ECON 711B - Voting Game

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Ideas for setup:

- Continuum of players.

- Discrete choices: Vote and not vote. Democratic vote for democrats; republicans vote for republicans.

Stylized facts:

- Costly voting.

- Signal from voting increases with income.

Result:

- Voting rates increase with income.

Higher income and voting

- Two types of players: R and D.

- If more Rs vote than Ds, Rs win and Rs get payoff x. If more Ds vote than Rs, Ds win and Ds get payoff $x \in \mathbb{R}_+$.

- There is a continuum of each type of players. For each type, player $w \in [0, 1]$ earns w per unit of time.

- It takes $c \in (0, 1)$ units of time to vote. So the cost of voting is cw.

- The benefit of voting is a signal of your in-group-ness. The strength of the signal is $f(w)$. Assume that f is strictly increasing ($f' > 0$) and strictly convex ($f'' > 0$).

- The payoff for a D is

$u_D =$	R wins	D wins
$v = 1$	$f(w) - cw$	$f(w) - cw + x$
$v = 0$	0	x

- The payoff for a R is

$u_R =$	D wins	R wins
$v = 1$	$f(w) - cw$	$f(w) - cw + x$
$v = 0$	0	x

- Since the unit mass of an individual is zero, they cannot sway the result of the election.

- Voting is a dominant strategy if $cw < f(w)$.

- Not voting is a dominant strategy if $cw > f(w)$
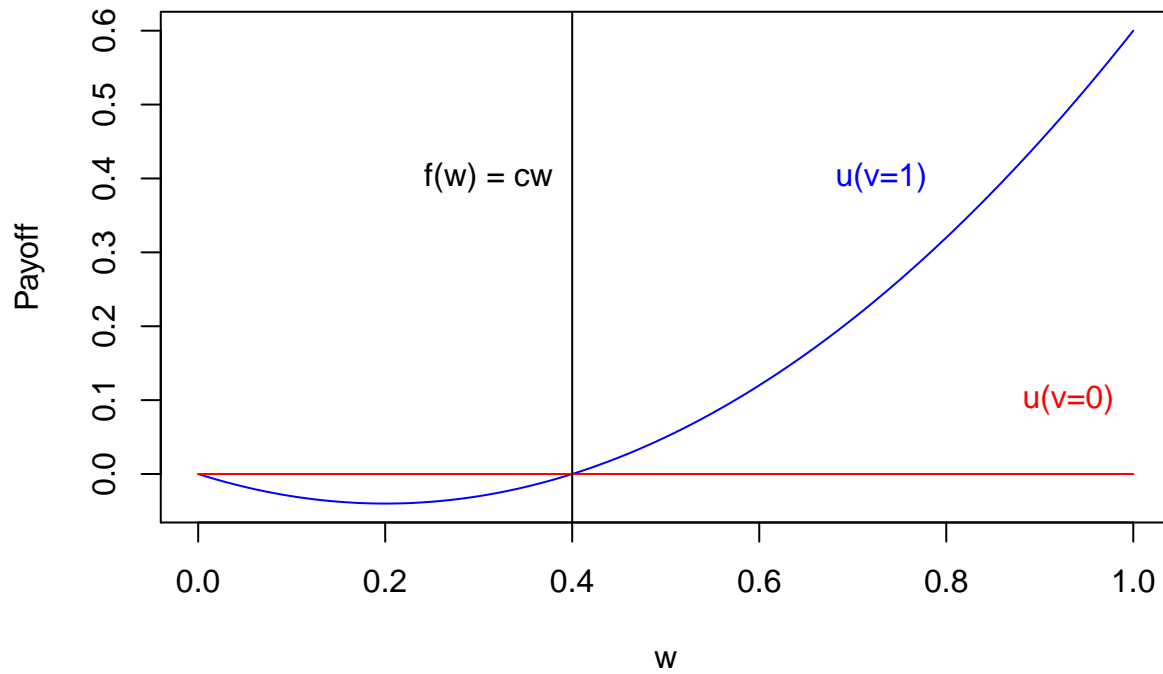
- Result is lower income agents don't vote and higher income agents vote despite the higher time-cost trade-off.