough votes to change who else gets elected)

so if a person if income y^m chooses to run, then there is an equilibrium in which no–one else chooses to run

i.e. if condition (2) holds when $y^i = y^m$, then we have an equilibrium in which exactly one candidate chooses to run, a candidate of income y^m, who then implements her preferred policy $g^*(y^m)$

and no–one else chooses to enter, since no–one else can prevent this median voter from winning

Other One–Candidate Equilibria

what if only one person, of income y^i enters, with y^i close to (but a little smaller than) y^m?

could anyone else enter and beat her?
yes, a challenger of income y^m or a challenger whose income is closer to y^m than the first candidate's

but such an entrant (of income y^j) will gain

$$W^j[g^*(y^j)] - W^j[g^*(y^i)] - \epsilon \tag{3}$$

and (3) will be negative if y^j is close to y^i : the gain of slightly changing the policy is less than the cost of running
and extremists, who would gain a lot by changing policy, can't win, since they're too far from the median to beat the original candidate i

Two–Candidate Equilibrium

now the candidates are **not** identical

not worth entering if the existing candidate's policy is close to yours

both candidates must have a chance of winning
(no–one will enter if they're sure to lose)

so have candidates of income y^L and y^R entering, with

$$W^m[g^*(y^L)] = W^m[g^*(y^R)] \tag{4}$$

condition (4) guarantees that each candidate has a chance of winning

Not too Close Together

if y^L and y^R are "too" close together, then

$$0.5[W^L(g^*[y^L]) - W^L(g^*[y^R])] < \epsilon \tag{5}$$

under condition (5), candidate L doesn't want to enter : the gain from changing the policy (which he'll only achieve half the time) exceeds the cost of entering
and if

$$0.5[W^R(g^*[y^R]) - W^R(g^*[y^L])] < \epsilon \tag{6}$$

then candidate R won't want to enter

Not too Far Apart?

if voters vote sincerely (as in Osborne and Slivinski)
then g^L and g^R can't be too far apart

otherwise, a candidate of income y^m could enter and win
and would want to do so, since $W^m[g^*(y^m)] - W^m[g^*(y^L)]$ and $W^m[g^*(y^m)] - W^m[g^*(y^R)]$ would both be pretty big