Scandinavian Political Studies, Vol. 1 – New series – No. 1 1978
ISSN 0080-6757

Strategic Voting in Scandinavian Parliaments

Bo H. Bjurulf, University of Lund
Richard G. Niemi, University of Rochester, New York

Increasingly a case is being made that voting systems are highly manipulable – whether by strategic voting, agenda setting, or vote trading. Yet there exists little hard evidence on the actual extent of manipulation in real world settings.[1] To a large degree this lack of evidence is a result of voting methods that allow only partial recovery of individual preferences over multiple alternatives and of a natural desire of legislators not to publicize misrepresentation of preferences or strategic agenda setting. Yet if we are to understand the empirical relevance of recent advances in the theory of voting, attempts must be made to apply new theoretical work to real world voting situations. In this paper we attempt to do this for voting in Scandinavian legislatures.

Our major concern is with effects of the order of voting on legislative proposals and with strategic voting that takes advantage of existing voting orders. Two distinct approaches are used. First, we present a detailed analysis of three situations in the Swedish parliament in which strategic voting was relevant. From these we conclude that when manipulation occurs in the Swedish context, it is not by altering the order of voting or by the creation of new, confounding alternatives, but by using strategic voting to take advantage of existing voting circumstances. Second, we take a more sweeping but less detailed look at voting in the Scandinavian legislatures. It appears from this analysis that the major way in which strategic voting is avoided is by limiting the number of alternatives to two.

1. Voting Orders and Strategic Voting

That the order of voting on alternatives and strategic voting can by themselves affect outcomes is well known to specialists, but not necessarily to empirically oriented researchers. Thus we begin with a brief example which illustrates both of these effects. It will also serve to define terms which are used later.

Suppose for the sake of simplicity that there are only three voters and three alternatives and that the preference orders of the voters are as shown in Figure 1.

Scandinavian Political Studies, Vol. 1 – New series – No. 1 1978
ISSN 0080-6757

Strategic Voting in Scandinavian Parliaments

Bo H. Bjurulf, University of Lund
Richard G. Niemi, University of Rochester, New York

Increasingly a case is being made that voting systems are highly manipulable – whether by strategic voting, agenda setting, or vote trading. Yet there exists little hard evidence on the actual extent of manipulation in real world settings.[1] To a large degree this lack of evidence is a result of voting methods that allow only partial recovery of individual preferences over multiple alternatives and of a natural desire of legislators not to publicize misrepresentation of preferences or strategic agenda setting. Yet if we are to understand the empirical relevance of recent advances in the theory of voting, attempts must be made to apply new theoretical work to real world voting situations. In this paper we attempt to do this for voting in Scandinavian legislatures.

Our major concern is with effects of the order of voting on legislative proposals and with strategic voting that takes advantage of existing voting orders. Two distinct approaches are used. First, we present a detailed analysis of three situations in the Swedish parliament in which strategic voting was relevant. From these we conclude that when manipulation occurs in the Swedish context, it is not by altering the order of voting or by the creation of new, confounding alternatives, but by using strategic voting to take advantage of existing voting circumstances. Second, we take a more sweeping but less detailed look at voting in the Scandinavian legislatures. It appears from this analysis that the major way in which strategic voting is avoided is by limiting the number of alternatives to two.

1. Voting Orders and Strategic Voting

That the order of voting on alternatives and strategic voting can by themselves affect outcomes is well known to specialists, but not necessarily to empirically oriented researchers. Thus we begin with a brief example which illustrates both of these effects. It will also serve to define terms which are used later.

Suppose for the sake of simplicity that there are only three voters and three alternatives and that the preference orders of the voters are as shown in Figure 1.

Voter 1 prefers a_1 to a_2 to a_3	Voter 2 prefers a_2 to a_3 to a_1	Voter 3 prefers a_3 to a_1 to a_2

	First vote	second vote		winner under sincere voting
Voting order 1:	a_1 v. a_2	winner of 1st vote	v. a_3	a_3
Voting order 2:	a_2 v. a_3	winner of 1st vote	v. a_1	a_1
Voting order 3:	a_3 v. a_1	winner of 1st vote	v. a_2	a_2

Figure 1. Preferences and Voting Orders

The voting procedure is the 'amendment' procedure used in Sweden, Great Britain, and many former British colonies. Two alternatives are voted on with the winner of the first vote facing the remaining alternative.[2] If we assume that voters cast their ballots *sincerely* – i. e., they vote at each point for the alternative ranked higher in their preference ordering – it is easy to see that a_1, a_2, or a_3 could win depending on which voting order is used. Of course, voting order is not always a factor: but as this example shows, it can be a crucial determinant of which alternative is selected.

To see the effects of strategic voting, assume that the order of voting is the first one of Figure 1. Now suppose that on the first division Voter 1 votes for a_2 even though he prefers a_1 to a_2, and that Voters 2 and 3 vote sincerely. In this case a_2 will defeat a_1 by two votes to one. In the second vote no further strategies make sense, and a_2 will win.

Thus Voter 1, by voting contrary to his preferences in the first vote, secures an outcome more favorable to himself.

One other point needs to be made. The preferences illustrated are such that there is a 'cyclical majority': a_1 defeats a_2, a_2 defeats a_3, but a_3 defeats a_1. This is a 'true' cyclical in the sense that if all voters vote sincerely, each alternative is beaten by at least one other alternative in pairwise voting. This particular configuration of preferences may not occur very often. However, a 'strategic' circle – in which some voters, by strategic voting, create a cyclical majority – may nonetheless occur. In fact, this very device underlies two of the three cases analysed below. Thus even though the particular combination of preferences assumed in Figure 1 may not often occur, the implications of this situation for legislative voting are still important.

2. Strategic Voting in the Swedish Parliament

In the course of a larger study of legislative decision-making in Sweden during the 1920s and 1930s, a number of cases arose in which order-of-voting effects and strategic voting seemed especially relevant. Three of these cases are discussed here. The first revealed the existence of a cyclical majority, but it turned out that no strategic voting was used. In the second case a strategic circle was created to the benefit of the Social Democrats. In the third instance a similar tactic was attempted, but it backfired and the least preferred alternative was chosen. In none of these cases was there any overt attempt to manipulate the voting order.

Case 1: A true circle. Swedish Parliament, Chamber I, 1931.[3] The issue concerned plans for building the 'Karolinska' hospital in Stockholm. Three alternatives were put forward:

a_1: build the hospital as planned.
a_2: build the first stage as planned. Consider sharp cuts in the costs of additional sections.
a_3: do not build the hospital.

a_1 was the proposal of the legislative committee. Consequently, the first vote was between a_2 and a_3 with the winner facing a_1. The results of the votes were as follows:

a_2 versus a_3: a_3 won 46–41, with 63 abstained or absent.
a_3 versus a_1: a_1 won 54–16, with 80 abstained or absent.

Hence a_1 was chosen. As in most legislative situations, the third pair – a_1 vs a_3 – was not voted on. However, a reconstruction of the preference orderings of all the legislators present and voting suggests that a_2 would have beaten a_1 so that a true circle existed.

Complete preference orderings of some voters can be determined from the votes alone:

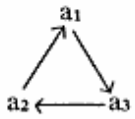
37 legislators voted for a_3 against a_2, and for a_1 against a_3. Their preference ordering is apparently a_1 a_3 a_2.[4]
10 legislators voted for a_2 against a_3, and for a_3 against a_1. Their preference ordering is apparently a_2 a_3 a_1.
14 legislators voted for a_2 and abstained on the second vote. Their preference ordering is apparently a_2 (a^1 a^3), where the parentheses indicate a tie between a_1 and a_3.

6 legislators voted for a_3 both times. Since these legislators favored no expenditure at all, we conclude that they preferred a smaller expenditure (a_2) to a larger one (a_1).
Hence their preference ordering is a_3 a_2 a_1.[5]
3 legislators voted for a_3 but were absent for the second vote. For these legislators we know that a_3 is preferred to a_2, but their preference for a_1 cannot be determined.

The remaining 17 legislators voted for a_2 against a_3 and for a_1 against a_3. Clearly they least preferred a_3, but we cannot determine from the vote their preference between a_1 and a_2. However, an analysis of the debate leads to the conclusion that they preferred a_2 to a_1. For example, one Social Democrat stated: 'I have two points of view. First that the hospital shall be built . . .

My second point of view is that we must build according to the cheapest system . . . I propose that [a_2] shall be the decision of the parliament' (O. Olson, SPR 1931: Ch. I: 40, 66). Support for this statement was registered by two other Social Democrats and one Liberal.[6] Thus we conclude that the preference ordering of these 17 legislators is a_2 a_1 a_3.[7]

Assuming these preference orderings are correct, a_2 would have beaten a_1 by a vote of 47–37 (the votes of the 3 legislators who were absent on the second vote could not affect the outcome). Hence there is a true circle:



In this particular case no strategic voting was apparently utilized, though it would have been possible. For example, if the 6 legislators with the preference ordering a_3 a_2 a_1 had voted for a_2 on the first vote, a_2 would have been the final outcome. Nor was there any strategy apparent in selecting the voting order: a_1 was voted on last because it was the committee proposal. Nonetheless, the voting order clearly affected the outcome. For example, if a_3 had been voted on last, it would have been selected. Hence this case illustrates a situation in which voting strategies and voting order were important, though no advantage was taken of that fact.

Case 2: A strategic circle. Swedish Parliament, 1934. The issue concerned the rate of expansion of the Swedish telephone and telegraph company. Three alternatives were put forward:

a_1: Spend 12.35 million Swedish crowns for expansion.
a_2: Spend 11.35 million Swedish crowns for expansion.
a_3: Spend 10.35 million Swedish crowns for expansion.

It was stressed in the debate that the only difference between the alternatives was the rate of expansion. This fact, along with the committee report, minority reports, committee voting, and information about the 1932 election, makes it relatively easy to derive complete preference orderings for the major parties and a partial preference ordering for the smaller parties.

a_1 was the Social Democrat governmental proposal. It was backed by all of the Social democrat representatives on the legislative committee considering the issue (11 members out of a total of 24). In addition, the Social Democrats campaigned heavily in 1932 for large governmental expenditures to lessen unemployment. This specific proposal for expansion of the telephone and telegraph company was presented mainly in terms of its impact on unemployment. Thus it seems unambiguous that the preference ordering of the Social Democrats was a_1 a_2 a_3.

a_3 was the Conservative alternative, backed by all of their committee representatives (7 out of the 24 committee members). This alternative was presented specifically in terms of low expenditure and was based on the Conservatives' 1932 election campaign, which emphasized small governmental expenditures. Thus the Conservatives' preference ordering also seems unambiguous: a_3 a_2 a_1.

a_2 was the supposed compromise solution. This fact was explicitly stated in the debate. This alternative was backed by 4 of the 6 committee representatives from the Farmers' and Liberal parties (their other 2 representatives being absent). It is clear from the debate not only that the Farmers and Liberals preferred the compromise solution, but also that they realized that they could swing the vote either way if the Social Democrats voted for a_1 and the Conservatives for a_3. The Liberals' and especially the Farmers' preferences between a_1 and a_3 are unclear. In fact, they themselves may have been unsure about their preference between these two alternatives since in voting they sometimes favored one and sometimes the other. Fortunately, this ambiguity does not prevent us from drawing important inferences about the voting strategies used.

If these were in fact the preference orderings of most party members, then a_2 could clearly gain a majority over either a_1 or a_3. Neither the Social Democrats not the Conservatives had an absolute majority in Parliament. Consequently the Social Democrats plus the Farmers and Liberals would be a majority in favor of a_2 over a_3 and the Conservatives plus the Farmers

Table 1. Chamber I, Swedish Parliament, 1934. First and Second Votes on the Rate of Expansion of the Swedish Telephone and Telegraph Company.

Chamber I (1st vote)	a_3	a_2	abstained	absent
Social Democrats	41	6	0	14
Conservatives	31	5	0	10
Farmers	0	16	0	3
Liberals	1	12	0	4
Others	1	3	0	3
	74	42	0	34

Chamber I (2nd vote)	a_1	a_3	abstained	absent
Social-Democrats	47	0	0	14
Conservatives	0	37	0	9
Farmers	3	10	0	6
Liberals	4	9	0	4
Others	2	2	0	3
	56	58	0	36

and Liberals would be a majority in favor of a_2 over a_1. Yet, as we shall see, a_2 was not the final outcome.

In both Chambers a_1 was put last in the voting order since it was the committee proposal. On the first roll call, a_3 defeated a_2 in both Chambers, by a rise vote in the Second Chamber and by a 74–42 margin in the First Chamber. The results of this roll call by party are given in Table 1.[8]

As expected, the Farmers and Liberals solidly backed a_2, and the Conservatives voted heavily for a_3. But the Social Democrats also voted heavily for a_3. This vote by the Social Democrats in favor of a proposal which would tend to increase unemployment was completely contrary to their arguments in both the debate and the committee report. It is very likely that this vote in the First Chamber, and a highly probable corresponding vote in the Second Chamber (not recorded), was a sophisticated move to eliminate a_2.

Thus a sophisticated vote by the Social Democrats put a_3 against a_1 in the second vote. If a_3 won, the strategic vote by the Social Democrats would have backfired with a Conservative victory. This in fact seemed to be the case in the second vote in the First Chamber (Table 1).

In the Second Chamber, however, a_1 was carried by a rise vote. Since the Chambers had reached different decisions on a question of expenditure, a joint vote was taken several weeks later (Table 2).

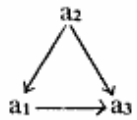
Table 2. Chambers I and II, Swedish Parliament, 1934. Joint Votes on the Rate of Expansion of the Swedish Telephone and Telegraph Company.

	a_1	a_3	abstained	absent
Social Democrats	53	0	3	5
Conservatives	0	38	0	8
Farmers	12	4	1	2
Liberals	1	13	0	3
Others	1	1	0	5
	67	56	4	23

Chamber II (joint vote)	a_1	a_3	abstained	absent
Social Democrats	88	0	3	11
Conservatives	0	48	0	10
Farmers	17	8	5	6
Liberals	7	15	0	2
Communists	5	0	0	5
	117	71	8	34
Joint vote	184	127	12	57

a_1 was carried and the sophisticated vote by the Social Democrats succeeded in bringing about their first choice rather than the compromise solution.

We conclude that the *sincere* majority relations were:



The Social Democrats, however, created a *strategic circle* through their vote in favor of a_3 against a_2:

With this strategic circle, and a_1 last in the voting order, a_1 would be carried unless there was some sort of deal made between those in favor of a_3 (the Conservatives) and those with the preference ordering a_2 a_1 a_3 (at least some of the Farmers and Liberals) to induce the latter to vote for a_3 over a_1. Since there was no such deal, the Social Democrats gained their

first choice. However, in the next case it is probably this kind of deal which made a strategic circle backfire.

Case 3. A strategic circle that backfired. Swedish Parliament, 1927. The issue concerned an appropriation for the voluntary riflemen's association. Three alternatives were put forward:

a_1: Appropriate 500,000 Swedish crowns
a_2: Appropriate 470,000 Swedish crowns
a_3: No appropriation

The difference between a_1 and a_2 was an extra appropriation for young riflemen between 12 and 15 years of age.

a_2 was the committee report and was supported by the five Liberals and two Farmers: it was also the Liberal government proposal. a_3 was the Social Democrat minority report, supported by their eleven committee members. a_1 was the Conservative minority report, supported by their eight committee representatives. The controversy over a_1 was not the additional amount of money involved per se, but whether money to support a riflemen's association ought to be appropriated for such young people.

The preference orderings of the Social Democrats and the Conservatives were very clear and diametrically opposed. The Social Democrats had the preference ordering a_3 a_2 a_1, while the Conservatives had the rank ordering a_1 a_2 a_3. The Farmers, judging from the debate and the votes, seemed clearly to have the rank ordering a_2 a_1 a_3. The Liberals, however, complicated things. It is clear that many Liberals were unhappy with the appropriation to young riflemen. Prime Minister Ekman, for example, observed in the debate that 'attention has been drawn to the fact that among these riflemen are a number of children between 12 and 15 years of age – here called young men, but schoolchildren probably more appropriately. To drag children of that age into the riflemen's association and on to the rifle grounds would seem questionable. We think that various arguments can be made against this, and what is certain is that one of the reasons for a certain animosity from numerous quarters [toward the appropriation] is just the fact that these young pupils are dragged into it . . .' (SPR 1927: CH I: 18, 25). Thus it seems very clear that the Liberals preferred a_2 to a_1: their view on a_3 was more ambiguous. What is most important, and what seems most clear, is that most of the Liberals (especially the Liberals (f)[9]) preferred a_3 to a_1. We have already noted the Prime Minister's unhappiness with the appropriation to young riflemen. Other

quotations give further support to the view that in a showdown many Liberals would vote for a_3 over a_1. They recognized that if a_1 was put against a_3, a_3 might very well win because Liberal support added to that of the Social Democrats would be just enough to form a majority against the Conservatives and Farmers. Later in the speech quoted from above, the Prime Minister said that 'I think also, that this view [against a_1] is of such importance that by backing that alternative you might risk the entire appropriation.' Another Liberal representative noted that 'Mr Trygger [the Conservative leader] finished his speech by saying that all arguments favored Widell's minority report [a_1]. It would seem to me as if Trygger, as an old parliamentary tactician, should not overlook what has been pointed out by Mr Pers [Liberal (f)] and the Prime Minister, the risk involved in supporting this proposal. This risk will obviously appear in the last race [the joint vote].

An old saying is "little strokes fell great oaks." There might be reasons to avoid the little strokes' (Bergstrøm, SPR 1927: CH. I: 18, 29f.). Thus it seems reasonable to conclude that at least enough Liberals preferred a_3 to

Table 3. Chamber I, Swedish Parliament, 1927. First and Second Votes on the Appropriation for the Voluntary Riflemen's Association.

Chamber I (1st vote)	a_1	a_3	abstained	absent
Social Democrats	0	28	12	12
Conservatives	36	0	0	10
Liberals (f)[9]	2	15	1	5
Farmers	7	0	0	9
Liberals (l)[9]	3	3	0	2
Communists	0	1	0	0
Others	0	0	0	4
	48	47	13	42

Then a_1 was put against the committee report a_2, and a_1 was again carried.

Chamber I (second vote)	a_2	a_1	abstained	absent
Social Democrats	2	1	36	13
Conservatives	2	33	0	11
Liberals (f)	17	0	1	5
Farmers	7	1	0	8
Liberals (l)	4	2	0	2
Communists	0	0	1	0
Others	0	0	0	4
	32	37	38	43

Table 4. Chamber II, Swedish Parliament, 1927. Second vote on the appropriation for the voluntary riflemen's association.

Chamber II (2nd vote; 1st vote was oral)	a_2	a_3	abstained	absent
Social Democrats	1	70	4	30
Conservatives	47	0	3	15
Liberals (f)	9	8	3	8
Farmers	11	0	2	10
Liberals (l)	4	0	0	0
Communists	0	3	0	1
Others	0	0	0	1
	72	81	12	65

a_1 to swing a vote between these alternatives in favor of a_3. From the votes and the debates, it is probably the case that most Liberals (especially in Chamber I) preferred the ordering a_2 a_3 a_1. However, a number of Liberals (especially in Chamber II) appeared to hold a preference ordering a_3 a_2 a_1. Note, however, the important point that in both cases a_2 and a_3 were both preferred to a_1.

Strategic considerations were relatively complicated because of differences between the two chambers and the procedure for a joint vote when the two chambers differed on an expenditure question. Initially, two roll call votes were held in the First chamber, with a_2, the committee proposal, voted on last (Table 3). The first vote was between a_1 and a_3, with a_1 carried.

In the Second Chamber, a_1 was put against a_3, and a_3 was carried by a rise vote. Then a_3 was put against a_2, and a_3 was again carried, this time by a roll call vote (Table 4).

Several weeks later the joint vote was taken between the alternatives that had won in each Chamber, with a_1 emerging victorious (Table 5).

What seems to have happened in this complicated maneuvering is the following: without any strategic voting, a_2 would most likely have won in Chamber I and a_3 in Chamber II, and a_2 in a final joint vote. This is, in principle, what had happened in each of the past five years. But the Social Democrats knew that this time many Liberals were unhappy about the proposed appropriation to young riflemen. This fact was underscored in the Chamber I vote between a_1 and a_3 where fifteen Liberals (f) and three Liberals (l) voted in favor of a_3. Knowing this, 12 Social Democrats abstained in the first vote in Chamber I so that a_1 defeated a_3. Then in the second vote between a_2 and a_1, 36 Social Democrats abstained, with the

Table 5. Chambers I and II, Swedish Parliament, 1927. Joint Votes on the Appropriation for the Voluntary Riflemen's Association.

Chamber I (joint vote)	a_1	a_3	abstained	absent
Social Democrats	0	48	1	3
Conservatives	44	0	0	2
Liberals (f)	20	1	1	1
Farmers	16	0	0	0
Liberals (l)	7	0	1	0
Communists	0	1	0	0
Others	3	0	0	1
	90	50	3	7

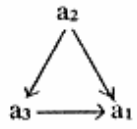
Chamber II (joint vote)	a_1	a_3	abstained	absent
Social Democrats	0	102	0	3
Conservatives	64	1	0	0
Liberals (f)	15	11	1	1
Farmers	23	0	0	0
Liberals (l)	4	0	0	0
Communists	0	4	0	0
Others	1	0	0	0
	107	118	1	4
Joint vote:	197	168	4	11

result that a_1 was carried. What the Social Democrats were apparently counting on was that in the joint vote the Liberals would mostly favor a_3 over a_1 as they had in the first vote in Chamber I.[10] If the Liberals had voted this way in the joint vote, then a_3 would have been carried and the Social Democrats would have obtained their first choice. Instead, what happened was that a_1 was carried in the joint vote. Hence the alternative which was surely the one least preferred by a majority of the deputies became the final outcome. If the Social Democrats had not abstained in the second roll call in Chamber I (or even in the first vote in Chamber I), a_2 would have been paired against a_3 in the joint vote, and a_2 would have been carried, as it had been for five previous years. Since the Social Democrats clearly preferred a_2 to a_1, their sophisticated voting backfired.

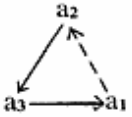
What we have not explained so far is why their sophisticated voting backfired. The explanation lies in the Liberals' switch from voting for a_3 over a_1 in the first roll call in Chamber I to voting heavily for a_1 over a_3 in the joint vote. The explanation for this switch is very probably some sort

of deal made with the Conservatives and the Farmers prior to the joint vote. We base this conclusion on the fact that the next year, 1928, the sum appropriated for the voluntary riflemen's association was 440,000 Swedish crowns, with no dissenting alternative from the Conservatives.[11] The appropriation included nothing for riflemen between 12 and 15 years of age. Thus, the situation seems to have been that the Liberals, faced with the alternative of no appropriation or one that included the appropriation to the very young, would support the appropriation with the understanding that the Conservatives and Farmers would not bring up this proposal again the following year (SPR 1928: CH. II, 14–76).

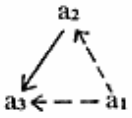
We conclude that for the two Chambers taken together, the sincere majority relations were as follows:



By their abstentions, the Social Democrats created a strategic circle as follows:



If a_1 could defeat a_2, then a_3 would win in a final vote. However, through the assumed deal between the Liberals and the Conservatives and Farmers, a new strategic arrow was created which turned a_1 into the ultimate winner, and the strategic move by the Social Democrats backfired:



These examples show that strategic voting does exist, although it is not always successful and is not always undertaken when it could be. They are especially useful cases because sufficient detail exists for us to be quite confident about what really happened. Nonetheless, by themselves they do not give us a very adequate picture of how frequently strategic voting is or can be used. The broader but less detailed analysis in the next section addresses this question.

3. Strategic Voting in Scandinavian Legislatures

Legislative voting in Sweden, Finland, Norway, and Denmark was analysed for selected years: Sweden, 1925–38, 1957–58; Finland, 1957–59; Norway, 1969–74; Denmark, 1960–73. The time periods chosen were primarily those years with minority governments. It is during such periods that strategic voting is most likely to occur since no single party or governing coalition controls a majority of seats. Even with majority government, however, strategic voting is a possibility whenever voting is not strictly along party lines, and three or more alternatives exist.

Enough cases were uncovered in which strategic voting was likely that the kind of detailed analysis provided in section II was prohibitive. Thus we cannot be sure that strategies were or were not involved on any particular roll call during this period. However, a general assessment was made by carefully reading the legislative record surrounding each situation in which roll calls involved three or more alternatives. In Sweden and Finland, where there were more such cases, an assessment was also made of the party balance and of legislative decision-making in general. Moreover, an important piece of information is simply the number of times three or more alternatives were involved at the roll call stage. Thus we feel quite confident that our results yield a generally accurate overview of the existence of strategic voting on roll calls in these countries.

In Sweden strategic manipulation was almost exclusively like that discussed in Case 2 above. That is, the Conservative alternative was used by the Social Democrats to eliminate the Liberal and/or the Farmers' centrist alternative. Rather surprisingly even to us, this type of strategic voting may well have been used in a majority of the situations in 1957–58 in which more than two alternatives remained at the roll call stage.

In contrast, it is our impression that strategic voting was less frequent, though not uncommon, in the period 1925–38.[12] The explanation for this difference is probably the extent to which this kind of strategy relies on the voting order and on predictability of party preferences. Since the Social Democrat party in 1957–58 was consistently larger than any combination of two of the three bourgeois parties, it could (when there were more than two alternatives) usually count on its own alternative being last in the voting order. If a centrist compromise alternative is put forward in this situation, the strategy of trying to defeat it on the first ballot is relatively straightforward. Even then, however, the Social Democrats had to be confident that their proposal could defeat the right-wing proposal. Thus appropriate party sizes and predictability of preferences are key determinants of frequency of strategic manipulation. In the more fluid situation of

the late 1920s and early 1930s in Sweden, conditions were less favorable to strategic voting. Governments and party coalitions changed – Social Democrat minority governments 1925–26, 1932–36; Liberal minority governments 1927–28, 1931–32; a Conservative minority government 1929–30; a Farmers' minority government 1936; and a majority coalition between the Social Democrats and the Farmers 1936–38. Moreover, party loyalty was weaker in 1925–38 than in the 1950s and 1960s (Sköld, 1950; Sandström, 1958; Bjurulf, 1972).

Consistent with the evidence from this earlier Swedish period, the Finnish situation in 1957–59 reminds us that strategic voting is present, though somewhat less frequently, when conditions are unstable. During these few years the Finns experienced a majority government based on a coalition of the Social Democrat, the Agrarian, the Swedish People's and Finnish People's parties, a minority government based on the Agrarian and the Finnish People's parties, a government with no direct parliamentary support, a majority government based on a coalition of the Social Democrats, the Swedish People's party and the Agrarians, and a minority government headed by the Agrarians. Despite these changing circumstances the use of Conservative proposals by the Social Democrats to eliminate what appeared to be majority proposals by the Agrarian and the Finnish People's party were quite frequent. In addition, the tables were sometimes turned when the Agrarians and the Finnish People's party used the Communist proposal to eliminate a Social Democrat proposal. This course, essentially the same kind of strategic maneuvering. What made it possible, however, was a voting order in which the Agrarian and Finnish People's party proposal was last. This meant that the Social Democrat alternative faced the Communist alternative in a preliminary vote. By strategically voting with the Communists, the middle parties eliminated the Social Democrat proposal and then went on to support their own proposal over the Communist. In addition to these cases of apparent strategic voting, the circumstances in the Finnish parliament also suggest that 'true' circles were occasionally present, although no advantage was taken of them. A few cases also exist in which complicated maneuvers (or perhaps strategies that failed) seem to have been undertaken. This is not surprising given the complex situation in which the parties found themselves.

These results from Sweden and Finland might give the impression that strategic voting is more the rule than the exception in these parliaments. It is not. In both countries most roll calls involve situations with only two alternatives. During the 1925–38 period in Sweden, roll calls were taken

approximately 1,000 times. Of these cases only 46 involved more than two alternatives.[13] Multiple-alternative situations were more frequent in 1957–58, but even then only 41 of 388 roll call situations in the second chamber included three or more alternatives. The Finnish data for 1957–59 are not much different. Of 1245 situations where roll calls were taken, only 104 involved three or more alternatives. Thus the possibility of strategic voting at the roll call stage simply does not exist in as many as 90% or more of the cases. However, when three or more alternatives do remain, strategic manipulation appears to be quite frequent, especially under favorable conditions.

The elimination of all but 2 of the alternatives is even more characteristic of Norway and Denmark, so much so that strategic voting at the roll call stage appears to be almost nonexistent for the periods examined. Parliamentary voting in these two countries is by the 'successive' procedure, in which alternatives are voted on one at a time until some alternative receives a majority vote (or all the alternatives are exhausted). This procedure is vulnerable to voting order effects even when voting is sincere and one alternative can beat all others in pairwise voting. Unless a majority alternative also has a majority of first place preferences, it can lose. This fact would seem to create considerable uncertainty in cases with three or more alternatives. Uncertainty, in turn, would make legislators reluctant to permit more than two alternatives in the final voting process.

In fact, in Norway we found only one case in 5 sessions where more than two alternatives were voted on, despite a total of almost 1,000 roll calls. In Denmark the situation is somewhat more complicated. It is, however, our impression from available data (1960–73) that the number of cases in which more than two alternatives remained at the roll call stage was very small. In these few instances the unmistakable tendency was first to eliminate those alternatives with the least first place preferences. This would probably minimize the possibility of strategic voting – though given the right circumstance, strategic voting could still be involved.

Thus the use of the highly vulnerable successive procedure seems to pressure legislatures into resolving differences prior to the final voting stage. Of course, strategic maneuvering at earlier stages may be just as frequent as on roll-call voting in legislatures using the amendment procedure, but it is much less visible.

4. Conclusion

Riker (1965) has argued that contrived instances of the paradox of voting (cyclical majorities) are probably a frequent occurrence on legislative bills of great importance. Though we have not restricted ourselves to important bills, our results support the proposition that many instances of the paradox are contrived. But there is an important difference between the two arguments. In Riker's examples, taken from the largely two-party United States, the strategic maneuver was the introduction of a third alternative which created cyclical majorities when the legislators voted sincerely among the three proposals. In contrast, our results suggest that parties in Sweden and Finland simply take advantage of existing situations where the multiparty system has generated more than two major proposals. There is no evidence to suggest that one party introduced a third alternative simply to defeat a proposal that otherwise would have passed.

Instead of introducing new alternatives into the voting, the Swedish and Finnish parties have created cyclical majorities by strategically voting against their own preferences. In most of the instances there probably was a single alternative which could have defeated all of the others in pairwise voting if voting were sincere. But the creation of strategic circles had the effect of defeating that alternative, typically to the benefit of the Social Democrats. Thus many if not most of the instances of the paradox may be contrived, but the mechanism in multiparty situations may be strategic voting rather than the strategic introduction of new alternatives.

It should also be noted that party strategies do not involve overt manipulation of the voting order. Of course parliamentarians know what the voting order will be and whether they can take advantage of it. For example, if the Social Democrats are the largest party and can make their alternative the committee proposal, then it will usually be last in the voting order and no later manipulation of the voting order need be attempted. Perhaps for this reason, parties simply take advantage of known rules for determining voting order, or simply vote strategically when the voting order is to their advantage. Juggling voting orders, as might be done in less structured situations such as ad hoc committees, is not done.

Finally, our analysis also suggests how the potentially disruptive circumstances of strategic voting are minimized. Limiting the number of alternatives to be voted on to two effectively prohibits strategic voting (though of course it may only move strategic maneuvering one step backwards in the legislative process). This may be especially important in legislatures using the successive procedure or in legislatures in which circumstances are conducive to strategic moves. In any event, it seems

clear that when the opportunity arises in multiparty legislatures, manipulation of voting systems via the creation of strategic circles is more than a theoretical possibility. It is a frequent occurrence.

NOTES

1 For examples of such manipulations, see Riker, 1958, 1965; Bjurulf, 1972a:15; Plott and Levine, 1975.

2 For specific examples of what the alternatives might be, see the cases examined in Section II. Note especially Case 3 in which none of the alternatives is regarded as the status quo, so any order of voting would make sense.

3 In Chamber II, the issue was decided by a rise vote (on which the votes of individual legislators are not recorded). Hence only the first chamber is considered in this example.

4 It is possible that some legislators voted strategically for a_3 over a_2, which would make this like the second case below. However, there is no evidence to suggest that this was so. Moreover, it is very unlikely that there was a coordinated strategy by the thirty-seven since they were from three different parties, each of which was divided on this issue. It should be noted that such party splits were not unusual in 1931. Except for the Farmers', who were more cohesive, over 20 per cent of the legislators deviated from the party line on 30 per cent or more of the roll calls (Bjurulf, 1972, p 149).

5 In addition, their preference for a_2 over a_1 is supported by the debate, in which one of the six (a Liberal) stated, 'I don't want to be jointly responsible for this gigantic project . . . which will be old-fashioned when it is finished (Rosén, SPR 1931, ch I, 40: 62). Two others among the six (both Social Democrats) registered their support for this statement.

6 No Conservative registered support for this statement, probably because it was contrary to the strong position taken by the party leaders. Nonetheless it is clear (from the vote on a_2 vs. a_3) that Conservative opinion was split.

7 It is conceivable that the nine Conservatives had the preference ordering a_1 a_2 a_3, but the debate makes it just as likely that they held the preference ordering indicated in the text. In any event, even if these Conservatives split evenly between a_1 and a_2, or if they are left out entirely, a_2 still beats a_1, which is a crucial factor for our argument below.

8 We cannot explain the vote of the 5 Conservatives for a_2 (or the six Social Democrats who voted for a_2, assuming the others were voting strategically). Fortunately, these 5 votes would only strengthen the majority in favor of a_2.

9 Sweden had two liberal parties between 1923 and 1934. The main difference between the parties was that the Liberals (f) wanted prohibition and the Liberals (l) did not.

10 As noted, the Second Chamber could be counted on to carry a_3, resulting in the need for a joint vote. As if further confirmation were needed, it was provided in the middle of the Chamber debate, when it was announced that the Second Chamber had again passed a_3 (SPR 1927: ch I, 18; 29).

11 The Social Democrats and some Liberals still proposed and voted for no appropriation.

12 Rustow (1955, p. 194) claims that strategic voting is 'standard practice' in Sweden. He cites Louis de Geer (1892, II, p. 31f), who recalls an example from the 1865 session of the estates, which preceded the modern parliament. De Geer found such tactics 'difficult to reconcile with my conscience', but he felt that they had already become customary. Our results suggest that strategic voting may have been standard practice in 1957–58, but not in 1925–38. And, as we suggested earlier, strategies like those described here are probably far less likely to occur when one party controls a majority of the parliamentary seats.

13 The roll calls from the First Chamber 1925 and 1926 and from both Chambers 1929, 1935 and 1937 are not included.

REFERENCES

Bjurulf, B. H. 1972. 'Från minoritetsparlamentarism till majoritetskoalition, en studie av riksdagens rösträkningar 1925–38', *Statsvetenskaplig Tidskrift*, Vol. 75, pp. 125–188.

Bjurulf, B. H. 1972a. Parlamentariska voteringsmetoder, Statens offentliga utredningar (SOU), 1972: 15 bil 14.

De Geer, L. 1892. *Minnen 1–2*. Stockholm: P. A. Norstedt & Söner.

Plott, Ch. R. and Levine, M. E. 1975. 'On Using the Agenda to Influence Group Decisions: Theory, Experiments, and An Application', unpublished paper, California Institute of Technology.

Riker, W. H. 1958. 'The Paradox of Voting and Congressional Rules for Voting on Amendments', *American Political Science Review 52*, pp. 349–366.

Riker, W. H. 1965. 'Arrow's Theorem and Some Examples of the Paradox of Voting', in *Mathematical Applications in Political Science*. Dallas: The Arnold Foundation.

Rustow, D. 1955. The Politics of Compromise; Princeton: Princeton University Press.

Sandström, R. 1958. 'Partiernas inre liv', *Liberal debatt*, Vol. 11, pp. 12–16.

Sköld, L. 1950. 'Partisammanhållningen i riksdagen', Tiden, Vol. 42, pp. 278–285.

SPR: Swedish Parliamentary Record, annual.