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What Exactly Is A Duty to Vote ?

Dan Usher
Queen's University

Department of Economics
Queen's University
94 University Avenue
Kingston, Ontario, Canada
K7L 3N6

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Abstract: A duty to vote may be interpreted narrowly as no more than an obligation to cast one's ballot, supporting a party or candidate in one's own interest exclusively or, if one so pleases, with some regard for the community as a whole. Alternatively, a duty to vote may be interpreted broadly as including an obligation to vote for the party or candidate seen as best for society as a whole. This essay is a defence of the narrower, less stringent, duty, with no obligation about whom to vote for except in so far as viciousness or outright injustice is expected from the election of a party or candidates for office.

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This essay is a defence of the simple proposition that society recognizes a duty to vote but no comparable duty about whom to vote for, leaving the voter free to vote as ethically, altruistically, expressively or self-interestedly as one pleases.

A duty to vote may be nothing more than a minimal obligation to show up at the ballot box, or it may also prescribe rules about how to choose among competing political parties or candidates for office. This paper is a defence of the narrower interpretation. The claim is that what citizens see - and ought to see - as a duty to vote is the minimal obligation alone. As long as one does not vote frivolously or cruelly, a duty to vote contains no prescription for choosing among candidates or political parties. One may vote as one pleases, with no additional moral constraints. A duty to vote is not primarily to procure the socially-preferred outcome in today's election. It is to protect government by majority-rule voting.

Duty is a difficult concept with no place in conventional economic analysis where a clear line is typically drawn between the private sector within which people are assumed to be unreservedly greedy and the public sector within which actions are taken in accordance with some notion of the common good. Citizens' obligations to pay taxes and obey the law are enforced by the threat of punishment. Nobody is assumed to do what is right for no other reason than that it is the right thing to do.

Voting conforms badly to this pattern. On the one hand, it is essential for the preservation of what we all see as a good society that large numbers of people choose to vote rather than to abstain. On the other hand, it is somewhere between difficult and impossible to compel one another do vote appropriately, and there is no voice from on high telling all of us what exactly a duty to vote requires of us, how to weigh public and private good and how one person's obligation is affected by another's refusal to recognize any such obligation.

In general, duty is a moral requirement upon the citizen to act in accordance with a rule where:

- 1) There must be something important at stake. Citizens must expect to be significantly better off on average when they all (or an appropriately large proportion of them) comply with the rule than when a large proportion refuses to do so.
- 2) Self-interest alone must be insufficient to procure compliance. Each person must be better off by not acting dutifully as long as enough others act dutifully.
- 3) Sufficient compliance cannot be secured by law. No action is said to be dutiful when it is adequately enforced by the law; risk of detection and punishment must be insufficient to procure full compliance.

With a choice between two courses of action, A and B, a person may have a duty to choose action A rather than action B if i) everybody is better off when everybody chooses action A, but

ii) any particular person becomes better off by choosing action B instead as long as everybody else (or a sufficiently large portion of the population) continues to choose action A. Law is designed to nullify a person's advantage in choosing action B. Only when (for whatever reason) the law cannot do so completely, might there be a duty to choose action A.

There is some ambiguity about the proportion of the population required for the common benefit from dutiful behaviour to emerge. Duty arises in situations lying somewhere between a multi-person prisoners' dilemma where the sought-after benefit to society as a whole is only obtained when everybody acts dutifully and a multi-person chicken game where one dutiful person is sufficient. Required proportions vary from case to case.

The first half of the paper is an attempt to specify what is at stake. For there to be a duty to vote, society as a whole must be significantly better off when everybody, or almost everybody, votes than when a large portion of the eligible voters abstains. Critique of an argument to the contrary - suggesting that abstention may sometimes be socially advantageous on balance - is a vehicle for showing where exactly the harm from abstention lies. The latter half is a discussion of alternative criteria that the eligible voter might adopt: ethical voting based upon a utilitarian criterion of whom to vote for, altruistic voting based upon one's degree of sympathy with every other person, expressive voting to get something off one's chest, and what is to be called patriotic voting where duty goes no further than the moral obligation to show up at the ballot box. The heart of this paper is the claim that patriotic voting is, and should be, what people mean when they speak of a duty to vote. The paper ends with a brief discussion of the pros and cons of compulsory voting.

The standard formulation in Riker and Ordeshook (1968) of the role of duty in voting is of a person voting or abstaining according to whether

$$\pi B + D > C \quad (1)$$

where B is one's personal benefit if one's preferred party wins the election

D is the value one places upon voting as a duty to the rest of the community.

C is one's cost of voting

and π is the probability of casting a pivotal vote, of swinging the outcome of an election from the political party one opposes to the political party one favours.

Purely self-interested voting is in conformity with equation (1) when $D = 0$, implying that people vote or abstain according to whether or not $\pi B > C$. The crux of the matter is that the probability of casting a pivotal vote is believed to be too small to make voting worthwhile.¹ Only when D is large, meaning that the voter places a considerable valuation upon behaving dutifully,

¹Views about the chance of casting a pivotal vote is discussed in Usher (2011)

would a person's decision to vote rather than to abstain be advantageous to the voter himself as distinct from the community as whole.

The Social Cost of Wide-spread Abstention

As there can be no duty to vote unless wide-spread abstention is harmful to society as a whole, the content of the duty to vote can only be identified in the light of what that harm might be. Three harms - biased abstention, voting pacts and implicit bribery - will be discussed in turn. Biased abstention swings the outcome of an election away from the will of the majority of the population. If people vote or abstain as they please, abstention may be concentrated among supporters of one of the two competing parties, creating a discrepancy between the political party chosen by a majority of people who vote and the political party preferred by a majority of the population as a whole. Concern about voting pacts is that wide-spread abstention may hand an election to the party that is more capable, through organization or finance, not just of persuading people that its platform is best, but in getting its supporters to vote. Bribery is implicit within voting when voters are lured with tax dollars to support one party or another. Discussion of these harms is preceded by an example where abstention is beneficial, an example serving as a foil for the analysis of harm to follow.

a) Unbiased Abstention: An example where abstention is socially-advantageous is a useful platform for exhibiting some of the reasons why it may not be so. Consider an election between a left party and a right party in a constituency with 100,000 eligible voters, each of whom knows which party he prefers but is somewhat uncertain about the preferences of the rest of the electorate. Suppose that the expected proportion of votes for the left party is 52% with enough variation in people's expectations about the preference of the rest of the electorate that the number of votes for the left party can vary, up or down, by as much as 3% of the total number of votes cast, so that the number of votes for the left party can be as high as 55,000 or as low as 49,000, with equal chances of being anywhere in between. On these assumptions, the left party has a five-to-one chance of winning the election $[(55 - 50)/(50 - 49)]$, and each person has a 1 in 6,000 chance $[1/(55,000 - 49,000)]$ of his vote turning out to be pivotal, meaning that, all by itself, his decision to vote rather than abstain swings the outcome of the election from the party he opposes to the party he favours. Suppose the cost of voting is \$10. On these numbers, it becomes individually advantageous to vote rather than abstain [i.e. $\pi B > C$ in equation (1)] if and only if one's benefit from a win by one's preferred party is at least \$60,000. When everybody's benefit exceeds that sum, then everybody votes. Otherwise, the example must be recast to take account of abstentions in computing the chance of casting a pivotal vote.²

²The probability of casting a pivotal vote in this example seems quite small, but is very much larger than computed by Myerson (2000) for a two-party election with a population of five million voters and with a probability of 50.1% that the left party wins the election. Myerson computes the chance of casting a pivotal vote to be about 8×10^{-9} which is about a hundred thousandth of that computed above. The principal reason for the difference is Myerson's use of person-by-person randomization as opposed to nation-wide randomization used here. In person-

Now suppose that exactly half of the 100,000 eligible voters abstain, and that, of these, exactly half would have voted for the left party and half would have voted for the right party, shifting numbers of votes for the left party from between 55,000 and 49,000 out of 100,000 votes cast to between 30,000 and 24,000 out of 50,000 votes cast. Despite these abstentions, the parties' chances of winning the election remain unchanged at five-to-one $[(30 - 25)/(25 - 24)]$, while the individual cost of voting (\$10) and probability of casting a pivotal vote $[1/6,000]$ remain exactly as they were before. But the total cost of voting has been reduced by a total of \$500,000. Equal abstentions among voters of different parties are like paired absences among Members of Parliament on opposite sides of the isle. The abstention is socially-advantageous because the total cost of voting is reduced, but one's chance of casting a pivotal vote and the outcome of the election are unchanged.

The argument against a duty to vote is that actual abstentions are enough like this extreme example that the total cost saving from abstentions when everybody votes or abstains as he pleases exceeds the social cost of the expected change, if any, in the outcome of the vote. A close-enough approximation to equal number of abstentions among supporters of both parties can be generated by replacing the assumed fixed numbers of abstentions with random variations in people's costs of abstentions within a range between 0 and some maximal cost, with no correlation between a person's randomly-chosen cost of voting and that person's preference as between left and right parties. Ledyard (1984) employs such an assumption to derive an equilibrium when each person chooses whether to vote or abstain. Borgers (2004) uses the assumption to show that abstention need not entail social cost. When supporters of both parties acquire equal benefits from a win by the parties they support and when abstention is only advantageous to people with randomly-chosen high costs of voting, self-interested abstention introduces some randomness into the outcome of an election but otherwise preserves the essential features of the simple example above.

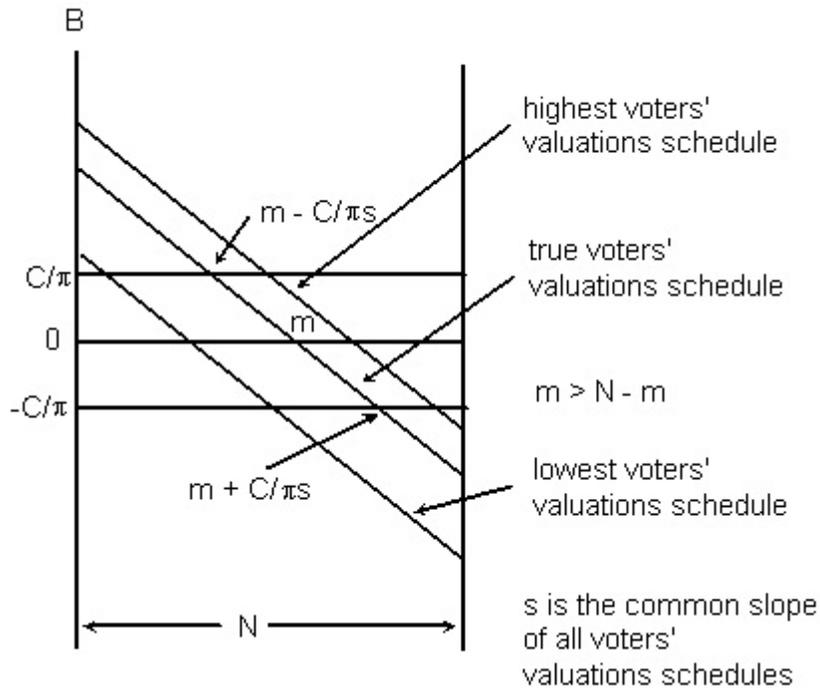
Essentially the same argument can be made by fixing the cost of voting and allowing benefits of a win for one's preferred party to vary from person to person instead, so that people who vote rather than abstain are characterized by high benefits of a win for their preferred party rather than by low voting cost. The advantage of this alternative formulation is that it lends itself to a simple exposition of how changes in the assumptions can create conditions where abstention is harmful on balance.

To develop the argument, consider an election with two parties, left and right, where all

by-person randomization, each person's vote for the left or right party is like the drawing of a single ball from an urn with 501 red balls and 499 blue balls where the average of five million such draws is very unlikely to be exactly 50%. The example in this paper is tantamount to drawing a green ball from an urn with only one green ball and 5,999 yellow balls. Nation-wide randomization treats uncertainty in the outcome of an election as due to random swings in the preferences of the electorate as a whole as is illustrated in figure 1 below. On person-by-person randomization, see also Beck (1975).

voters can be ordered in accordance with their valuations, positive or negative, of a win for the left party. The valuation of the n^{th} voter is $B(n)$, so that if the 100th voter values a win for the left party at \$2,000, then $B(100) = 2,000$, and if the 3,000th voter values a win for the right party at \$500, then $B(3,000) = -500$. Three possible schedules of voters' valuations are shown as the three downward-sloping straight lines in Figure 1 with voters ordered by their valuations of a win for the left party on the horizontal axis and with the valuations themselves on the vertical axes. The common slope of these lines is signified by s .

Figure 1: Why Abstentions are Desirable



For there to be any chance that one's vote is pivotal (that is, for π to be other than 0 or 1), there must be uncertainty about the outcome of the election. Each person eligible to vote must have some knowledge about the preferences of the rest of the electorate, but not too much. Uncertainty is created here by the assumption that, through chance alone, the true voters' valuation schedule lies somewhere between the highest and the lowest schedule in the diagram and that all schedules between these limits are equally likely. The probability of one's vote becoming pivotal is the probability of a tied vote among all other voters, which, in turn, is the inverse of the horizontal distance between these limits.³ Everybody is assumed to know the locations of the highest and lowest voters' valuations schedules, but nobody knows which

³With ties broken by the flip of a coin, the chance of one's vote being decisive is half the probability of a tie among all other voters *plus* half the probability that, but for one's vote the party one votes for would lose the election by one vote. These two probabilities are for all practical purposes the same.

schedule has by chance been selected. Everybody knows that some people are left-leaning and other people are right-leaning, but nobody is quite sure which side will have the most votes on election day. Certainty about one's own value of B is reconciled with uncertainty about the location of the true voters' valuations schedule by the assumption that nobody is quite sure about his own rank on the schedule; a high value of B might signify a high ranking on the schedule, or a high schedule, or a combination of the two.⁴

Now suppose that chance has selected the in-between schedule crossing the horizontal axis at the point m . If voting were costless (that is, if $C = 0$), the left party would acquire m votes, and the right party would acquire $N - m$ votes. As the figure is drawn, $m > N - m$ so that left party wins the election.

With a cost of voting C and on the assumption that everybody is strictly selfish (so that $D = 0$), a person a) votes for the left party if and only if B is greater than C/π , b) votes for the right party (bearing in mind that B would be negative) if and only if the absolute value of B is greater than C/π , and c) abstains when B is in between C/π and $-C/\pi$. The two horizontal lines in the figure are at a distance C/π above and below the horizontal axis. In accordance with whatever voters' valuation schedule has by chance been selected, people vote rather than abstain if and only if their values of B lie above (when $B > 0$) or below (when $B < 0$) these lines. The number of votes for the left party is reduced from m to $m - C/\pi s$, and the number of votes for the right party is reduced from $N - m$ to $N - m - C/\pi s$. By comparison with a situation where nobody abstains, there is a total cost saving of $2C^2/\pi s$, but the left party wins regardless. Here, cost-induced abstentions are unambiguously beneficial to society as a whole by reducing the cost of voting without affecting the outcome of the election.

The general principle in this example is that abstentions drawn equally from both political parties can do no harm because they have no effect upon the outcome of an election. If the left party would win by 10,000 votes when there are no abstentions and if abstentions reduce numbers of votes for both parties equally, then the left party must win by 10,000 votes regardless. If so, public policy should be directed to *increasing* the number of abstentions. Voluntary voting becomes preferable to compulsory voting. A tax or fee on voting would make everybody better off as long as the revenue from the tax is appropriately redistributed, for the total cost of voting would be reduced without affecting the outcome of elections. The more abstentions the better, provided there is some mechanism, like that in figure 1, to apportion abstentions equally between political parties.

b) Biased abstention

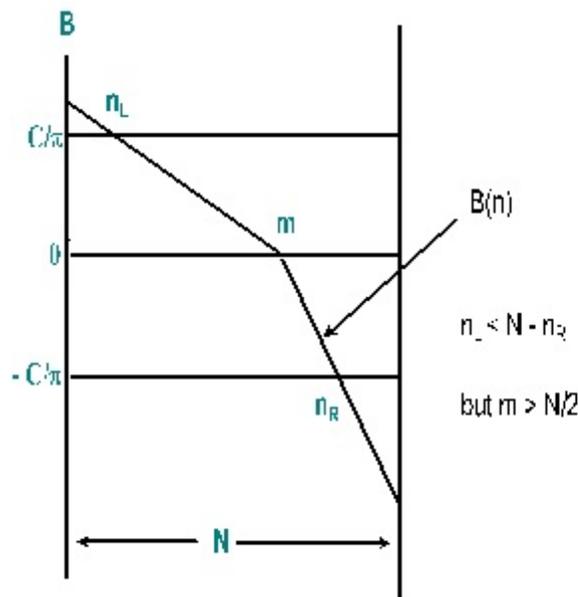
Notwithstanding these considerations, there are reasons why society as a whole might be better off when everybody, or almost everybody, votes than when large numbers of eligible voters

⁴For a more complete description of this model of uncertainty, see Usher (2011)

abstain. The argument against the existence of a duty to vote depends critically on the assumption that the true voters' valuations schedule is linear. Otherwise, the party preferred by a majority of the population and could easily fail to win the election.

To see how abstentions might swing the outcome of an election from one party to another, consider an electorate made up of a large number of people whose values of B are positive but relatively small in absolute value, together with a small number of people whose values of B are negative but relatively large in absolute value as shown by the voters' valuations schedule cuts in figure 2 cutting the horizontal axis at m where $m > N - m$. If everybody votes, m people vote for the left party, $N - m$ people vote for the right party and the *left* party wins the election.

Figure 2: The More Popular Party Loses the Election



Now introduce a cost of voting of C and suppose every voter has a certain chance, π , of casting a pivotal vote. [Imagine the schedule on figure 2 to have been chosen at random from a set of schedules bounded by upper and lower schedules so that the value of π becomes a half of the average distance between them.] The number of votes for the left party is n_L at which $\pi B = C$. The number of votes for the right party is $N - n_R$ at which $\pi(-B) = C$. As the figure is drawn, $N - n_R > n_L$ implying that the *right* party wins the election.

This is more than a theoretical curiosum. The shape of the schedule in Figure 2 is the natural consequence of a typical distribution of income with a small number of wealthy people and with a mean income well above the median. The shape of the voters' valuations schedule would be as shown in figure 2 as long as the absolute value of B is more or less proportional to income. Though there are more poor people than rich people, the party of the rich wins because each person's absolute value of B is less than C/π for a larger proportion of the poor than of the rich. The expected cost of swinging an election may be high enough to deter a great many poor

people from voting but not so high as to deter a comparable proportion of rich people, enabling the party of the rich minority to win the election. Abstentions provoked by the cost of voting are beneficial on average as long as they have no impact on the outcome of elections, but there are good reasons why that may not be so.⁵

It is arguable that this bias in favour of the rich is illusory because their cost of voting is higher too. If people's values of B are proportional to their incomes, if people's incomes per hour are proportional to their productivities of labour, and if the time required to vote is the same for everybody, then people's cost of voting should be proportional to income; B/C would then be no larger on average for the rich than for the poor, and rich people would have no greater propensity to vote. However, this is not true of income derived from ownership of capital or where voting is sufficiently different from work that there is no one-to-one trade-off in hours devoted to each activity. The experience of working is very different from one person to the next. The experience of voting is not.

Other considerations lie outside of the models discussed in this paper. A so far unemphasized assumption of the model is that everybody knows his own value of B to the penny. If not, resources can be devoted to informing or bamboozling people about the virtues of one party or the vices of the other. When everybody, or almost everybody, votes, political activity can be redirected to persuading people of the virtues of one's political party, what it will do for particular groups of people and why it is best for the nation as a whole. When large numbers of eligible voters are expected to abstain, political activity may be concentrated on getting out the vote. The rich may vote vicariously by contributing to the cost of electioneering and campaign advertising.

c) Voting Pacts: Each two like-minded eligible voters can double the chance of casting a pivotal vote by a side-deal in which each promises the other to vote rather than to abstain. Each of a thousand like-minded voters can multiply the chance by a thousand. Such deals are referred to here as "voting pacts".

Among like-minded people, voting is the private provision of a public good. Nobody pays tax voluntarily because everybody's valuation of the extra services of the army or the police made possible by his tax alone is almost certainly less than the tax he pays. Everybody favours compulsory taxation because everybody's valuation of the entire services of the army and the police is almost certainly greater than the tax he pays. Similarly, within a group of like-minded eligible voters, all pro-left or all pro-right, everybody might agree to vote on condition that

⁵Figure 2 exemplifies the general principle in Campbell (1999, 1199) that "the alternative preferred by more expected "zealous" voters, who have either larger stakes in the outcome of the election or small costs of participating, wins with high probability in any equilibrium, even if the expected proportion of the entire electorate that shares that preference is arbitrarily small."

everybody else within the group is required to do so too.⁶

Suppose each person has a cost of voting of \$10, a probability of casting a pivotal vote of $1/6,000$ and, consequently, an expected cost of swinging the election of \$60,000. A person abstains unless his benefit from a win by his preferred party exceeds \$60,000. The required benefit can be cut in half by a deal between any two like-minded voters who would not otherwise vote at all. Consider two eligible voters - both supporters of the left party or both supporters of the right - each of whom values a win for their preferred party at, say, \$50,000. Acting separately and self-interestedly, they would both abstain. Acting together, each voting on condition that the other does so too, they double the chance of being pivotal, from $1/6,000$ to $1/3,000$, cutting each of their expected costs of swinging the election from \$60,000 to \$30,000 at which it becomes individually advantageous for both of them to vote rather than to abstain. Acting together, 100 like-minded eligible voters can raise the probability of swinging the election from $1/6,000$ to $1/60$ at which voting becomes individually advantageous as long as one's benefit of a win for one's preferred party exceeds not \$60,000, but only \$600. If left-leaning voters are cooperative while right-leaning voters are libertarian, it may well happen that the left party wins the election despite the fact that more voters prefer the right party to the left.

Voting pacts differ from ordinary public goods in two main respects: Their benefits accrue not to society as a whole, but to a part of society, people favouring one of two political parties, at the expense of the rest. More importantly, there is no legally-binding mechanism to ensure that all beneficiaries of voting pacts contribute their share of the cost. Agreements to share the cost of ordinary public goods are enforced by the state. Agreements to vote for one of two competing parties can only be enforced imperfectly and incompletely, through social pressure exerted by friends, neighbours, churches, labour unions and so on. Whether one votes or not may be observable, but not which party one votes for. Voting pacts rely on nothing more than the exhortation to "get out and vote" among people who recognize one another to be on the same side of the fence. That may be, but is not necessarily, sufficient depending on the degree of social cohesion.

⁶Voting pacts are first cousins, if not closer, to the voting behaviour of groups as modeled by Uhlander (1989) and Morton (1991). Their emphasis is upon leaders and followers, upon the interaction between candidates seeking office and citizens choosing whether and for whom to vote, but they must postulate some material or psychic private advantage in voting to overcome the free rider problem. Uhlander discusses rewards to by successful candidates to groups small enough to make each person's vote advantageous. There is also a family resemblance between voting behaviour of groups and the probabilistic voting theorem demonstrating an equilibrium when candidates distribute goodies to groups so as to maximize their probability of being elected. See Mueller (2003, chapter 12).

Table 1: A Two-class Society
 [The cost of voting, C, is \$10]

	number of eligible voters favouring each party	benefit per person of a win for the favoured party	total surplus
left	900	\$100	\$90,000
right	100	\$300	\$30,000

Imperfect though they may be, voting pacts can have a profound effect upon the outcome of an election. Consider the extreme example summarized in table 1 of a two-class society with 100 rich people each placing a value of \$300 on a win for the right party, and with 900 poor people each placing \$100 on a win for the left party. If everybody votes, the left party wins nine-to-one, and society would be better off too because the dollar value of the gains from a win by the left party exceeds the dollar value of the gains from the right party.

In this society, 101 votes by left supporters is enough to ensure a win for the left party, and one extra vote, raising the total to 102, is enough to ensure that no voter, left or right, can be pivotal. With more than 101 votes for the left party, there is no chance of the right party winning the election, and supporters of the right party might as well abstain to save themselves the cost of voting in circumstances where their votes can have no effect.

Supporters of the left party are locked into a complex maze where each person is made better off by abstaining than by voting as long as some minimal number of other like-minded people are prepared to vote instead. Suppose once again that the cost of voting is \$10. Voters gain \$90 but abstainers gain \$100 as long as enough left-leaning people vote to ensure that the left party wins the election. How then are the voters selected? In a sense, the voters are suckers, bearing a burden that could very well be borne by somebody else instead. Each voter may well think to himself that, if he abstains, some other left-leaning person will be induced to vote in his place for fear of the emergence of a voting pact on the right. Perhaps supporters of one party or the other can devise a punishment for abstention. Exclusion from common activities or mere disapproval may be sufficient. Perhaps, if and when potential pact members can identify one another, they can devise a grim-trigger strategy of dissolving the entire pact if any member abstains. Pacts may be easier to enforce among all like-minded beneficiaries than among a proportion of them.

Despite the left's overwhelming majority, it remains possible for cooperation among left-leaning people to break down altogether, and for the right party to win instead. Failure is especially likely if voting is expensive. Suppose the cost of voting were \$110 rather than \$10. It would then be in no left supporter's interest to vote without an agreement among a number of left supporters to share the cost. The right party could easily win despite the fact that there is a net gain of \$60,000 to society as a whole from a win for the left. There may be no equilibrium

comparable to that illustrated in figure 1, and the outcome of the election may turn on who can cooperate with whom. Voting becomes a multi-person chicken game in which a sacrifice, the cost of voting, is required on the part of some minimum number of people to procure a common reward accruing not just to those who sacrifice, but to those who refuse to do so as well.

With costly participation, a voting pact is advantageous to its members if and only if

$$\Pi B > C + K \quad (2)$$

where Π is the probability that the *pact* is pivotal and K is the per person cost of participation. The value of Π would be 1 if the pact were sure to generate a win for the party it supporters. The value of Π would be less than 1 if there were just a chance of doing so. It is not unreasonable to suppose that the cost to each participant rises together with the size, s , of the pact

$$K = K(s) \quad (3)$$

where $K_s > 0$ because it is more expensive per member to hold together a large pact than to hold together a small one.

With reference to the example in table 1, it is at least possible that the right party wins the election because there is some pact of size, s , such that $\Pi = 1$ and

$$300 > 10 + K(s) \quad (4)$$

but there is no pact of size, s , such that $\Pi = 1$ and

$$100 > 10 + K(s) \quad (5)$$

Despite the left's overwhelming majority, it is possible for the right party to win the election because an effective pact is feasible on the right side alone.⁷

For any given number of people eligible to vote, for any given proportions of left and right supporters in the population as a whole and as long as supporters of both parties are equally likely to abstain when there are no voting pacts, it follows at once that an increase in abstentions

⁷Consider Myerson's (1998) example based upon Palfrey and Rosenthal's (1985) model of person-to-person randomization where everybody's (absolute) values of B and C are the same and where equilibrium turnout is obtained by random voting. Everybody votes or abstains on the flip of a weighted coin, where weights party-specific. In Myerson's example, out of a population of 1 million right supporters and 2 million right supporters, the expected number of votes is no more than 32 for each political party. Were that so, a voting pact of as few as 33 voters would be virtually guaranteed to swing the election if supporters of the opposing party did not respond in kind.

increases the chance of a majority being overturned by a voting pact, for abstentions automatically reduce the size of the majority that must be overcome.

Abstentions also magnify the importance of mobilization as compared with persuasion. If everybody votes, then the most a party can do to increase its chance of being elected is to persuade people that it is better than its rival. Otherwise, if many people are prepared to abstain, there is likely to be a substantial cadre of people on the edge of voting left, voting right or not voting at all, people who can be induced to vote for a party not just by arguments about its virtues, but by meetings, personal contact, transportation to the polling station and so on.

At the extreme, voting pacts may be bands of fanatics - neo-Nazis being the obvious example but religion will do just as well - devoted exclusively to some cause and prepared to vote en masse for any party that will support it too. The more people who abstain, the stronger are such groups likely to be.

d) Implicit Bribery: The logic of implicit bribery by political parties is best introduced in a simple example with an open ballot - where everybody knows whom everybody else voted for - to choose a leader who, once elected, has considerable authority over the finances of the community. Voting is to elect one of two candidates by a show of hands. One candidate is honest and the other is dishonest. If the honest candidate is elected, everybody in the community would enjoy an income of Y_H . If the dishonest candidate is elected, everybody's pre-tax, pre-transfer income would be reduced to Y_D . Despite the fact that $Y_D < Y_H$, the dishonest candidate can attract votes by offering a subsidy, S , to people who vote for him, financed by a tax, T , on everybody in the entire community. If everybody votes for the dishonest candidate, then $S = T$ so that the subsidy and the tax to finance it cancel out. If half the population votes for the dishonest candidate, then $S = 2T$ so that voters for the dishonest candidate gain at the expense of the rest of the population. Suppose voting is costless and everybody votes.

Now consider a strictly self-interested person choosing which candidate to vote for when the chance of a pivotal vote is π and when, if this person abstains, the dishonest candidate is expected to win with a probability P and the honest candidate is expected to win with a probability $(1 - P)$. There are now four possibilities. This person's expected income is

- i) Y_H when his vote is pivotal and he votes for the honest candidate,
- ii) $Y_D + S - T$ when his vote is pivotal and he votes for the dishonest candidate,
- iii) $P(Y_D - T) + (1 - P)Y_H$ when his vote is not pivotal and he votes for the honest candidate, and
- iv) $P(Y_D + S - T) + (1 - P)Y_H$ when his vote is not pivotal and he votes for the dishonest candidate.

If he votes for the dishonest candidate, this person's expected income becomes $\pi\{Y_D + S - T\} + (1 - \pi)\{P(Y_D + S - T) + (1 - P)Y_H\}$.

If he votes for the honest candidate, this person's expected income becomes $\pi\{Y_H\} + (1 - \pi)\{P(Y_D - T) + (1 - P)Y_H\}$.

The difference between these expected incomes is this person's expected gain from voting for the dishonest candidate.

$$\text{The person's expected gain} = S(\pi + (1 - \pi)P) - \pi(Y_H - Y_D) \quad (6)$$

which is the difference between "the bribe for supporting the dishonest candidate weighted by one's probability of getting it" and "the expected increase in income if the honest candidate is elected weighted by the chance of casting a pivotal vote". Anybody refusing to vote for the dishonest candidate is punished by having to pay the tax T without sharing in the subsidy, S , that the revenue from the tax provides. The dishonest candidate has trapped the electorate in a multi-person prisoners' dilemma. Since $Y_H > Y_D$, all voters would be better off if a majority voted for the honest candidate, but nobody has an incentive to do so. Voters are bribed with their own money to vote for the dishonest candidate.

Implicit bribery becomes more difficult, but not completely impossible, when voting is closed, so that nobody knows for sure how anybody else has voted. Consider the British and Canadian system where people vote for members of Parliament, where the party with the most members of Parliament forms the government, where people's votes are confidential, but where the government in office, knowing how each constituency has voted, can find ways to reward some constituencies and punish others according to how they voted. Investment may be more generously subsidized in some constituencies than in others. Tariffs, public services or price supports may be selectively imposed. The story is told of the road paved up to but not beyond the ballot box. "Pork" may be more or less equally distributed. Outright bribery of voters is illegal, but actions tantamount to bribery are not.

On the other hand, the unlikelihood of casting a pivotal vote changes sides, from enemy to friend of majority rule voting. When people vote openly for a leader as in the example above, everybody knows for sure what he stands to lose if he votes the wrong way. When people vote for members of Parliament in a closed ballot, voters know they will not be punished, or that punishment will be independent of how they vote except in the unlikely event that one's vote is pivotal within one's constituency. It is much easier to vote against a dishonest candidate in secrecy and when the likelihood of retribution is independent of how one votes. "Expressive" voting - voting for what you believe to be right - is more attractive in this case. But voting to avoid punishment by the ruling party may still be tempting when there are strong common interests within one's constituency.⁸

⁸ "Implicit bribery" may be contrasted with "special interest politics" as described in Grossman and Helpman (2001). In the former the politician says to the constituency, "You vote for me or I will punish you". In the latter, the constituency says to the politician, "You favour me and I will reward you with campaign advertising to influence the electorate."

Voting to deter implicit bribery differs from the concern for biased outcomes or the influence of voting pacts. To avoid biased outcomes or the influence of voting pacts, it is generally sufficient to vote rather than abstain, but there would seem to be little need for concern for others in choosing which party to vote for. To block implicit bribery, it is less important how many people vote or abstain as long as people who do vote are prepared to vote against a party seen as corrupt. Nevertheless, the more abstentions, the easier and less costly it becomes for the government in office to bribe voters to act appropriately.

II: The Content of a Duty to Vote

Duty can be thought of as a reflection of rule utilitarianism prescribing behaviour to “maximize social utility if it is followed by everybody” (Harsanyi, 1980,116). The question at hand is what the appropriate voting duty might be. Three candidates for such a rule - to be called ethical, altruistic and patriotic voting - will be discussed, together with the notion of expressive voting which may be looked upon as a substitute or as a variant of duty. The section concludes with a brief discussion of the pros and cons of compulsory voting.

a) Ethical Voting: As discussed in Feddersen (2004) and by Feddersen and Sandroni (2006), an ethical interpretation of the duty to vote requires one to support the candidate or party seen as best, not just for oneself, but for the community as a whole. Ethical in this context is whatever is in the interest of the group with which the person identifies, the entire community of eligible voters or some sub-group based upon political persuasion, locality or social class. The rule need not require everybody to vote. A person’s obligation to vote or abstain would be in accordance with a trade-off to the group, rather than the person himself, between the expected marginal benefit of an extra vote and the marginal cost of voting.

Recall that a purely self-interested person with no sense of duty whatsoever chooses to vote or abstain - in accordance with a variant of equation (1) above where $D = 0$ - depending on whether or not $\pi B > C$. One would like to derive a utilitarian analogue of this inequality with personal benefit, B , replaced by some measure of the voter’s perceived benefit of a win by one party or the other for the nation as a whole.

Imagine an electoral contest between a left party and a right party in a society of N people where a win for the left party generates a distribution of income $(y_{1L}, y_{2L}, \dots, y_{NL})$ and a win for the right party generates a distribution of income $(y_{1R}, y_{2R}, \dots, y_{NR})$, and consider a person i whose (Neuman and Morgenstern) utility of income function is $u^i(y)$. As seen by person i , the welfare of the community can be measured as the income, which if person i had it for sure, would make person i as well off as he would be with equal chances of having the same income as each and every person in the community. For person i , the welfare of the entire community - W_{iL} or W_{iR} depending on which party wins the election - is defined implicitly by the equations

$$Nu^i(W_{iL}) = \sum_{n=1}^N u^i(y_{nL}) \quad (7a)$$

$$Nu^i(W_{iR}) = \sum_{n=1}^N u^i(y_{nR}) \quad (7b)$$

To vote ethically as a true utilitarian, person i would have to vote for the left party if $W_{iL} > W_{iR}$ and for the right party if $W_{iR} > W_{iL}$.

Qualifications and difficulties with utilitarian voting will be discussed in turn: 1) People must decide which other people to be concerned about. 2) A subsidiary rule is allowing abstentions for people whose cost of voting is too high. 3) People may have different utility of income functions. 4) People may differ in their assessments of how other people will be affected by a win for one party or the other. 5) A duty to vote includes a duty to keep oneself informed. 6) A person's duty depends on how many other people are prepared to act dutifully too.

The first qualification can be significantly divisive. What is meant by a target population is a portion of the population with which one identifies oneself and with which one is exclusively concerned: workers as opposed to the capitalists, one's co-religionists as opposed to the unbelievers, or even the other supporters of the party to which one is attached. Divide the population into two parts such that person i is prepared to vote ethically with regard to the first part, but not the second. Order people accordingly, so that the first part consists of persons 1 to k and the second part consists of persons $k + 1$ to N . Call the first part left and the second part right, where left and right can be any principle or characteristic of groups of people. Then define W_i as person i 's assessment of social welfare where

$$Nu^i(W_i) = \sum_{n=1}^k u^i(y_n) \quad (8a)$$

when person i is on the left and where

$$Nu^i(W_i) = \sum_{n=k+1}^N u^i(y_n) \quad (8b)$$

when person i is on the right, whatever left and right happen to stand for in this context. A model along these lines has been developed in Coate and Conlin (2004). Such a model might describe preference in a society of workers and capitalists where members of each class care exclusively about other members of their class, or a society of Liberals and Conservatives where Liberals care only about the welfare of Liberals and Conservatives care only about the welfare of Conservatives.

The second qualification is less problematic. Some eligible voters can be excused from voting when their cost of voting exceeds the expected benefit to the community about which they

are concerned. Consider a community of full-fledged utilitarians as described in equation (7) with W_{iL} and W_{iR} redefined as person i 's certainty equivalent incomes per head *gross* of the cost of voting and depending on which party wins the election, but redefine W_{iL} and W_{iR} as gross, rather than net, of the total cost of voting. Let P be the probability of the left party winning the election and let T be the total cost of voting to everybody who actually votes. Thus, as seen by person i ,

$$\begin{aligned} \text{expected social welfare} &= PNW_{iL} + (1 - P)NW_{iR} - T \\ &= NW_{iR} + PN(W_{iL} - W_{iR}) - T \end{aligned} \quad (9)$$

where W_{iL} and W_{iR} are what they are regardless of what person i chooses to do. By choosing whether to vote or abstain, person i can influence T and P , but not N , W_{iL} or W_{iR} . Suppose person i sees a win for the left party as conducive to the welfare of the community as a whole and bears a cost of voting is C , the effect of person i 's decision to vote rather than to abstain causes T to increase by C . If the chance of a pivotal is π , the effect of person i 's decision to vote rather than to abstain causes P to increase by π . Then, since $W_{iL} > W_{iR}$ by assumption, person i 's assessment of the change in social welfare resulting from voting rather than to abstaining becomes

$$\text{change in social welfare} = \pi N(W_{iL} - W_{iR}) - C \quad (10)$$

which is essentially equation (1) with private benefit of a win for the party one favours replaced by public benefit as seen by person i . An analogous rule can be constructed for a supporter of the right party.

Equation (10) provides utilitarian grounds for deciding whether to vote or abstain. The inclusion of total population in the utilitarian criterion provides a strong case for voting. Consider a person who lives in a country with a million people, whose cost of voting is \$10, whose estimate of his own benefit from a win for the left party is \$200 and whose estimate of the benefit *per person* to society as a whole from a win by the left party is equal to \$50. If exclusively self-interested, this person votes if and only if his chance of casting a pivotal vote exceeds 1/20, which is way above what the probability of casting a pivotal vote would normally be. This person would be expected to abstain because the actual chance of casting a pivotal vote is probably much less than that. If this person is ethical as defined here, the gain as he sees it from a win by the left party rises from \$200 to \$50,000,000, lowering the required probability of a pivotal vote accordingly from 1/20 to 1/5,000,000. The actual chance of casting a pivotal vote may well lie between these limits, creating a duty on the part of an ethical voter despite that a purely self-interested voter would abstain.⁹

On the other hand, the benefit per person, $(W_{iL} - W_{iR})$ in equation (10) could be very low, or

⁹This is essentially the argument in Edlin, Gelman and Kaplan (2008). What Edlin et al. call "charity" as a motive for voting is only an inch away from what Feddersen and Sandroni (2006) call ethical voting on a utilitarian criterion. For a more detailed account of charity as a motive for voting, see Edlin, Gelman and Kaplan (2007)

vanish altogether, if the advantage of a win for the left party to left-leaning voters just canceled out with the advantage of a win for the right party to all right-leaning voters, so that, no matter how large the total population, person i sees no net gain to society as a whole from a win by either party. The counter-argument is that even a tiny value of $(W_{iL} - W_{iR})$ creates a large benefit when N is large. When people differ in their valuations of $(W_{iL} - W_{iR})$ and C , a utilitarian criterion may exempt from voting people with low values of the one or high values of the other.

The third qualification is that the utilitarian criterion may prescribe different actions to different people depending on the shapes of their utility of income functions. Consider a society where people differ in their concerns about the exposure to risk. Some people are timid and others are bold. Timid people favour a policy of reducing the dispersion between high and low incomes, even at the expense of a lowering of national income as a whole. Bold people favour a policy of striving for the largest possible average income, even though some people will turn out to be very badly off. On a Neumann-Morgenstern interpretation of utility, the utility of income functions of the timid people must be relatively concave, while the utility functions of the bold people are less so. Suppose, finally, that the platform of the left party reflects the interests of timid people, while the platform of the right party reflects the interests of the bold people. If so, it may very well turn out that both parties yield the larger aggregate utility in accordance with the utility functions of their supporters. In the absence of a unique God-given utility of income function, the utilitarian criterion fails to provide a unique best course of action.

The fourth qualification is that people may disagree about the consequences of public policy. Supporters of one party claim that unemployment will be reduced by public expenditure financed by increase in marginal tax rates of wealthy people. Supporters of the other party claim that such policy will increase rather than reduce unemployment. Supporters of each party recognize the disguised self-interest and the hypocrisy in the prescriptions of the other. With reference to equation (7) above, there may be no commonly-recognized vectors of y_{nL} and y_{nR} . With no commonly-recognized connection between policies and incomes, the utilitarian criterion cannot be consistently applied.

Together, these last two qualifications - that people differ in the shapes of their utility of income functions and in their assessment of what is best for other people - may cause voting on a utilitarian criterion to be self-defeating, in that the utilitarian ideal is best attained when everybody votes self-interestedly rather for what they see as the utilitarian outcome. As long as everybody votes, an election is like a census of preferences, aggregating each person's preferences into a single course of action. If each person knows how his own income would be affected by the election of one party or the other but has no more than a vague idea of effects on society as a whole, then purely self-interested voting may do the utilitarian calculation that no person can do for himself.¹⁰

¹⁰Admittedly, voting aggregates people rather than dollars or utils, but an accurate aggregation of people may be better on balance than an inaccurate aggregation of incomes or utils.

The fifth qualification is straightforward. A duty to vote includes more than just voting. It includes an obligation to discover enough about competing political parties to make a reasonable judgment about which is best for oneself and for society as a whole. One would expect the cost of acquiring information about the difference between political parties to be greater, perhaps very much greater, than the cost of voting itself. The cost of actually voting is typically no more the hour or two one spends once every few years going to and from the ballot box. Information is acquired gradually in the hour or two one spends each day reading newspapers or listening to the news. Especially when there is an ethical motive for voting, one's duty may be better performed by abstaining if one has not taken the trouble of acquiring enough information to make a reasoned judgment about which party is preferable. Voting based on little more than slogans and sound bites may be less dutiful than not voting at all.

The final qualification is that a distinction is required between what I am ethically obliged to do when everybody else acts ethically too, and what I am obliged to do in a society where some people act ethically but others do not. When the vast majority votes ethically, political parties can be expected to adopt ethical platforms and (perhaps) to act ethically once in office. But when some groups vote ethically and others do not, and to the extent that political outcomes are a reflection of "countervailing power", it may very well turn out that public largess is denied to ethical voters and supplied to the selfish voters alone. Imagine three groups of voters, one poor and two rich, where one of the rich groups votes ethically and the other selfishly. A winning platform may confine benefits at the disposal of the government to the poor group and to the rich group prepared to vote selfishly, excluding the other rich group whose members, as good utilitarians, may be satisfied as long as benefits are supplied to the poor. The smaller the number of ethical voters, the larger the cost of acting ethically is likely to be. As fewer and fewer people act dutifully, there may come a point where duty dissolves altogether.

d) Altruistic Duty: Duty to the nation as a whole where every person has the same weight in one's objective function as everybody else and duty to one's social class where everybody within the class is weighted equally and people outside are given no weight at all are extremes of a more general concern for other people. These interpretations of duty are extreme in two respects. On the one hand, they imply that a person places no more weight upon his own welfare than on the welfare of anybody else within his range of concern. If the only difference between two parties is that the left party supplies you with \$11 more and supplies me with \$10 less, then, as an ethical voter, I would feel morally obliged to vote for the left party. That is asking a bit much. People are prepared to recognize one another's interests, but not to that extent. On the other hand, one's concern for others may be graduated according to their proximity to oneself. One may be concerned about a poor person in Zimbabwe, somewhat more concerned about an equally poor person in one's own country, even more concerned if that person is a relative and most concerned about oneself. There may be an income cutoff such that one takes account of the circumstances of other people if and only if their incomes fall below that critical level.

To account for varying degrees of concern, consider a person, designated as person 1, whose sense of social welfare ranks everybody in accordance with his degree of concern and weights

everybody accordingly. The weights, f_n^1 , must sum to 1 and diminish with n. Then social welfare, W_1 , as seen by person 1 is defined implicitly in

$$u^1(W_1) = \sum_{n=1}^N f_n^1 u^1(y_n) \quad (11)$$

A priori, any pattern of concern for others is possible. For, a completely selfish person, $f_1^1 = 1$ and $f_n^1 = 0$ for any n other than 1. For a completely unselfish person, f_n^1 are the same. In between, there may be a weight of 1/4 on one's own utility and no more than 1/4 on the millions or billions of people one cares for least. In practice, virtually everybody is somewhat selfish in that W_1 is increased more by a rise in one's own income than by an equal rise in the income of anybody else, but a degree of altruism is common too. Though a political party appealing primarily to rich voters would be expected to support policies relatively favourable to the rich and a political party appealing to poor voters would be expected to support policies relatively favourable to the poor, policies of both parties may less exclusively focused their core constituents than can be accounted for by purely selfish voting.

It is arguable that the balance between selfishness and altruism swings toward the latter when the chance of casting a pivotal vote is very small. If one gets a "warm glow" from doing the right thing - which in this context means voting for the party one believes to be best for society as a whole or for whatever segment of society one is especially concerned about - if the warm glow arises from the act of ethical voting regardless of whether or not one's vote turns out to be pivotal and if the chance of one's vote turning out to be pivotal is too small for voting to be privately advantageous, then the choices between voting and abstaining and of which party to vote for are reduced to a weighing of the benefit of "expressive voting" against the cost of casting one's ballot. "Expressive" in this context refers to supporting what you believe to be right, where the gain from doing what you believe to be right is what it is regardless of the chance that your action is effectual. The argument requires that the chance of one's action being effectual matters for the evaluation of private benefit but not for one's satisfaction in doing the right thing.¹¹

e) Expressive Voting

We have distinguished so far between two motives for voting: pure self interest and duty, the first unlikely to induce most people to vote because the chance of one's vote being pivotal is too small and the second open to several interpretations but all requiring voters to be more concerned with one another's welfare than may actually be the case. A third motive, expressive preference, has been alleged to explain why far more people don't abstain.

¹¹ Feddersen et.al.(2009) provide evidence that people vote expressively. The paper also reviews the literature on expressive voting.

“The expressive account begins from the observation that, given the negligible probability of any particular voter being decisive, the act of voting is effectively de-coupled from the causal consequences of voting for electoral outcomes. Individually rational voting behaviour cannot therefore be explained primarily in terms of those considerations that are relevant to the voters expressing a preference in and of itself. These considerations are termed expressive considerations. Voting is, on this account, much more like cheering at a football match than it is like purchasing an asset portfolio; and any direct analogy with market choice is inappropriate.” (Brennan and Hamlin, 1998, 149-50). “People behave rationally in seeking expressive utility from acts or decisions that confirm personal identity” where “by confirming pleasing attributes of being generous, cooperative, trusting and trustworthy, or ethical and moral” (Hillman, 2010, 403)

Analytically, expressive voting is assumed to supply a benefit to the voter that is not weighted by the chance of casting a pivotal vote. Riker and Ordeshook’s criterion for voting, equation (1) above is transformed into

$$\pi B + D + E > C \quad (12)$$

where, once again, π , B and C are the chance of casting a pivotal vote, one’s benefit from a win for the party one vote’s for and the cost of voting, but now D is restricted to the force of doing one’s duty regardless of whether or not one gets satisfaction from doing so (It may be the value of the avoidance of guilt.), and E is the value of expressing oneself through the ballot box, the “warm glow” one gets from the satisfaction of doing the right thing. The main feature of E is that it independent of the chance of casting a pivotal vote. My warm glow from voting for goodness is independent of the chance of goodness emerging as the outcome of the election. To me, it is my goodness of heart that matters. Expressive voting supplies the rationale for large numbers of people to vote rather than abstain.

Expressive voting has several curious features. First, one’s warm glow from voting may arise from evil as well as from good. Suppose one hates Jews. or one hates Muslims, or one hates Christians, or one hates atheists. If one knew one’s vote to be decisive, a sense of decency might cause one to desist from voting for a policy or party inflicting harm on whatever group one hates, but, if voting is just expressive (and secret to boot), one might be willing to give the expression of one’s prejudices full sway in the knowledge that nobody gets hurt in the end. A person with a deep hatred of murderers might vote for the death penalty when it is virtually impossible for his vote to be decisive, but that same person might vote against the death penalty if there is some non-negligible chance of his vote making a difference. The enthusiastic spectators at the Nurenberg Rally in “The Triumph of the Will” are likely to have voted expressively in the next election. People may well vote expressively, but expressive voting is a two-edged sword which may but need not shore up democratic government.

For good or for evil, expressive voting may give rise to “expressive-policy traps” making all voters worse off than if they voted “instrumentally” instead. (Hillman, 2010). Consider a policy with a positive expressive benefit of E and a negative private benefit of B. An expressive-policy trap may occur when $B + E < 0$ meaning that the typical person is worse off if the policy is

adopted, but $\pi B + E > 0$ meaning that one's expressive benefit, E , exceeds one's *expected* cost, πB , of voting for rather than against the policy. Everybody votes for the policy because everybody's expressive benefit exceeds expected harm from the policy itself, but everybody is harmed because the policy is adopted. Similarly, since π diminishes with the size of the electorate, the likelihood of ethical policies being adopted is higher in societies with large electorates than in societies with small electorates. (Feddersen, Gailmard and Sandroni, 2009).

There is also some question about whether E is really and truly independent of π . Surely whatever satisfaction one gets from voting for something is at least enhanced by the knowledge that there is some chance of one's vote being effectual. It is the difference between merely saying that one is sympathetic to the poor and actually doing something with a small chance of helping the poor a great deal.

Finally, there is something fishy about expressive voting in a secret ballot. Expression normally implies someone who speaks and someone who listens. Nobody listens to one's vote. Nobody else knows who one votes for. Voting with no chance of one's vote being pivotal is the weakest imaginable form of expression.

f) Patriotic Duty: A duty to vote may be just that and no more, a duty to cast one's ballot with no additional obligation to vote for any particular party, on the understanding that most people will vote for the party that is best for themselves. People may choose to vote ethically, but the duty to vote does not require it. For want of a better term, such voting may be called patriotic.

An interesting objection to patriotic voting casts light on what is at stake: a duty to cast one's ballot with no obligation to vote for any particular party mandates ethical and egotistical criteria for what are in effect two steps on one and the same path. It would seem to make no sense that "an earlier member of the sequence is justified by a different ethical principle from that used to justify a later one" Meehl (1977, page 23). In patriotic voting, the earlier principle is ethical, rule-utilitarian or sociotropic while the later principle is unadulterated self-interested. Meehl (page 24) goes on to argue that if an ethical principle "is rationally active at the moment of his casting his ballot, it cannot become mysteriously irrelevant or be replaced by an act prospective, or a maxim of prudence-egocentric kind of principle as the basis of rational choice between the candidates".¹²

The counter-argument is that, of two rules - "You must vote" and "In voting, you must choose between candidates on some ethical principle" - the former has the much stronger ethical foundation because the adverse consequences for society as a whole of a wide-spread violation of

¹²Meehl's paper is an insightful dialogue between a supporter of the Flat Earth Vegetarian Party and a supporter of the Republican Party about the pros and cons of voting for a party with no chance of winning an upcoming election. With a moral obligation to vote but no moral obligation about who to vote for, the supporter of the Flat Earth Vegetarian might well vote Republican or Democratic to avoid throwing away his vote.

the first rule are far worse than the adverse consequence of a wide-spread violation of the second. The preservation of democracy depends critically on the one but not the other.

As mentioned above, an election where everybody votes for the party that is best for himself alone becomes like a census of preference where what is best for the community as a whole is identified, albeit imperfectly, by the numbers of people preferring each available option, so that the better outcome on a strictly utilitarian criterion may be as likely to emerge when everybody votes selfishly than when each person votes in accordance with his assessment of what a utilitarian criterion requires. Voters differ in their assessments of the shape of the supposedly common utility function and may not know enough about the interests of their fellow citizens to be quite sure of what a strictly utilitarian criterion requires them to do. Errors may be compounded by an almost universal tendency to imagine that what is best for oneself is best for others as well or to restrict the pool of relevant others to make that so. One knows what is in one's own interest, and can vote self-interestedly with the assurance that others will do so too.

Unlike other forms of duty, patriotic duty has virtue of observability. One cannot know whether another person has voted selfishly, ethically or altruistically, but one can know whether that person has voted at all. Also, in an environment where some people vote and others abstain, some people are well-informed and others are not, it is not always obvious to oneself or to others what exactly a duty to vote requires. I reside in the city of Kingston in the Province of Ontario in the Dominion of Canada. In a Federal election, should I vote for the party that is best for the residents of Kingston alone, or for the residents of the Province of Ontario or for all the residents in the Dominion of Canada, and to what extent should I take account of the interests of people elsewhere in the world? And if duty leaves me free to choose among these objectives, might I not also be free to vote in my own interest alone. To the statement, "One has a duty to vote?", most people would concur. Statements like "One has a duty to vote for the Liberal Party", or "One has a duty to vote for the Conservative Party." or "One has a duty to vote for the New Democratic Party." sound more like party propaganda than like moral injunctions that one is inclined to take seriously. The best attainable outcome in this imperfect world may be a large turn-out of people who vote as they do for a variety of reasons know only to themselves.¹³ A patriotic duty to vote may be reinforced by a willingness to participate in the ceremony of democracy, to take one's place in the parade on which most people's sense a good society depends.

Democracy cannot be maintained without a willingness of a substantial number of people to vote rather than to abstain. Strictly speaking, as more and more people abstain, the chance of each person's vote becoming pivotal increases until a point is reached where voting becomes advantageous, but a) there is no reason to believe that the voters in such an equilibrium would be

¹³With reference to the distinction between "whether to vote" and "who to vote for", Fiorina (1976, 410) had this to say: "Perhaps the citizen does decide to vote on the basis of such non-instrumental factors as citizen duty, but then chooses a candidate on relatively more instrumental grounds. Such such a bifurcated decision process is less elegant theoretically than a unified one, but given the data we must keep an open mind."

representative of the population as a whole¹⁴ and b) with the small number of people actually voting, the outcome of elections would come to depend very much on which voters are organized and which are not. A few abstentions do no harm. Massive abstentions hands over the the election to the better organized group. It is difficult to say how many abstentions there may safely be. There is no comparable difficulty when people vote from self-interest alone.

These arguments should not be pushed too far. An outcome where some people's votes are strictly self-interested and other's votes take account of the needs of the poor may be better on balance than an outcome where everybody votes from self-interest alone. The community may be harmed when people vote thoughtlessly or to the great detriment of some minority of citizens. There are limits beyond which public policy is evil. Citizens have an obligation not to vote parties likely to transcend such limits. Patriotic duty is no defense whatsoever against implicit bribery. Voting with no concern for anybody but oneself leaves the electorate defenseless against a political party prepared to set up prisoners' dilemma among voters, inducing people to vote disadvantageously. People must show enough concern for the good of the community to vote against such a party. But these are not relevant considerations for most parties and in most elections. Normally, society can get by with purely self-interested voting; democracy itself need not be threatened. Utilitarian voting might be helpful on balance, but is not strictly necessary.

The obligation to vote and the obligation to cast one's ballot for the party that is best for society as a whole are both rule-utilitarian imperatives, but not all rule-utilitarian imperatives are equal. Some imperatives are more imperative than others. Some are such that society is seriously damaged by wide-spread violation. Others lead to outcomes that are beneficial on balance, but not enormously so. The injunction to vote is the former. The injunction to vote for the candidate who seems best not just for oneself, but for society as a whole, is the latter, and as such is given very little moral weight. The person who does not vote at all is seen as unpatriotic, but, among people who vote, nobody even knows who one votes for. With the exception of not voting for really nasty parties, there, as I see it, no understood rule in society about who to vote for; one may vote as selfishly or as altruistically as one pleases.

If voting itself can be split into two parts, coming to the ballot box and casting one's vote and if duty pertains primarily to the first part rather than the second, then the cost of voting might be split as well between the cost of getting to the ballot box and the cost, once there, of voting itself. The significance of the distinction is that virtually all of the cost is concentrated in the first, duty-laden, phase. Suppose it takes an hour to get to and from the ballot box but only a second to express one's choice among the candidates. Then, if a sense of duty brings you to the ballot box, pure self-interest would be sufficient for the rest.

Suppose your wage is \$20 per hour and your chance of casting a pivotal vote for a Member of

¹⁴As is illustrated in figure 2 above.

Parliament is $1/10,000$.¹⁵ Acting instrumentally with no sense of duty at all, one would be inclined to vote rather than abstain if and only if the benefit of a win for the preferred party is \$20,000, which would be prohibitive for most people. But the one second required to choose among candidates is only $1/3,600$ of an hour, so that, if duty brings you to the ballot box, the extra cost of choosing among candidates is only $\$(1/180)$, and the required benefit of a win for your preferred candidate is only \$5.55¹⁶. Here the sense of duty does the heavy lifting. Once a sense of duty has brought you to the ballot box, pure self-interest is sufficient to induce you to vote.

A duty to vote with no additional obligation about which party to vote for has the virtue that it can be obeyed and can be seen to be obeyed. It requires no great sacrifice on the part of the citizen. It protects democracy from the worst ravages of voting pacts among extremists. It focuses politics upon persuasion rather than getting out the vote. It allows the voter to be as selfish or as altruistic as he pleases in the choice of which party to vote for. It may be the best we can hope for in this imperfect world. Especially when the income distribution is skewed in the usual way, society can hobble along without an altruistic duty to vote, but a patriotic duty to vote may be indispensable because government by majority rule voting is only workable when a significant portion of the population chooses to vote rather than abstain.

g) Compulsory Voting: One last question: If civic duties and ordinary laws are both designed to cut through prisoners' dilemmas, inducing people to act, or to desist from acting, in the common interest, why is not voting made mandatory like paying one's taxes or desisting from theft? To be sure, voting is mandatory in some countries, but there are many countries where it is not.

The main reason for leaving each person free to vote or abstain as he pleases must be that there is more to voting than just marking one's ballot, which is all that compulsory voting can ever require. There is an ancillary duty to inform oneself about what is at stake in the election, to investigate the platforms of the competing parties, and to learn which party is best for oneself and for the nation as a whole. Everybody can be compelled to vote, but nobody can be compelled to vote thoughtfully. We cannot compel one another to watch the news on TV, to read newspapers and to become informed about the issues at stake in an election. Casual or uninformed voting could be massively counter-productive, excessively responsive to prejudicial attack adds and to mendacious campaign propaganda.

Abstention may be socially-desirable when support for one party or the other originates from opinions rather than interests. By contrast with the situation considered so far where each party is

¹⁵The chance of casting a pivotal vote would be $1/10,000$ in a constituency with 50,000 eligible voters where, so far as anybody knows, the left party's vote is equally likely to be anywhere between 20,000 and 30,000.

¹⁶Once again, B must exceed C/π , but now $C = \$20(1/3,600) = \$(1/180)$. The required benefit becomes $\$(1/180)/(1/10,000) = \5.55

generally understood to be best for some subgroup of the population, it may instead be generally understood that one of two competing parties will turn out to be best for everybody, but people may disagree about which party that will be. Supporters of the right party believe that everybody would be better off if the right party is elected. Supporters of the left party believe that everybody would be better off if the left party is elected. A person with no opinion either way or who is very unsure of his opinion might well abstain, leaving the choice between parties to others who seem to be better informed than he.

The ultimate objective in majority rule voting is not so much to make the right choice among not too dreadful political parties as to provoke political parties to choose socially advantageous platforms and to govern well, to preserve government by majority rule voting and to keep the dictator away.¹⁷ Compulsory voting contributes to that objective in some respects but not in others.

Among defects of voluntary voting that might be mitigated by compulsory voting are the bias when widespread abstention would favour one party over another, the emergence of voting pacts among groups or classes best able to vote in unison and the tilting platforms of political parties toward groups of people who are more inclined to vote when not compelled to do so.¹⁸ Together, these effects of wide-spread abstention tend to favour the rich over the poor, for the rich are less likely to be deterred by any given cost of voting, more likely to vote in unison and, a matter not discussed in this paper, much more able to bear the cost of campaign advertising.

The case for compulsory voting depends very much on the strength of the duty to vote. If everybody votes from a sense of duty, because voting is fun or as a way of identifying oneself with the community of which one is a part, then compulsory voting is at best superfluous. At the other extreme where nobody votes unless it is individually advantageous to do so, compulsory voting could be as necessary as compulsory taxation to finance the police force. In between, the case for compulsory voting runs parallel to the enumeration of the reasons why there may be a duty to vote.

Conclusion

Duty arises when self-interest fails. Duty is an elusive virtue, a scarce commodity, abstracted out of sight in ordinary economic analysis and not to be invoked unless there is no alternative in sight. A duty to vote arises because democratic government would otherwise be in jeopardy since neither pure self-interest nor fear of punishment is sufficient inducement not to abstain. The

¹⁷ Riker makes this distinction in the title of his book, “Liberalism against Populism” (1988).

¹⁸Compulsory voting is advocated by Lijphart (1997). Lijphart claims that turnout is declining in most countries, that the propensity to vote rather than to abstain increases with education and wealth, and that there is a corresponding bias in public policy against the uneducated and the poor.

content of our duty to vote - what exactly a duty to vote requires - is determined accordingly.

The main argument in this paper is that a duty to vote brings the citizen to the ballot box but leaves the citizen relatively free in his choice of candidate or party to vote for. Duty surely includes coming to the ballot box because, with rare exceptions, πB in equation (1) falls short of C . Duty need not dictate whom to vote for because universally self-interested voting does tend to promote a tolerable approximation to the common good. Purely ethical voting is heroism beyond the call of duty, and may, in any case, be self-defeating as when people differ in their perceptions about what promotes one another's utility or about how different peoples' welfare might be compared on a common scale. The common good to be secured by a general willingness to vote rather than to abstain is not a victory for this or that party in today's election, but the preservation of the system of majority rule. A wide-spread duty to vote creates a reasonable prospect of a win for the party preferred by a majority of the population, with no residual influence of voting pacts, no bias in favour of groups with especially high propensities to vote and no role for the mobilization of voters, as distinct from the provision of relevant information, in influencing the platforms of political parties and the outcome of an election.

The argument must not be pushed too far. Vicarious cruelty in voting for a party inclined to be cruel is no less immoral than personal cruelty. One must not vote frivolously or thoughtlessly. But it is no breach of duty to vote for the party that is best for oneself in the knowledge that others will do so too. Duty extends no further than is necessary for the will of the majority to prevail and to keep the dictator away.

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Appendix: Why there is Less Redistribution of Income when the Propensity to Vote is Higher among the Rich than among the Poor.

It is commonly believed that abstentions influence political outcomes, in particular, that a relatively high rate of abstention among the poor tends to produce the amount of redistribution that the government supplies. Presented in this appendix is an example of precisely that. The ingredients of the example are a propensity to vote that increases steadily with income, a skewed distribution of pre-tax income, redistribution by a negative income tax, tax evasion and a tax rate determined by majority rule voting where the first preference of the median voter prevails. The chosen tax rate is lower, and the corresponding redistribution is diminished. Society's chosen tax rate is lower, and redistribution is diminished, when the propensity to vote increases with income than when everybody's propensity to vote is the same.

These are the assumptions:

a) People's pre-tax incomes, Y , vary steadily from 0 to 1. There is no harm in thinking of units as millions of dollars. Specifically, the density of population, $p(Y)$, is inversely proportional to income.

$$p(Y) = 1 - Y \quad (A1)$$

so that the average income is $\frac{1}{2}$.

b) The higher a person's income, the more likely is that person to vote rather than to abstain. Specifically, people's propensity to vote is directly proportional to income.

$$v(Y) = Y \quad (A2)$$

A person with no income does not vote at all, a person with the highest income, 1, always votes and people's propensity to vote varies steadily in between. This is a very strong assumption chosen to simplify calculation and to produce a strong result.

c) Redistribution of income is arranged through a negative income tax. Everybody is taxed at a fixed rate, t , and the entire revenue from the tax is redistributed in equal amounts to everybody. All other uses of public funds are ignored. The preferred tax rate, $t(Y)$, of a person with income Y is the rate at which that person's disposable income, I , is maximized, where disposable income is pre-tax income, less tax paid, less expenditure to reduce the amount of income declared, plus the equalized transfer of all public revenue. It will be shown that $t(Y)$ falls as income rises. The exact form of the function, $t(Y)$, will be derived.

d) People evade tax to the extent that it is in their interest to do so. Only a portion of one's income is hidden from the tax collector because the cost of hiding income increases steadily with the amount of income one hides. Specifically the cost of hiding the first 1% of one's income is 1% of

the amount hidden, the cost of hiding the second 1% is two percent of the amount hidden, and so on until the cost of concealing the final 1% is 100% of the amount hidden. Tax evasion is one of several ways of reducing one's tax bill. Others are to work less and to engage in more do-it-yourself activities, but these are ignored here. The important consideration is that each person hides income up to the point where cost of hiding an extra dollar of income the cost of the tax that would otherwise be paid. This assumption ensures that nobody, not even the very poorest person, wants a tax rate as high as 100%.

e) The tax rate is chosen by majority rule voting where the first preference of the median voter prevails.

f) In voting about the tax rate and in choosing how much of one's income to declare, everybody acts in his own interest exclusively.

On these assumptions, a distinction can be drawn between two median incomes, the median, M , in the entire population and the median, R , among people who choose to vote rather than to abstain. The median M is the income of the person in the middle when everybody, regardless of whether or not he votes, is lined up in accordance with pre-tax income Y . The median R is the income of the person in the middle when only those people who vote are lined up in accordance with pre-tax income.

It will be shown that, on these assumptions,

- the income of the median *person*, M , is less than the income of the median *voter*, R . Specifically, the pre-tax income of the median person is .293, while the pre-tax income of the median voter is .5.

- the preferred tax rate of the median person is 29.3%, raising the disposable income, I , of the median person by about 10% from .239 to .324. [That the preferred tax rate of the median person is the same as his pre-tax income is an accidental consequence of the assumptions, a quirk with no economic significance.]

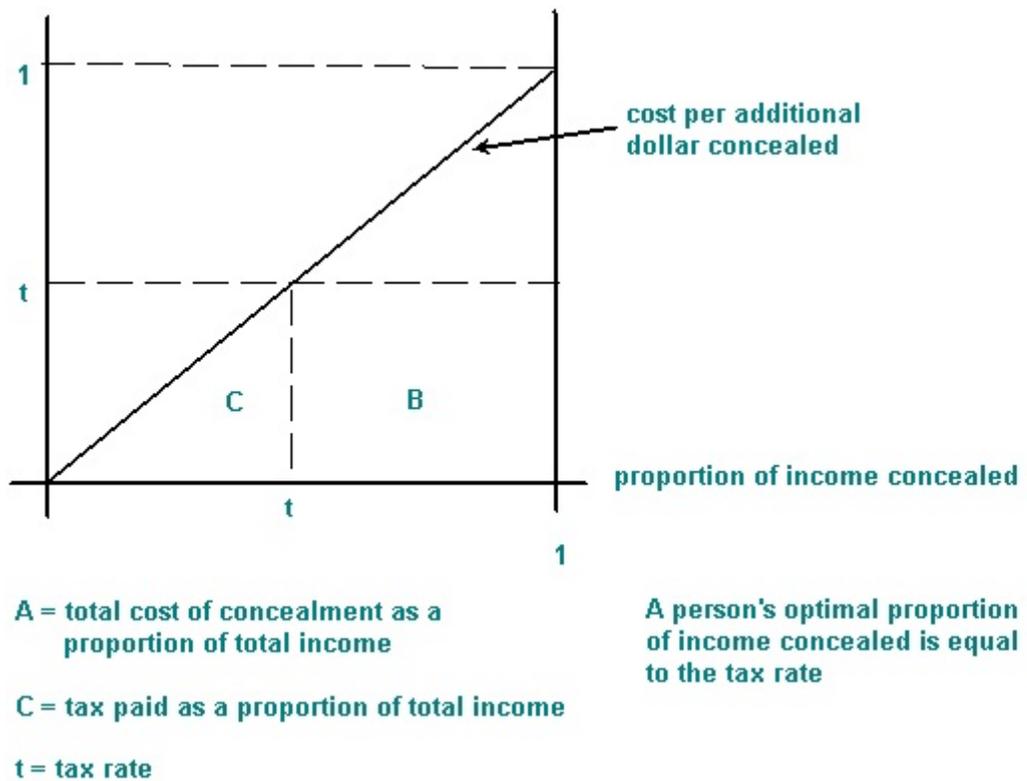
- The preferred tax rate of the median voter is 0%.

In this example, abstentions decreasing with income block redistribution altogether. The effect of abstentions would be in the same direction but less dramatic if the correlation between income and the propensity to vote were less pronounced.

The median voter's preferred tax rate, $t(M)$, is computed in three stages. First the gap between disposable income, I , and declared income, Y , is computed as a function of the tax rate. Then a person's preferred tax rate is computed as a function of income, i.e. the function $t(Y)$ is derived. Finally, the income, M , of the median voter is computed together with the median voter's preferred tax rate.

In accordance with assumption (d), the taxpayer's cost of tax evasion is shown in figure A. The premise behind assumption (d) is that there are inexpensive ways to conceal small amounts of income, but, the more income is concealed, the more expensive does extra concealment become. Both axes are proportions between 0 and 1, the horizontal axis of income concealed, the vertical axis of the cost of concealment per dollar concealed. The height of the diagonal line is the marginal cost of concealment as a function of the proportion concealed. In choosing the proportion of income to conceal, the taxpayer equates the marginal cost of concealment to the tax that would otherwise be paid. A person conceals income up to the point where it would be more costly to conceal an extra dollar of income than to pay the tax on that amount. It then follows that a tax rate of t induces people to conceal a fraction t of their incomes, so that declared income becomes a fraction $(1 - t)$ of true income and tax paid as a proportion of true income becomes $t(1 - t)$, shown as the area B on the figure. The full cost of concealment per dollar of income is indicated by area C which is equal $t^2/2$. Denote average income by Y^A . It follows from assumption (a) that Y^A equals $1/2$. Total tax revenue per person is $t(1 - t)Y^A$.

Figure A: Taxpayers' Cost and Benefit of Concealment of income from the Tax Collector



It then follows that the disposable income, I , of a person with pre-tax income, Y , becomes

$$I = \text{pre-tax income} - \text{tax paid} - \text{cost of concealment} - \text{transfer (equal to average tax revenue)}$$

$$= Y - t(1 - t)Y - (t^2 / 2)Y - t(1 - t)Y^A \quad (A3)$$

If empowered to choose the tax rate all by himself, a person with income Y would choose a rate, called t(Y), to maximize disposable income, I. The rate would be set so that $\delta I / \delta t = 0$. Specifically,

$$\delta I / \delta t = -Y + 2tY - tY + (1 - 2t)Y^A = 0 \quad (A4)$$

implying that $t(Y) = (Y^A - Y) / (2 Y^A - Y)$

$$= (1 - 2Y) / (2 - 2Y) \quad \text{because } Y^A = 1/2 \quad (A5)$$

This is the exact specification of the function t(Y) in assumption (c) above. It follows at once that the preferred tax rate of a person for whom Y = 0 is 50%, and that the preferred tax rate declines steadily with income until it falls to 0 at Y^A. Anybody with more than the average income would prefer the tax rate to be negative, but that is not relevant here.

Now consider the median incomes, M and R, for all the entire population and for voters only. The median income, M, for the entire population is the solution of the equation

$$\int_0^M p(Y) dY = \int_M^1 p(Y) dY \quad (A6)$$

or equivalently

$$\int_0^M (1 - Y) dY = \int_M^1 (1 - Y) dY \quad (A7)$$

Since the integral of (1 - Y) is (Y - Y² / 2), equation (A7) implies that

$$[M - M^2 / 2] = 1/2 - [M - M^2 / 2] \quad (A8)$$

or $2 M^2 - 4M + 1 = 0$

so that $M = 1 - 2^{-1/2} = .293$

and the median person's preferred tax rate in accordance with equation (A5) is

$$t(M) = (Y^A - M) / (2 Y^A - M) = (1/2 - .293) / (1 - .293) = .293$$

If everybody voted, causing redistribution to reflect the preference of the median voter, the tax rate would be .293 and the per capita transfer from the government .1036, raising the income of the poorest person from nothing to .1036 equivalent to 20.72% of average income.

From equation (A3), it follows that redistribution raises the disposable income of the median person from .293 to .323, but lowers the disposable income of the richest person from 1 to .856. By contrast, the income, R , of the median income among all voters is identified by the equation

$$\int_0^R p(Y)v(Y)dY = \int_R^1 p(Y)v(Y)dY \quad (A9)$$

where $p(Y)v(Y)$ is the density of voters with income Y . With $p(Y)$ and $v(Y)$ in assumptions (a) and (b), equation (A9) becomes

$$\int_0^R (1-Y)YdY = \int_R^1 (1-Y)YdY \quad (A10)$$

Since the integral of $(1 - Y)Y$ is $(Y^2 / 2 - Y^3/3)$, equation (A10) reduces to

$$[R^2/2 - R^3/3] = (1/2 - 1/3) - [R^2/2 - R^3/3]$$

or $4 R^3 - 6 R^2 + 1 = 0$

implying that $R = 1/2$ which just happens to equal the pre-tax, pre-transfer income in the population as a whole. The median income among all voters just happens to equal the average income among all people, whether or not they vote. But, as is immediately evident from equation (A5), the person with the average income prefers a tax rate of 0% with no redistribution at all.

On the assumptions in this example, redistribution of income is blocked altogether by the greater propensity to vote rather than to abstain among the rich than among the poor. Milder assumptions would yield a less dramatic result, but the general direction of this result would remain. The higher the correlation between income and the propensity to vote, the less redistribution there would be.