

Criteria to Evaluate Voting Indicators and a Recipe for a New One

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Abstract

This paper is made up of two interrelated parts. Part I contains a critical evaluation of the so called *StemWijzer* 2002, an internet application that helped and advised voters which political party to choose at the Dutch, German and Suisse parliamentary elections. Applying some validity tests and checking the discriminatory power, it is argued that the *StemWijzer* 2002 is seriously flawed. Part II is devoted to designing an interactive voting indicator, where the propositions to be evaluated by the voter depends on his responses to other propositions at an earlier stage. The viability of such an indicator hinges on the possibility to determine the partisanship leaning (leftist or rightist) of voters by means of a limited number of questions. For this purpose a rather minimalist voting indicator (the VoteFork) was developed. The empirical results show that it is indeed possible to ascertain for the majority of voters whether they belong to left-wing or right-wing parties. In this part I also present a simple model which can be used as a benchmark to assess the quality of voting indicators, where quality is simply defined as the fraction of correct voting advises. This paper is pioneering in the sense that yet no serious attention is paid to voting indicators in general, to the criteria they should ideally meet and to the possibility to make them interactive.

Part I Criteria to evaluate voting indicators

1. Introduction

At the Parliamentary elections of May 15th, 2002 more than a quarter of the Dutch electorate has made use of the so called Voting Indicator (in Dutch: *StemWijzer*). Also at the Suisse and German parliamentary elections (*Wahl zum Deutschen Bundestag* on September 22nd, 2002) a voting indicator (*Wahlomat*, issued by the same institution responsible for the Dutch voting indicator) was available and visited by more than two million persons within the last month just before the elections. It is very likely that the popularity of voting indicators will rise even further in the near future, alongside the greater diffusion of Internet at the office and at home. By itself the phenomenon of voting indicators is not so interesting. However, a Dutch survey (NIPO 2002) among users revealed that a quarter admitted that their ultimate vote at the box was influenced by the voting advice. Another quarter indicated that the voting advice gave food for thought to reconsider their favoured party. 17% of the respondents did not attach any value to the advice and for another 27% the advice only confirmed their political choice. Finally, 4% admitted frankly that the advice changed their political preference. In sum, the majority of the users take the voting advice how to vote very seriously, whereas only a minority either disregard it or takes it merely as an affirmation of what they would vote for before they consulted the voting indicator. These figures show that it is far from imaginary that the sheer availability of a voting indicator at the elections might have a significant impact on the electoral outcome. It is therefore important to think not only about the nature of voting indicators (its function, so to speak, see section 2), but also about the criteria to assess whether or not a voting indicator can pass as sound or reliable (section 3) and its major drawback (section 4). The second part of this article (sections 4 and 5) gives a recipe for a more reliable and useful, yet not-existing, voting indicator which might be very suitable to advice voters at the European Parliamentary Elections of June 10, 2004. In

section 5 a model is presented which give a clue what might be expected from voting indicators, depending on the number of propositions. This section also argues that the best voting indicator must be interactive: the first step is to determine roughly whether the voter's sympathy is left or right and subsequently, depending on the information obtained in the first step, whether it is extreme or moderate left or right. The VoteFork is presented and discussed to show that it is indeed possible to obtain a reliable partisanship leaning assesment for the majority of voters (sections 6 and 7). Section eight discusses the third and fourth set of propositions to be included, which goes beyond the nature of all existing voting indicators in so far that these sets of propositions are not limited to political content only. The final section summarizes and concludes.

2. The expert function of voting indicators

To make use of a voting indicator can be compared with having a consultation with a political expert, say an experienced MP who knows perfectly what the different political parties stand for. In the consultation the political expert will figure out the political preference of the participant by asking a number of well-chosen questions. The ultimate limit would be, metaphorically speaking, that the political expert or the voting indicator would know better which party the participant belongs to than the participant herself. The Dutch voting indicator *Stemwijzer* (which means literally 'vote wiser') has such an ambition. In the colophon it says that the party which comes on top (that is, the voting advice proper) "is the one which 'best' suits you in terms of policy content".¹ In the national newspaper *de Volkskrant* (10 April 2002) the project manager claims that "If one answers the propositions truthfully, the programme really tells you which party best suits you". This claim is too ambitious for several reasons. Firstly, I will argue in section 2 that the programme is seriously flawed in several respects, even to such extent that little value can be attached to the voting advice. Secondly, voting indicator are based on the highly disputable assumption that voters have already a (more or less well-considered) opinions about all sorts of issues, ranging from the use of closed-circuit television cameras in shopping centres, property taxes, governance of school to peace-keeping operations abroad. Thirdly, because a voting indicator is simply composed of a number of issues taken separately from party manifestos, the specific ideological profile of political parties largely disappear, while voting behaviour is for a large part determined by vague notions (left, right, liberal, social-democratic, socialist, Christian) of the ideological character of parties held by voters. Fourthly, I will argue in section 5 that the voting advice is of limited use for a politically well-informed voter (except if he is floating, in which case there is a chance that the voting advice may tip the balance). To put it crudely, only layman, politically, can benefit from consulting a voting indicator.

The first reason to compare a voting indicator with a political expert is that the strength of a voting indicator is that not so much the daily delusions, the representations and images of political leaders in the press or emotions, but purely the policy content of party manifesto's determine the respondents' political preference as revealed by the voting indicator. The same might be expected from an expert who is consulted for a voting advice. The voting advice is based on the answers of propositions on topics about which the political parties disagree (see appendix A at the end of part I for a complete list). That political party leader A has a more interesting and happy family whereas B

private life is in public discredit has no impact at all on the advice. This restriction to the policy content can be seen as the main rationale of voting indicators: public images of leaders, emotions and all other factors (e.g. strategic voting) than policy content play no role. Only for this reason it would be interesting to conduct an experiment in which a representative sample of voters would fill in a methodologically adequate voting indicator. In this way a first clue might be obtained what the effects are of factors like public appeal of party leaders, the ads of elections campaigns, etc. which by definition are ruled out in the voting indicator. For example, voting indicators can reveal whether political parties are above or under their electoral potential. A party in the fortunate circumstance of having a popular leader would probably score less in the experiment than in the real poll results.

The comparison of a voting indicator with the political expert is also made because both, contrary to the ordinary voter, know at each proposition exactly which positions are held by the different political parties. The status of the participant making use of a voting indicator can best be seen as that of a floating or ignorant voter (see section 5). Each participant's response to a proposition is give a score for each political party, which is negative if the positions taken by the participant and a party disagree and positive if they agree. The voting advice results by comparing the profile of the participant as revealed in her answers on the propositions with those of the political parties. The voting advice properly is the party with the highest score, that is, the one which gives the best match between the voter's profile and the parties' profiles. Usually, the score is given in the form of a scale of 0 to 100%, where 100% (0%) indicates a perfect (dis)agreement between the positions held by the voter and the party. In addition, the respondent can see the affinity rank order of parties coming next. In theory, a voting indicator should be able to give a 100%-adequate voting advice if it could obtain all relevant information required for determining the voter's political preference. This is comparable with the political expert who can give an indisputable voting advice if she would know all views, prejudices and preferences of a voter. In practice however, the voting advice of a voting indicator is based on the answers on only a limited set of propositions. In the next section, the 30 propositions of the voting indicator *Stemwijzer* are subjected to some general validity tests, like content and representational validity, overlap, discriminatory power and calibration.

3. Validity criteria to be applied to voting indicators

The Dutch StemWijzer is the only voting indicator that obtains a subsidy from the state (it is also the only one which is officially recommended to citizens by the Ministry of Home Affairs), which is made by a whole interdisciplinary team, the only one which is officially registered as trademark and by far the most successful concerning the number of visitors. I could not aimed higher.

Content validity

First of all a voting indicator should include all, or the most important, points of contention raised in the election campaign between the parties. This will be summarized under the term 'content validity'. A first indication can be obtained by splitting up the 30 propositions into eleven clusters or themes,²

¹ See <http://www.votingindicator.net/english/sw/app.html>.

² These eleven themes are used to offer the voter, after responding to all propositions, the opportunity to give some themes more weight than others.

with in between brackets the numbers of the propositions: Crime and safety (nrs.1-3); Ethical issues (4-6), Democracy (7-8); Immigration (9-10); Social economic policy (11-14); Social security and care (15-16); Housing (17-18); Traffic and the environment (19-22); Education, sport and culture (23-25); Government finance and taxes (26-27) and International relations and defence (28-30). At first sight this may appear as a reasonable spectrum of themes and distribution of propositions over the themes. The theme ‘Traffic and the environment’ with four propositions might be overrepresented relative to only three propositions for the labour market and social security issues together (numbers 11, 12 and 14) and only one for education. Within the theme ‘Ethical issues’ two out of three deal with wilful death: the legality of euthanasia (nr. 4) and the availability of a ‘suicide pill’ (nr. 5). More problematic is that some important elections themes are entirely missing. There are no propositions about the (un)desirability of privatization of public services like railways, energy, the national airport, nor about life course and family policies or about maintaining subsidized work schemes for the unemployed. These were all important issues in the election campaign and also prominently present in the party manifestos.

To check for the content validity it is also interesting to look at the number of times that a party is allocated a unique position on a proposition, not shared by any other party. Of all 30 propositions, 7 times a party holds a unique position: four times GL (Greens), two times VVD (Liberals) and one time D66 (Democrats 66, the only supporter of the suicide pill). This means that all other parties never hold a unique position. Notably for the SP (Socialists) and the LPF (the party of the late Pim Fortuyn) this is remarkable since they can be situated extremely left and extremely right on the political spectrum. For instance, no party is so sceptical about the viability of the multicultural society or such an ardent supporter of obligatory integration of immigrants as the LPF, but propositions about these issues are lacking in the voting indicator. I now turn to general criteria such as representational validity, overlap, discriminatory power and calibration.

Representational validity

The positions held by the different political parties must be duly represented by the voting indicator. The voting indicator solves this issue by asking an authorization by a party official (usually one or two members of the campaign team) of the positions allocated to a particular party. However, the positions taken in party manifestos are often much more subtle, delicate and intricate than the rather dichotomous agree, disagree or neutral stance on a proposition. Political parties are no monolithic blocs with all party members (or all MPs of the same party) sharing the same opinions. Therefore, the authorization of a single party official has limited value. Moreover, it is the voting indicator and not the party official who gives the voting advice. In the end, the makers of the voting indicator bear the full responsibility for duly representing the positions of the parties and for the quality of the voting advice. I will give three examples (see propositions 9, 13 and 15 in Table 1) where there can be serious debate on whether the allocation of party positions was right.

According to the voting indicator only the Greens agree with full voting rights for foreign residents. However, in the party manifesto of the social democrats PvdA, under the heading of ‘Voting rights for non-Dutch inhabitants’ it is stated clearly that:

Integration presupposes equal rights and duties for everyone. As is the case for the local elections, non-Dutch inhabitants should be able to vote (active voting right) at other elections (PvdA 2002: 76).

No reason therefore to attribute a neutral stance to the PvdA on this issue, except when the PvdA should be blamed for the omission of mentioning a specific term of three years as in proposition 9 (see Appendix A). The second example deals with whether shops should be open or closed on Sundays. According to the voting indicator the Christian Democrats CDA does not agree with the proposition that shops should remain closed on Sundays. This is surprising, in witness of the following passage of the manifesto:

It is important that families can join to visit the church, that (sport)associations have a common day for their activities. A fixed rest day in the week commonly enjoyed must, as far as the CDA concerns, remain... The CDA protects the Sunday as a collective rest day, to which no further extension of shopping hours belongs (CDA 2002: 16).

Admittedly, the Christian democrats do not want to reverse the existing legislation of very limited permission to shops to be open on Sunday, but the allocated position of the CDA on this proposition suggests that it is a frank supporter of shops open on Sunday (along with ardent supporters as VVD and D66). A neutral stance would have been more justified, certainly in view of the fact that the Socialists are attributed such a neutral position based on the statement that “A check must be put on shops open on Sundays. The basic rule should be that shops are closed on Sundays, although exceptions should be possible (SP 2002: 12).

Table 1. Party positions on five selected propositions.

nr	Proposition	Agree	Disagree	Neutral
9	Foreigners who have lived in the Netherlands for longer than three years should have the right to vote and stand in all elections, including general elections.	GL	CDA, CU, D66, LN, LPF, SGP, SP, VVD	PvdA
13	Shops should remain closed on Sundays.	CU, SGP	CDA, D66, GL, LN, PvdA, VVD	LPF, SP
15	The insurance premium for medical expenses should be entirely means-tested.	GL, CU, SP	CDA, D66, LN, LPF, PvdA, SGP, VVD	
17	Mortgage interest tax relief for a principal home should be maintained in full.	CDA, D66, LN, LPF, PvdA, VVD	GL, CU, SGP, SP	
25	Schools should be run by parents and teachers, and pupils too should play a role in the running of secondary schools.	D66, LN, LPF	CDA, CU, GL, SGP, SP, VVD	PvdA

Finally, the PvdA is allocated the opposite position as the Greens, the Socialists and the splinter party Christen Unie in proposition 15 on the choice whether medical insurance premiums should be

nominally fixed or dependent on income (that is, means-tested). The word ‘entirely’ in this proposition plays a crucial role. The PvdA stance on this matter is clearly stated in the manifesto:

The medical insurance premium is *largely* dependent on income and increases with the level of income. This keeps medical care accessible and affordable for all and is a matter of solidarity (PvdA 2002: 26, my italics).

Because the proposition uses the terms *entirely means-tested* whereas the PvdA manifesto uses the terms *largely dependent on income*, which indeed strictly means not entirely, but only largely dependent on income, the PvdA is allocated among the parties that favour a full nominal and uniform (thus entirely not dependent on income) medical insurance premium. Clearly, the voter is sent barking up the wrong tree here. The makers of the voting indicator could have done better by choosing a slightly different version, e.g. using *preferably* instead of *entirely*, or leaving out the term *entirely*, in which case the PvdA would have been allocated among the parties that oppose nominally fixed premiums. It might well be the case that because of the remarkable allocation of the PvdA at propositions 9 and 15 a large number of potential PvdA-voters has gone to the Greens or the Socialists.

Overlap

Besides content validity and representational validity a further general requirement is that the propositions do not overlap (too much). Table 2 presents, not exhaustively, six different combinations of propositions where overlap might be a problem. The position of the Greens is usually indicated by L (left) and of the right-wing party VVD by R (right).

Table 2: Overlap of propositions within pairs.*

nr.	Proposition	CDA	D66	GL	PvdA	VVD	SP	CU	LN	SGP	LPF
2	Closed-circuit tv	R		L	R	R	R	R		R	R
3	Punishment recidivists	R		L	R	R	R	R	R	R	R
4	Euthanasia		L	L	L	L	L	R	L	R	L
13	Shops on Sundays	L	L	L	L	L		R	L	R	
9	Voting right foreigners	R	R	L		R	R	R	R	R	R
10	Asylum-seekers	R	R	L	R	R	R	R	R	R	R
15	Medical insurance	R	R	L	R	R	L	L	R	<i>R</i>	R
17	Mortgage tax relief	R	R	L	R	R	L	L	R	<i>L</i>	R
7	Elected Prime Minister	R	L	R	R	R	<i>R</i>	R	L	R	L
25	Schoolboard governors	R	L	R		R	<i>L</i>	R	L	R	L
12	Managers' salaries	R		L		R	L	L	R	R	R
27	Top income tax rate			L	L	R	L	L	R	R	

* Neutral positions are assigned by an empty cell. Those cases with opposite positions within a pair are in italics.

The criterion to combine propositions into pairs in Table 2 is not only that almost all parties must take

the same position at both propositions, but also that both propositions are linked in content. For instance, the common denominator of propositions 2 and 3 is the (un)desirability of a tougher law and order policy. Propositions 4 and 13 are both ethical issues, and 9 and 10 deal both with the attitude towards immigrants. The parties (except the splinter party SGP) that are in favour of income dependent medical insurance premiums (nr. 15) are also in favour to curtail the full deductibility of mortgage interest payments (nr. 17) for the simple reason that both measures are to the disadvantage of high income earners. All parties, except the Socialists, who are in favour of more direct democracy, in this case an elected Prime Minister (nr. 7), are also in favour to give people involved more say in schools (nr. 25). The last combination, to control the salaries of managers and the choice not to reduce the top income tax rate, is more or less motivated by the same political choice, namely to prevent high income inequality. Note that this combination also overlaps with the combination of propositions 15 and 17, which has the same choice on income (in)equality as political background. The importance of tracing overlap is that voting indicators must always use every inch of space to include the most important propositions, given the total number of propositions. The best illustration is that propositions on important topics such a privatization of railways, energy and the national airport, the subsidization of low wage labour or life course and family policies are lacking, although widely discussed in the election campaign. The choice thus is simply between maintaining the overlap or to make room for six other propositions.

That the party positions on the issue of whether shops are allowed to be open or closed on Sundays correspond with the party positions on Euthanasia gives a strong indication that the former does not belong to the social-economic cluster, to which it is classified, but to the ethical cluster. The same kind of category mistake is made with respect to proposition 25, which superficially appears as an issue belonging to education, but in fact can be added to the cluster Democracy.³ Except for the combination of propositions 9 and 10, all propositions pairwise listed in Table 2 are allocated to different clusters or themes. However, a proposition must really belong to the cluster to which it is classified, because voters are given the possibility to give clusters which they deem very important a double weight in calculating the voting advice. Wrong allocations therefore mess up the quality of the voting advice.

Discriminatory power

The next general requirement that a voting indicator should meet is that the propositions have sufficiently discriminatory power between parties. It would make no sense to include non-discriminatory propositions of the kind that the government should work more efficiently, that bureaucracy should be reduced or that the environment should become cleaner. Only propositions that discriminate between parties, and in that way highlights different positions on the same issue or problem, are of interest.

To check for the discriminatory power, the party positions on all 30 propositions are transformed into the 'scores' Left, Right and Neutral (in the same way as was done in Table 2). These scores are used by the SPSSX-programme facility *Principal Component Analysis using Alternating*

³ The proposition that "Schools should be run by parents and teachers, and pupils too should play a role in the running of secondary schools" expresses that people involved should also have a say in the administration, but it is not important at all that it happens in the educational sector. Another sector, e.g. health care or child care could have used as well. The tenor of the proposition is that institutions should not be run in a way that the clients do not have a say in the administration.

Least Squares (PRINCALS), which is simply a variant of the more common *Principal Component Analysis* (PCA). The reason why PCA cannot be used here is that the 30 (non-metric) variables are not continuous, but consists of categories (Left, Right or Neutral). PRINCALS has the advantage that the researcher can determine the type of data. I assume that the category data are on the ordinal level, since the scores for each issue or proposition ranges from a negative (disagree, or Left or Right), towards a neutral towards a positive (agree) attitude (the alternative would be to consider the data as nominal).⁴ The solution generated by PRINCALS is a multidimensional graph, where I have chosen for a plot of the cases (the political parties) into a two dimensional space. Figure 1 gives the two dimensional 'party space' if all propositions are included. The higher the resemblance of positions between parties, the closer they will be plotted near each other. Because only the location of parties vis-à-vis each other is relevant, it is of no importance which parties are located left, right, or on top. Figure 1 indicates that the right wing parties VVD and LPF are the closest contenders. Also the left-wing parties social-democrats (PvdA), socialists (SP) and Greens (GL) are located in each others neighbourhood, but at greater distances. If the parties are located on a one-dimensional scale, the order is GL-SP-CU-SGP-PvdA-D66-CDA-LN-LPF-VVD, which is (except for the splinter parties CU and SGP) in line with the standard classification of Dutch parties along a single Left-right political spectrum, where the opposition Left-right is taken as the main conflict dimension between parties.⁵ That the Christian splinter parties SGP and CU are situated in between PvdA on the one hand and GL and SP on the other is because in the voting indicator they take the same positions on a number of policy areas such as social security, housing, and traffic and environment. Overall there seems sufficiently discriminatory power if all propositions and all parties are taken into account.

Figure 1 about here

Subsequently, the attention is focussed on the five largest parties (up tot the elections of 2002 responsible for 88% of all votes, and because of the proportional system, also of almost 90% of all parliamentary seats) PvdA, CDA, D66, GL and VVD. These are also the parties that constitute the government coalitions in the last 20 years. In addition, the attention is focussed on social policy in a broad sense, so leaving out the eight propositions belonging to Ethical issues (3), Democracy (2) and International relations and defence (3).⁶ The 22 remaining propositions belong to the clusters Crime and safety (3), Immigration (2), Social economic policy (4), Social security and care (2), Housing (2), Traffic and the environment (4), Education, sport and culture (3) and Government finance and taxes (2). The propositions 13 and 23 can be eliminated because there is consensus on these issues among the five parties. The scores of the parties on the remaining 20 propositions are represented in Table 3 and are used to generate Figure 2.

⁴ To illustrate, consider a battalion from which we know the age, the rank and the religion of its members. The length is on the numeric level (2 metres is twice as long as 1 metre), the rank on the ordinal level (a general is higher than a sergeant) and religion on the nominal level (Moslem is a different religion than roman-catholic). The location of parties in Figures 1 and 2 is quite robust in the sense that they do not change very much if a nominal instead of ordinal level is chosen. For more technical details about using PRINCALS in this type of analysis, see J. Elkind and S. de Lange, *Technique Dependency in the Analysis of Party Positions in a Multidimensional Space*, Paper prepared for the workshop 'Coalition Formation: Theory and Practice', Dutch-Flemish Politicologenetmaal 23-24 May 2002, Noordwijkerhout.

⁵ See Brug, W. van der, 1997, *Where's the Party?: Voters' Perceptions of Party Positions*, dissertation, Universiteit van Amsterdam.

Table 3: The party positions on the propositions on social policy in a broad sense.

	S2	S3	S9	S10	S12	S15	S17	S20	S21	S25	S1	S11	S14	S16	S18	S19	S22	S24	S26	S27
GL	L	L	L	L	L	L	L	L	L	R	L	L	L	L	L	L	L	L	L	L
PvdA	R	R		R		R	R	R	R		L	L	L	L	L	L	L	L		L
D66			R	R		R	R		R	L	L	R	L	L		L	L		L	
CDA	R	R	R	R	R	R	R	R	R	R	R	L	L	L	L	L	R	L		
VVD	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R

Table 3 shows that the 20 propositions can be divided into two sets. The propositions 2, 3, 9, 10, 12, 15, 17, 20 and 21 discriminate especially between GL and the other parties, whereas propositions 1, 11, 14, 16, 18, 19, 22, 24, 26 and 27 discriminate mainly between VVD and the other parties. Only the challenged proposition 25 about governance of schools (represented by the dotted line in Figure 2), which should be declared out of court because it belongs to the Democracy-cluster as argued above, does not fall into one of both sets. The most striking feature of Figure 2 is that the parties CDA, PvdA and D66 lump together, while both sets of propositions are graphically represented by only two dimensions, one from the centre towards GL and one from the centre towards the VVD. In other words, if the voting indicator would have been limited to only these 22 propositions (that is, to social policy in a broad sense), it would only discriminate between GL, VVD and the other parties, but not between the parties CDA, PvdA and D66. Suppose that, based on the answers on the 22 propositions, the respondent undoubtedly belongs to either CDA, PvdA or D66. The eight other propositions will then determine to which party the respondent belongs. If the respondent takes a conservative stance on ethical issues such as euthanasia, the suicide pill and genetic manipulation of food, then she belongs to the christen-democrats CDA. If she takes a liberal stance, then the voting advice will be D66, certainly if she would also be in favour of measures to realize more direct democracy (the elected Prime Minister and binding referenda). The PvdA has no clear profile on these issues and acts as a rest category.

Figure 2 about here

Taking into account that the five parties got 88% of all votes and that social policy captures a rather large subset (22) of all 30 propositions, it is clear that a number of propositions can be removed, as already indicated above with respect to overlap. It might also be expected that some propositions can be left out because of a very high correlation of responses of voters on particular (pairs of) propositions. This would mean that the balance between the amount of information asked from participants and the quality of the voting advice can be improved (this topic will be elaborated in Part II). Alternatively, the removed propositions can be replaced by new ones discriminating between the parties CDA, PvdA and D66.

Calibration

Furthermore, the voting indicator *StemWijzer* is not *tested* or *calibrated*. Seasoned politicians or

⁶ The numbers in between brackets indicate the number of propositions.

parliamentary journalists should be able to reach an almost 100% affinity score if they are asked to answer from a particular party-perspective (say PvdA). After all, they can be considered as political experts knowing exactly where the different parties stand for. If it would turn out that the experts make mistakes at particular propositions, then something is wrong with these propositions. For instance, I expect that most political experts would classify the PvdA as in favour of voting rights for foreigners (proposition 9) and in favour of means-tested medical insurance premiums (proposition 15), whereas according to the voting indicator the PvdA-positions are neutral and against, respectively.

The calibration must be done *after* that the party positions are authorized by a party official, but *before* it is launched on Internet. The reason is not only that party officials (usually a member of the campaign team is asked to do the authorization) can make mistakes, but that party positions as set out in the manifestos are much more intricate, nuanced and subtle than the rather dichotomous agree, disagree or neutral positions on propositions in a voting indicator. Also within single parties there can be considerable disagreement among its members (or MPs) about specific issues, smooth over by subtle wording in the manifestos, in which case it is difficult to take a simple agree or disagree as the party position (that is, even if authorized as such by a campaign team member).

4. The voter as bundle of opinions

Apart from the fact whether or not and to what extent the voting indicator meets the general criteria set out above, it remains to be seen whether the basic assumption on which voting indicators rely can be defended. The basic assumption of a voting indicator is that voters have opinions about all sorts of issues, ranging from closed-circuit television cameras, property taxes, school governance to peace keeping operations abroad. The voting indicator *StemWijzer* singles out 30 of them, other voting indicators have singled out entirely different ones. Michels (1993: 40) mentions American research which show that opinions about the policy to be pursued, as far as voters have them, can be seen as a derivative of the party they identify with.⁷ Voters develop, dependent on their background and the group or class to whom they belong, a close bond with a particular party. This party determines to a great extent the attitudes and opinions of voters on candidates and political issues. The views of voters reflect therefore more the identification with a particular party than that they determine their party choice. In other words, the formation of opinions within parties precedes the formation of opinions among the electorate: at complex issues voters adopt the views of the party they identify with. A voting indicator on the contrary assumes that voters already have well-informed opinions about a whole range of salient issues and the only problem is to find out which party offers the best match. In a way, politicians can then be seen as brokers in the demand and supply of opinions and political parties as broker agencies each with a market share. The departing point of the voting indicator presented in part II is that voters do not have a complete set of opinions about all kinds of issues. Instead they have well-considered views on the contours or essence where different parties stand for. For instance, they know that the socialists want radical equality and social justice, whereas the right-wing party VVD wants to give more responsibilities to citizens in place of more state intervention. A vote for the SP (or the VVD) can be taken as a mandate to develop a package of measures that serves this goal. The ideological stance of parties is grasped only to a limited extent by the Dutch voting

indicator, because issues are transformed separately from the manifestos into propositions. The best illustration is that many leftist voters were given the voting advice Christian Union, although most of them would not subscribe the view that politics should be directly inspired by the Bible.

Taking stock of the arguments, my conclusion is that the Dutch voting indicator does not come up to the mark. Based on general criteria as content validity, representational validity, discriminatory power, non-overlap and calibration, I have shown that it fails in its expert function. Important issues are left out, in some cases party positions are wrongly allocated, some propositions are rubricated under the wrong themes or clusters, there is considerable overlap and there is almost no discriminatory power on social policy in a broad sense among the parties CDA, PvdA and D66. Moreover, the voting indicator is not calibrated by political experts. All those criteria can be used to improve voting indicators to be constructed in the future. Finally, it is argued that voting indicators are based on a disputable basic assumption, to wit that voters have opinions about the whole range of issues dealt with in the propositions.

Appendix A

Voting Indicator *Stemwijzer 2002*

- 1 A legal requirement to carry proof of identity should be introduced.
- 2 The use of closed-circuit television cameras in shopping centres and entertainment districts should not be intensified any further.
- 3 Criminals who repeat their offences (recidivists) should be punished more severely.
- 4 Euthanasia should once again be fully criminalised.
- 5 A 'suicide pill' may be made available, subject to strict conditions.
- 6 Genetic manipulation of food should be prohibited.
- 7 The Prime Minister should be elected directly by the voters.
- 8 It should be possible to hold a binding referendum on a resolution proposed by private citizens.
- 9 Foreigners who have lived in the Netherlands for longer than three years should have the right to vote and stand in all elections, including general elections.
- 10 Asylum-seekers who have had to wait longer than 18 months for a decision on their status should automatically receive a residence permit.
- 11 Older people in receipt of unemployment benefit (WW) or social security benefit should once again be obliged to apply for jobs.
- 12 To prevent unduly large income differentials, the salaries of managers - like those of 'ordinary' employees - should be regulated in a collective agreement.
- 13 Shops should remain closed on Sundays.
- 14 Only employees whose incapacity for work is 50% or more should in future receive disability benefit (WAO).
- 15 The insurance premium for medical expenses should be entirely means-tested.
- 16 Extra funding for health care is not necessary: more efficient use of the available funds would be sufficient to solve the problem of the hospital waiting lists.

⁷ Michels, A.M.B., *Nederlandse politieke partijen en hun kiezers*, Dissertation, Universiteit Twente.

- 17 Mortgage interest tax relief for a principal home should be maintained in full.
- 18 The property tax (OZB) -the municipal tax on residential accommodation -should be abolished.
- 19 No further test drillings for oil and gas should be allowed in the Wadden Sea.
- 20 Road congestion black spots should be tackled without delay, for example by widening road blocks.
- 21 The construction of the Betuwe railway line (the new freight railway line between Rotterdam and the German border at Zevenaar/Emmerich) should be discontinued.
- 22 The use of nuclear energy should remain possible.
- 23 Professional sport should no longer be subsidised.
- 24 The public broadcasting organisations should have a more limited role.
- 25 Schools should be run by parents and teachers, and pupils too should play a role in the running of secondary schools.
- 26 The repayment of the national debt deserves priority over extra money for health care and education.
- 27 The highest rate of income tax should be reduced.
- 28 The Netherlands should opt for a federal Europe with a European constitution and a European government that is accountable to the European Parliament.
- 29 The Dutch armed forces should concentrate on peace operations rather than on defence of the national borders.
- 30 The requirement that developing countries spend the aid they receive from the Netherlands on the products of Dutch industry should be abolished.

Part II The quality of voting indicators and a design of an interactive voting indicator

I will define the quality of a voting indicator as its power to generate correct voting advises. In principle, if a voting indicator could obtain all relevant information required to make a just interpretation of the political preference of the respondent, then a score of 100% correct voting advises should be possible. The analogy is that a political expert should be able to give an indisputable good voting advice if it could read all views, prejudices and sympathies of a voter. In practice however, the voting advice must be based on the limited amount of information obtained from the answers on a limited number of questions, which varies dependent on the voting indicator.⁸ The position that I take is that more questions (or propositions; these terms are used interchangeably) are only justified if they improve the quality of the voting advice. For instance, a voting indicator with 20 questions and a score of 10% correct voting advises is worse than a voting indicator with only 10 questions and a score of 50%. The real interesting case is whether a voting indicator with 20 questions and a score of 50% is worse or better than a voting indicator with 10 questions and a score of 1 out of 3. The first one has a better score, but also twice as much questions.

As will become clear in what follows, without making some simplifying assumptions not much can be said about this problem. First I will present in section 5 a simple model to illustrate how the quality of the voting advice can be improved by increasing the number of questions. Next, in section 6, a voting indicator called the *StemVork* (which means literally VoteFork) is explained, consisting of only two questions of which only one must be answered. The respondent to the VoteFork betrays only a minimal amount of information on which the reading of the political preference of the voters is based. The power of the VoteFork to read the political preferences correctly, that is, its quality, can thus be seen as the lower bound for other, more extended, voting indicators. The latter extract much more information from respondents and therefore must be able to generate a much higher score of correct voting advises. Because the VoteFork was operational during the last two elections in 2002 and 2003, it is possible to provide empirical data on the extent to which it is possible to read political preferences based on a very limited amount of information. In section 7 a design of an interactive voting indicator is explained, which should be able to generate a higher score of correct voting advice than the usual non-interactive voting indicators. This score can further be improved by including other elements than merely policy content, such as information about the strategic choices of the voters, their political knowledge and their sympathies for politicians.

5. A simple model to assess the quality of a voting indicator

To evaluate the power of voting indicators to generate correct voting advises or to predict what a voter will vote at the next election, it is useful to start retrospectively. We can ask on which party voters have voted at the last election. The task of a voting indicator is then to predict retrospectively as good as possible by posing questions which party somebody has voted for. In such a retrospective prediction the election result is known, but not who has chosen which party. I will show that by using such a retrospective framework, upper and lower boundaries can be established for the chance of a good

⁸ At the Dutch parliamentary elections of 2002 and 2003 more than ten different voting indicators were available.

prediction, *casu quo* a correct voting advice. In this exercise I assume that rather straightforward, explicit and trivial questions can be posed.

As starting point, consider the electoral result of the parliamentary elections of 2003 (see Table 4, which also include in the last column for illustratory purposes the virtual electoral results according to the voting advises issued to all participants, about a quarter of the electorate, of the Dutch voting indicator *StemWijzer*), where nine parties reached the electoral threshold of 0.6%. Without asking any question, the chance for a good prediction on which party someone has voted is anyhow $1/9$, i.e. 11%. 6 out of these 9 parties are small, and three big. If without any further information a prediction must be made what someone has voter for, the best guess would be that she voted for the largest party. In this case this would be the CDA. This guess (call this p_0 , where the subscript 0 indicates that zero questions are posed) has a chance of 29% of being correct, because the CDA obtained 29% of all votes. The value of p_0 can be seen as a second lower bound, because on the eve of the elections it is not always clear which party will comes on top, with which share and the difference with the runners-up. Especially the difference with the runners-up is important: if it is small, it does not make much of a difference whether the prediction is ‘you vote for party A’ or ‘you vote for party B’.

Table 4. The electoral results of the 2003 parliamentary elections and the virtual results of the *StemWijzer*.

Party	Real	Virtual
CDA	29	2
PVDA	28	17
VVD	19	14
Socialistische Partij (SP)	6	8
Lijst Pim Fortuyn (LPF)	5	18
GroenLinks (GL)	5	10
D66	4	4
ChristenUnie (CU)	2	3
SGP	1	7
Leefbaar Nederland (LN)	0	17
Total	100	100

Assume now that only one question may be asked. The trick is to ask that question that raises at maximum the chance of a good prediction. A very good question in this respect is ‘Did you vote left or right?’. For the sake of convenience assume that there is no misunderstanding about the meaning of left and right and to which side parties belong. If the respondent replies with ‘I voted left’, this means either PvdA, GL, SP or D66. The chance that a randomly chosen voter will give this answer is λ , where $\lambda = 43\%$ represents the electoral share of the left-wing parties together. Based on this information the best guess is of course ‘you vote for the PvdA’, because this party was the largest among the left-wing parties with a share $s_{1L}=28\%$. The chance for a correct prediction will be $p_{1L} = s_{1L}/\lambda = 28/43 = 65\%$.

In the other case, with chance $1 - \lambda = 57\%$, the party of the voter belongs to the right-wing of the political spectrum, for which five parties (CDA, VVD, LPF, CU and SGP) qualify. Again, the best guess is that she has voted for the largest right-wing party CDA, with an electoral share $s_{1R} = 29\%$. The chance for a good prediction $p_{2R} = s_{1R}/(1 - \lambda) = 29/57 = 52\%$. The overall chance p_1 is the weighted sum of both chances:

$$(1) \quad p_1 = \lambda p_{1L} + (1 - \lambda) p_{1R}$$

Applied to the electoral results of the last elections, $p_1 = 28\% + 29\% = 57\%$. This is, not coincidentally, equal to the sum of the shares of the largest left-wing and the largest right-wing party, since:

$$(2) \quad p_1 = \lambda p_{1L} + (1 - \lambda) p_{1R} = \lambda \frac{s_{1L}}{\lambda} + (1 - \lambda) \frac{s_{1R}}{(1 - \lambda)} = s_{1L} + s_{1R}$$

Compared with the situation that no information was available about the political orientation (left or right) of an at random voter, a considerable improvement in the chance of a correct prediction is realized. Because $p_0 = 28\%$ is the electoral share of the largest party, the increase in the chance of a correct forecast is:

$$(3) \quad p_1 - p_0 = s_{1L} + s_{1R} - s_{1R} = s_{1L}$$

The increase by asking one question to determine the political orientation of the voter is thus equal to the share of the largest left-wing party.

The elaboration of the increase by asking a second question is straightforward. That question could be: 'Is your party among the left- or right-wing the most extreme?'. Suppose the respondent has given the answer 'Right' on the first question and 'No' on the second one. Then it is very likely that her party is CDA. If the answer on the second question is 'Yes', then it could be either VVD or LPF, dependent on which one is classified as the most extreme right-wing party. Suppose it is LPF. The chance of a correct prediction then becomes:

$$(4) \quad p_2 = s_{1L} + s_{1R} + s_{eL} + s_{eR} = p_1 + s_{eL} + s_{eR}$$

with

s_{eL} = the share of the most extreme left-wing party;

s_{eR} = the share of the most extreme right-wing party.

If indeed the LPF was the most right-wing party, with $s_{eR} = 5,3\%$ and SP the most left-wing party with $s_{eL} = 6\%$, then the chance $p_2 = 69\%$.

Admittedly, both questions are rather direct and straightforward whereas the questions in a typical voting indicator are far less clear-cut. Instead of a lower bound, like p_0 , the chances p_1 and p_2 must therefore be interpreted as upper bounds for the chance of a correct prediction of political preferences. Now I turn to the issue whether this model is useful to estimate the percentage of correct voting advises that a voting indicator must be able to obtain given the number of questions.

Suppose all parties have a political profile consisting of a list of political issues. For instance, the profile of the Greens is in favour of severe environmental measures, a multicultural society, a generous asylum policy, levelling of incomes, etc. Other parties of course have other profile marks, partly contrasting and partly overlapping. Suppose that five issues can be singled out by which it is

possible to find out the political orientation left or right of a voter. The five issues, transformed into five propositions in the voting indicator, is the equivalent of the first question in the model. The fraction of correct voting advises will *at maximum* be equal to $p_1 = 57\%$. This is an upper bound because if the determination of the political orientation left or right is done correctly in only say 75% of the cases, then the fraction of correct voting advises is equal to $0.75 \cdot 57\% = 43\%$. If with a second set of five issues, corresponding to just as much propositions, it can be determined whether the political orientation is extreme left or extreme right or not, then the fraction correct voting advises will at maximum be equal to $p_2 = 69\%$ (or $0.75 \cdot p_2 = 52\%$ if only in three out of four one succeeds in finding out the political orientation (extreme) left or right, or not).

What this exercise shows is that the best results will be obtained by an *interactive* voting indicator: the first set of propositions determines whether the voter must be located left or right on the political spectrum, the next set of propositions is used to determine whether the political orientation is extreme left or right, or not extreme. Suppose that the information revealed in the first set shows that the voter is in favour of more environmental protection, a multicultural society, a generous asylum policy and levelling of incomes, then in the second set it can be determined how extreme these views are. It is clear that it does not make much sense to include proposition 18 “The property tax (OZB) - the municipal tax on residential accommodation - should be abolished” (see Appendix A) into the second set. All left-wing parties are against this proposal, so it does not discriminate between left-wing parties. This is the great disadvantage of a uniform set of propositions: a high share of propositions will not only be indiscriminate between either left-wing or right-wing parties, but also not relevant for either left-wing or right-wing voters. Whereas it might be possible to determine the political orientation in the first step and subsequently to determine the extremeness of the views of the voters, both with a limited set of propositions, yet no voting indicator is in this way interactive. Crucial in the design of such an interactive voting indicator is that dependent on the responses on the first set of propositions, different second sets of propositions are presented. Before I discuss two more sets of propositions, I will show that it is indeed possible to determine the political orientation based on a very limited amount of information.

6. The VoteFork

My original motivation to develop the VoteFork was to make a voting indicator which could serve as the default for all other, more extended, voting indicators. The point is that the respondents to the VoteFork reveals only one information item, on which his partisanship must be based. Other voting indicators acquire much more information, depending on the number of propositions, and must therefore be able to generate a much higher quality of the voting advice. The direct inspiration for the VoteFork came from an account of voting behaviour in the 1950s in the Netherlands.⁹ The electoral landscape could be summarized as follows (within between brackets the parties); Are you Roman-catholic (KVP), Calvinist (ARP) or Protestant (CHU)? If not, do you belong to the lower social class (PvdA) or to the middle or higher social classes (VVD)? At that time, these two questions would predict correctly the party choice of 70% of the electorate, the reason why elections were compared to

⁹ See J. Holsteyn (1994), *Het woord is aan de kiezer: een beschouwing over verkiezingen en stemgedrag aan de hand van open vragen*, Dissertation, Universiteit Leiden: DSWO Press.

census. Nowadays the sheer background characteristics of voters have a much weaker forecasting power. Instead, voters' views on particular important issues are much more important, which is exactly what voting indicators try to map by posing a battery of propositions. The VoteFork can be seen as a minimal voting indicator, consisting only of two simple questions while trying to discriminate between nine parties.¹⁰ Only once a box can be ticked, just as in the voting booth. The VoteFork is based on the idea, contrary to the basic assumption of other voting indicators, that most voters do not have well-informed opinions about all kinds of issues, but do know what the core issues are of different parties. First the two questions are presented, and afterwards I will explain the underlying framework.

Question 1: Is one of the following topics of overriding importance for your vote, where you are also prepared to subscribe the accompanying proposition. If so, tick the box Agree. If not, go to Question 2.

Social justice: income on top of a quarter million Euro per year must be taxed by 70% 0 Agree

Environment: sustainability has priority above economic growth, the economy must shrink to preserve the environment 0 Agree

Ethical issues: the legalization of euthanasia, abortion and homo-marriages must be reversed as soon as possible 0 Agree

Democracy: Mayors and the prime-minister must be elected directly and as many political decisions must be made by referenda 0 Agree

Government: the number of civil servants can easily be reduced by a quarter, without any consequences for the quality of the government 0 Agree

Criminality and immigration: it is time that the problems with respect to criminality and immigration are made explicit and be dealt with 0 Agree

Question 2: Which of the following three propositions do you find the *most* appealing?

- The quality of and access to social security is equal for everyone and is paid for by general taxation
- The spell and level of social security benefits are preferably as much as possible dependent on labour market history and the last wage earned
- The government takes care of only a basis in health care and social security. Everything on top of that can be arranged by the citizens themselves

The topics in question 1 corresponds with the core issues of SP, GL, CU, D66, LN and the LPF. The sequence of these parties correspond with the usual location on a one-dimensional left-right spectrum, with SP on the far left and LPF on the far right. The propositions of question 2 correspond, also from left to right, with the core attitude of the traditionally three major parties PvdA, CDA and VVD towards the welfare state.

¹⁰ On the web site <http://www.self-gov.org/quiz.html> 'Worlds Smallest Political Quiz' can be found. To discriminate between only two parties, Democrats and Republicans, this voting indicator contains still ten questions (compulsory military service, legalization of soft drugs, agricultural subsidies, minimum wage, foreign aid, etc.).

Commentary on the first question

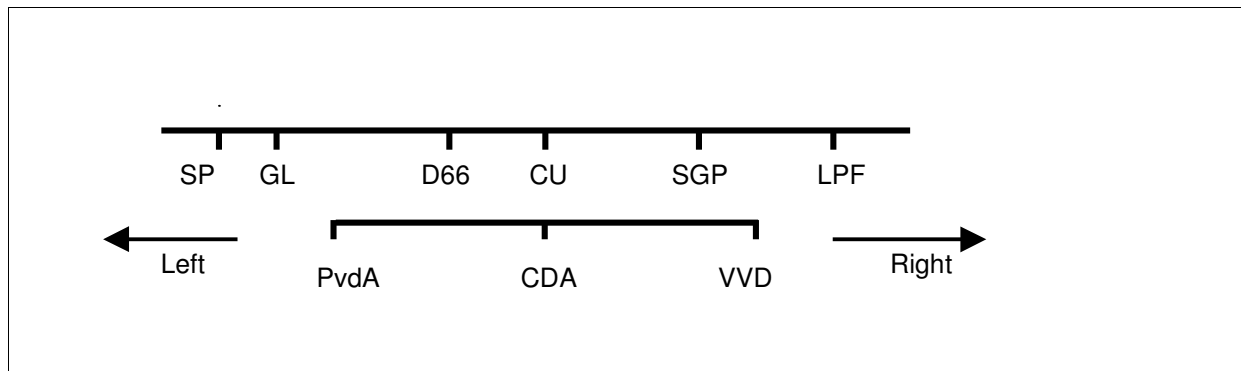
Under the first question all small parties are taken up, represented by their core issues. GL is market leader in environmental issues, the SP is champion of income levelling, the CU profile is mainly about ethical issues, the rationale of D66 is to renew the constitutional structure of the state, LN wants to curtail bureaucracy and the LPF is mainly associated with a no-nonsense approach to immigration and criminals. The purpose is to single out all voters who perceive one particular issue as of overriding importance and want to subscribe the rather radical proposition attached to that issue. This limitation to core issues does not imply that those parties are single-issue parties. Their party manifestos are equally comprehensive as of the major parties. The only assumption made is that the smaller parties are mainly associated with a well-defined topic on which they take a rather radical position, not shared by any other party. This is exactly the reason why the major parties PvdA, CDA and VVD are not included in question 1. They take a much less radical stance on these issues than the small party that is most outspoken on that issue. At the same time, there are no other issues or policy areas where the major parties take a radical position that is not superseded by another party. For instance, if the PvdA would be associated with a critical attitude towards the NATO, the CDA with a family-friendly policy (or a reassessment of norms and values) and the VVD with law and order, then it is possible to assign another party with an even more radical stance on these issues, to wit SP, CU and LPF, respectively.

Commentary on the second question

Under question 2 the traditionally major parties are presented. The purpose of this question is to find out which broad route social-economic policy must take. This is also the reason why the respondent is not asked to subscribe one of the propositions, but only to reveal which one he prefers most. Basically, it is a choice between three ideal types of welfare state: the social-democratic, the corporatist or the liberal welfare state. This corresponds with the classification of *The Three Worlds of Welfare Capitalism* (1990) of Esping-Andersen, which is in turn reminiscent of Tismuss' classification in *Social Policy* (1974) of the institutional redistributive model, the industrial achievement-performance model and the residual welfare model. The three options at question 2 represent a choice to reform the Dutch welfare state into a more social-democratic, corporatist or liberal variant. The PvdA favours an extended welfare state, with not only collective and tax-financed security covering all social risks, but also all kinds of arrangements to secure equal access and quality to primary goods as education, housing and health. The VVD prefers to leave as much as possible to the market, but acknowledge that the government must provide a minimum safety net. The CDA holds a position in the middle: social security must be more extended than only a basic arrangement, but less universal than in the ideal type social-democratic variant.

The Dutch political landscape

The small parties do not only distinguish themselves from the three traditional major parties by a more or less extreme or deviant stand on a particular subject. There is another peculiarity, which can be illustrated by means of the bars below in Figure 3.



The three major parties are placed in a left-right order ranking at the bar below and all the smaller parties on the bar on top. For this purpose it is not important whether the parties are located on a one-dimensional or a multi-dimensional party space, but only in the neighbourhood of which major party the small parties are located. As said before, the VoteFork assumes that the image of GL is linked with environmental issues, of SP with income equality or social justice, etc. even though these parties have well-informed views on all other kinds of issues. In principle it would be possible to have a party, say GreenRight instead of GreenLeft (GL), also in favour of a severe environmental policy, but as far as other issues are concerned shares the views of the right-wing party VVD. On the same footing, it is possible to have a party, say the Egalitarian Liberal Party inspired by the work *Sovereign Virtue: The Theory and Practice of Equality* (2000) of Ronald Dworkin, who is as much in favour of social justice and income levelling as the SP, but, like the VVD, prefers the free market and private entrepreneurship above state intervention. However, these parties do not exist.¹¹

What we see is that the small parties are situated in a well-defined manner vis-à-vis the major parties: the small parties are always located in the direct neighbourhood of the major party which is most akin to its core issue, which is also its main rationale. This is contrary to what might be expected. It is *prima facie* not logical that GL or SP are situated on the left-side of the political spectrum because voters who find a clean environment or social justice important are already served by the PvdA. To withdraw voters from the PvdA, these parties are, secondly, forced to take a more radical view on their core issue than they otherwise could have done in case they were situated in the neighbourhood of a major party which attaches relatively little importance to these issues. Still, we observe that all small parties whose image is connected to a well-defined topic (see the issue and propositions at the first question of the VoteFork) are located in the neighbourhood of the major party which has the closest affinity with that topic or core value. According to this regularity, we expect that the CU is situated near the CDA, because the CDA is in ethical issues the most familiar. The only exception might be D66, which does not have a well-defined place. The reason is that none of the major parties have bothered very much the last 35 years since the inception of D66 about renewal of the constitution and direct democracy. For instance, would the VVD have had more concern for this topic in the last decades, then, according to the above formulated hypothetical regularity, D66 would have shifted slowly towards the views on other topics of the VVD. In the next section both assertions are tested by means of the VoteFork.

¹¹ An obvious explanation is that such unorthodox parties are not viable, because its electoral support would be insufficient. Perhaps, but it need not be. Among the VVD-electorate there might be a larger group voters who are prepared to support a GreenRight party if it would defend, apart from environmental issues, real VVD-views than the size of electoral support for GL now.

7. The results of the VoteFork

The VoteFork was launched for the first time on the eve of the parliamentary elections of May, 15th 2002. After that the respondent to the VoteFork made his choice, either ticking a box at question 1 or at question 2, the VoteFork replies with the prediction of the party the respondent belongs to. E.g., if the respondent ticked the third box, the VoteFork replies with: “According to the VoteFork you vote CU. If this is not correct, please let me know which party you really vote for.” Only these wrong predictions were registered. Therefore, the fraction of the respondents where the VoteFork was right in its prediction is not known. In the last month before the elections, more than 1500 respondents made use of the facility to indicate that they vote another party than the VoteFork expects, based on their choice made at either question 1 or at question 2. In more than 40% (662 cases) one of the small parties was concerned (see Table 5A). The same was done for the parliamentary elections of 22 January 2003, with 879 wrong VoteFork-predictions (see Table 5B).

Table 5A. The distribution of wrong predictions over the parties (the two highest percentages are bold) of the VoteFork 2002.

	<i>SP</i>	<i>GL</i>	<i>PvdA</i>	<i>D66</i>	<i>CU</i>	<i>CDA</i>	<i>LN</i>	<i>VVD</i>	<i>LPF</i>	<i>Other</i>	<i>Total</i>	<i>Number</i>
SP	-	26	25	10	3	14	2	2	14	3	100	125
GL	32	-	16	13	3	10	2	9	12	4	100	101
D66	8	7	8	-	1	10	2	23	32	8	100	154
CU	2	6	0	4	-	33	2	6	21	27	100	52
LN	4	7	11	11	0	16	-	27	17	7	100	122
LPF	4	3	12	14	2	29	3	31	-	4	100	108

Table 5B. The distribution of wrong predictions over the parties (the two highest percentages are bold) of the VoteFork 2003.

	<i>SP</i>	<i>GL</i>	<i>PvdA</i>	<i>D66</i>	<i>CU</i>	<i>CDA</i>	<i>LN</i>	<i>VVD</i>	<i>LPF</i>	<i>Other</i>	<i>Total</i>	<i>Number</i>
SP	-	20	39	9	1	10	1	8	3	9	100	157
GL	22	-	32	18	0	5	2	9	3	8	100	102
D66	12	6	17	-	1	7	4	32	10	10	100	162
CU	4	2	7	2	-	36	4	9	5	31	100	55
LN	6	6	9	7	0	9	-	46	12	5	100	145
LPF	3	2	16	9	1	13	3	45	-	7	100	258

Vertical in Table 5A and B are the wrong predictions of the VoteFork to one of the smaller parties and horizontally the parties that the respondents say they really vote for. The column “Other” contains the SGP and all splinter parties which did not reach the electoral threshold. In the first row, 125 respondents are wrongly assigned to the SP. 26% of them indicated they vote for GL, 25% for PvdA, etc. A significant portion of the wrongly to the SP attributed voters really belongs to the PvdA, in conformity with the hypothetical regularity explained in the previous section, or GL and both left-wing parties. The same applies for the other small parties listed vertically. Perhaps only D66 does not seem to have a fixed location on the left-right spectrum, although the VVD comes on top.

Both Table 5A and B show that even though the VoteFork may assign a wrong political preference as far as the party is concerned, still a great majority of the wrongly assigned preferences are rightly placed as far as the distinction left-right is concerned. For instance, if SP, GL, PvdA and D66 are taken as left-wing parties, then 61% (Table 5A) and 68% (Table 5B) of the wrongly assigned votes to the SP belongs to one of the other left-wing parties. For GL it is 61 and 72%, respectively. In other words, there is an unknown fraction where the VoteFork is immediately right in appointing the party preference. Where the VoteFork is wrong, it is in a majority of cases still right in the partisan leaning of the respondent as far as the distinction left-right is concerned. Bearing in mind that the design of the interactive voting indicator as discussed in section 5 assumes that it must be possible to assess the major political orientation left or right with a limited number of propositions, these empirical findings corroborate this assumption. Note that the VoteFork must make a prediction about the party preference based on only one information item (namely the box that is ticked at either question 1 or question 2). Therefore, it is not exaggerated to expect that with five well-chosen propositions (and thus obtaining five information items on which a prediction of the partisan leaning left or right can be based), it must be possible to find out in tentatively 57% of all cases (corresponding to the chance p_1) whether the partisanship leaning of the respondents tends to be left or right. For a higher score of good predictions or voting advises, a second battery of propositions must be dedicated to find out whether the partisanship leaning tends to be extreme or just moderate (left or right). This second set of propositions should be able to increase the score to $p_2 = 69\%$. If political research would show that besides the left-right dimension other, independent, dimensions are relevant, e.g. the ethical dimension (with issues like euthanasia, homo-marriage, therapeutic cloning, genetic manipulation of food),¹² then the voting indicator must accommodate by including also a set of propositions belonging to that dimension. In this way, the underlying philosophy of the voting indicator is linked with and justified by corroborated political research on party-spatial models.

8. The design of the interactive voting indicator

In section 5 I argued that a voting indicator should work interactively and that, given that the left-right distinction is still considered as the main conflict-dimension in politics, it must first be ascertained whether a respondent's partisanship leaning is left or right and subsequently whether it is radical or not. For the sake of argument, suppose that in this manner 60% correct voting advises can be delivered. To improve this score even further, we must drop the limitation that voting advises of voting indicators are based on political *content* only. Besides political content it is useful to know which coalition the respondent prefers most, which party leader she prefers as prime minister, or which parties she evaluates as most (or least) reliable. If rather leftist voters indicate on this third set of questions that they prefer a centre coalition CDA-PvdA and prefer the party leader of the PvdA as prime minister, then it becomes very likely that they will vote for the PvdA, while they would probably vote GL or SP if they would have revealed a preference for a left-majority coalition.

¹² See Pellikaan & de Keijser (1998) 'Kamerleden in de publieke ruimte', in: Bovens et al., *Nieuwe tegenstellingen in de Nederlandse politiek*, Boom, 165-186 and Pellikaan (2001), *De noodzaak van een meetlat voor ruimtelijke modellen*, paper presented on the 'Nederlandse Kring voor Wetenschap der Politiek', who argue that a two-dimensional party-space is required to describe the Dutch political landscape adequately.

Likewise, a respondent for whom it is not clear whether she belongs to CDA or VVD according to the first two sets of questions, can much better be placed by means of the following revealed preferences: coalition CDA-VVD and as prime minister the party leader of the VVD. This kind of additional information, although it does not belong to the political content proper - the stuff that party manifestos consist of - can raise the score of correct voting advises further. By how much is dependent on the extent to which this kind of reasoning, varying from strategic voting (e.g. to make certain coalitions more likely), the popularity of party leaders to the perceived reliability of party or politicians, play a role in voting behaviour.

My final suggestion to improve the quality of voting advises is to make use in two ways of the political knowledge of the respondent (which requires a fourth set of propositions). The point is that as a rule voting indicators are too pretentious in expecting that they are better equipped, based on a limited amount of information, to determine the political preference than the voter, if the latter is politically interested or active in politics. A voter who knows the ideological profiles of the parties, or knows which views his favourite party holds with respect to important issues, will simply reject a deviant voting advice, because she attaches more value to her own judgement. The chance that extra information, in this case the voting advice, would change the partisanship, is small (and moreover, smaller than the fraction of wrong voting advises). However, for respondents who consider themselves as political laymen the voting advice can play a significant role, certainly if it is based on a balanced set of propositions. If they do not know much about politics, the voting advice can be the most important piece of information. In the end, this would mean that a voting advice is only of use for the politically layman, as illustrated in Table 6.

Table 3. The recommendation depends on the voters' political knowledge.

<i>Political knowledge</i>	<i>Voting advice vs. own preference</i>	<i>Recommendation</i>
Good	Identical	Own preference
	Different	Own preference
Reasonable	Identical	Own preference
	Different	Own preference
Bad	Identical	Own preference
	Different	Voting advice

There is no problem if the voting advice is in conformity with the own party preference. Respondents with reasonably or even high levels of political knowledge or interest will follow their own judgement, even if the voting advice turns out to be deviant. Only in the case where respondents in the fourth set of questions (testing the level of political knowledge) have shown themselves as laymen, the voting indicator is in the right position to give a serious voting advice based on the first three sets of questions. If the voting advice would be defiant for a well-informed voter, it would credit the voting indicator if it would reply with: "you know enough about politics, so we advice to follow your own judgement, even if the voting advice (which is party X) is defiant".

Additionally, the voting advice might have value for all floating voters. This may seem at first glance a meagre result, but we must bear in mind that both groups, ignorant and floating voters, form a significant part of the total electorate. It might also be expected that these two groups of voters,

contrary to the well-informed and non-floating voters, are mostly responsible for the notorious unreliability of opinion polls. Exactly for these groups the voting indicator is useful, not only for the voters, but also as additional information to opinion polls. This effect applies even stronger, the higher the share of the electorate that consults a voting indicator. The result that a voting indicator has its greatest use for politically laymen suggests that, especially at elections such as for the European Parliament in June, 10th 2004, where only a small minority of voters are well-informed, voting indicators can be an important tool to improve the democratic process.

The second way to make use of the political knowledge of the respondent is to ask on which policy areas she thinks she has well-considered views. The propositions from the first two sets falling under these areas should be given more weight in calculating the voting advice compared to other propositions.¹³ The idea is that someone who classifies herself as expert on particular matters will not vote for parties with contrasting views on these matters, but for parties which share the respondent's views.

9. Conclusion

This paper was entirely dedicated to so called voting indicators: internet applications that help and advice voters which political party to choose. In part I, probably world's most popular voting indicator, the *StemWijzer*, was analyzed. Applying validity tests and checking for overlap and discriminatory power, I argued that it is seriously flawed, maybe to such an extent that not much value can be attached to the voting advice. In part II, a framework for a new and onorthodox voting indicator was developed. The innovative features are that this voting indicator is multi-staged interactive and that it makes use of information which goes beyond political content only.

There is still a long way to go before voting indicators are sufficiently reliable to generate a reasonably high percentage of correct voting advises. More research is required, e.g. it might be a good idea to conduct an experiment in which a representative sample of the electorate and a group of political experts are subjected to a methodologically sound voting indicator. This experiment may provide useful information about which questions or propositions are well-chosen, how many political dimensions are required to locate voters and parties, what the quality of the voting indicator is and how it can be improved. The results of that investigation, combined with the criteria to comply with presented in Part I and the proposed multi-staged interactive voting indicator presented in Part II, might be a major step forward in constructing a reliable voting indicator. If in the future a sufficiently reliable voting indicator can be constructed, then the frequency of deviant voting advises to politically well-educated voters will become much less. In addition, political laymen can attach a higher value to

¹³ This would also solve the problem whether and if so, which, propositions must be given a higher weight. The Dutch *StemWijzer* leaves this decision to the voter. The disadvantage is twofold. Firstly, there is no sound criterion why a double weighting is appropriate (why not threefold, or on a scale from 1 to 10?). Secondly, what the voters deems important need not be important at all for the party which the voting indicator recommends. The Belgian voting indicator *Doe de StemTest* (literally: Do the Voting Test) chooses to weigh according to the relative importance parties attach to particular issues or policy areas. The disadvantage of this approach is the mirror image of above: what is important for a party might not be important at all for a voter. My solution to give a relatively higher weight to issues where the voter is well informed (e.g. because he works in say the health sector, or because he is an economist) does not make the assumption that this issue is more important for him or a party, but only that the expert opinion on these issues must be taken relatively more serious than other more

the voting advice. Then, a reinforcing effect is set in motion: well-informed voters will see their political preference affirmed by the voting advice, while laymen can attach a high value to the advice. The hypothetical endpoint of this process is that filling in the voting indicator constitutes the vote itself.

Figure 1. The spatial configuration of all parties based on all propositions.

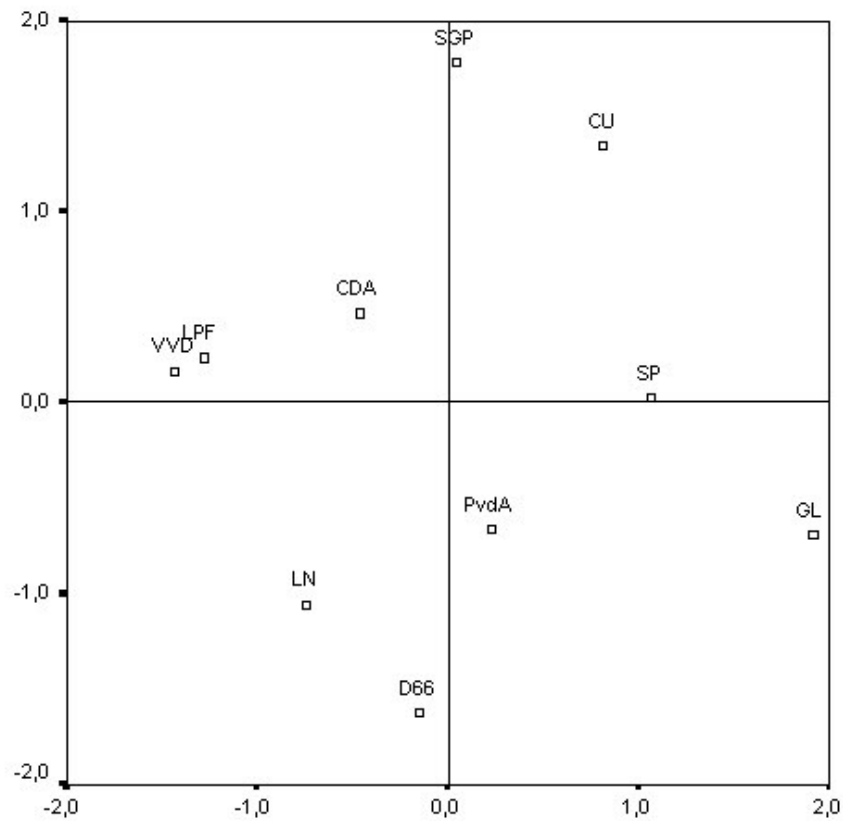


Figure 2. The spatial configuration of parties based on social

