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A small country in Europe's integration

Generalizing the political economy of the Danish case

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Abstract: A contract between a small country and a large organization is analyzed using an Edgeworth-Box. The population of the country is divided into two groups: people and elite. The contract has two explicit parameters: an exchange of sovereignty and a net transfer. A small country is defined as one where people consider the power they get in the organization to be infinitesimal. The elite recognizes that they get a net power gain. Further, there are two implicit parameters, the big-country advantage and some new rents. It is shown that the lens for the elite is much larger than the lens for the population. In a dynamic integration process the contract will inevitably leave the lens. It is finally discussed if it is likely that the resistance of people will erode over time.

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Jel.: F15, F42, D72

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1. Introduction: the small country problem

The following presents a simple model explaining some stylized facts about the behavior of small countries in big unions. It is done by considering the Edgeworth Box for a (voluntary) agreement between a small country *Sland* and a big organization, *Org*. The model is fairly general, and it is illustrated by the case of Denmark in the EU. Large discussions of the matters considered have ranged in the media in all small EU-countries, but few efforts have been made to make a consistent theory.[1)] The model has other uses as will be briefly sketched in Section 4.5. The introduction first looks at the two main facts explained, and then a small introduction is given to the case.

The rest of the paper proceeds as follows: Section 2 deals with the setup of the analysis. Section 3 considers the gap between the elite and the population, while Section 4 put the model together, and considers several possible cases. Section 5 discusses the long-run dynamics of the union, and the possibility that the resistance of the population of Sland to the organization will erode over time. Finally, Section 6 concludes as regards the longer run.

Table 1. EU membership and country size

Countries and their sizes			Membership status		
No	Country	Population	Original	Joined	EURO
1	Germany	82.7	Founder		
2	UK	59.5		1972	Outside
3	Italy	57.5	Founder		
4	France	55.1	Founder		
5	Spain	39.8		1986	
6	The Netherlands	15.9	Founder		
7	Greece	10.6		1981	1 year late
8	Belgium	10.3	Founder		
9	Portugal	9.8		1986	
10	Sweden	8.9		1994	Outside
11	Austria	8.3		1994	
12	Switzerland	7.4		Never	- - - -
13	Denmark	5.3		1972	Outside
14	Finland	5.2		1994	
15	Norway	4.4		Never	- - - -
17	Ireland	3.7		1972	
16	Luxembourg	0.43	Founder		
18	Malta	0.38		Never	- - - -
19	Iceland	28		Never	- - - -

1. My efforts suffer from the problems of pioneering efforts. Hopefully the reader will forgive a few loose ends and the fact that I mostly manage to formalize and join up well-known insights. The formalization is mainly graphical. I deal with large issues and make several heroic guesses giving orders of magnitudes where serious estimates do not exist. Such guesses are illustrations presented with no references. On the political economy of the EU, see Vaubel, 1994)

1.1 Two stylized facts

The starting points of the analyses are two facts about the European Union:

F1. EU is less popular the smaller the country is.

F2. EU is (much) more popular in the elite of a country than in the population at large.[2)] The model predicts that the gap between the elite and people is larger the smaller the country.

Fact 1 is illustrated by Table 1. Western Europe has a total of 19 countries that could be members of the EU.[3)] It appears that for all dimensions of membership the probability of being outside/joining late is larger the smaller the country is.[4)]

Fact 2 will not be documented at present. The evidence for the countries I know is strong, but it has appeared in newspaper articles, that does not allow a simple summary. In Denmark app 50% of the people but more than 80% of the members of the Parliament are for the EU. I know of no other similarly large and persistent gap between people and elite.

1.2 The case of Denmark in the EU [5)]

Denmark has the institution of referenda, and a total of 6 referenda – see Table 2 – has been made on different aspects of EU. It is therefore a permanently hot issue in the country. Consequently, EU is much more well-known in Denmark than in the other membership countries.[6)]

Table 2. Danish referenda on EU themes

No	Date	Theme	Yes	No	Part[a)]
1	2/10 - 1972	For joining the EU	**63.3**	36.7	90.1
2	27/2 - 1986	EU integreation package[b)]	**56.2**	43.8	75.4
3	2/6 - 1992	For the Maastricht Treaty	49.3	**50.3**	83.1
4	18/5 - 1993	For the National Compromise[c)]	**56.7**	43.3	86.5
5	28/5 - 1998	For the Amsterdam Treaty	**55.1**	44.9	76.2
6	28/11 - 2000	Joining the EURO	46.9	**53.1**	87.5

Notes: a. Participation in percent of all eligible. The "yes" and "no" fractions sum to 100 percent.
b. Advisory. The constitution allows advisory referenda, but governments obey referenda.
c. When the Maastricht Treaty was rejected (item 3) the parties agreed on and renegotiated a "less binding" version of the treaty. This was called the "national compromise".

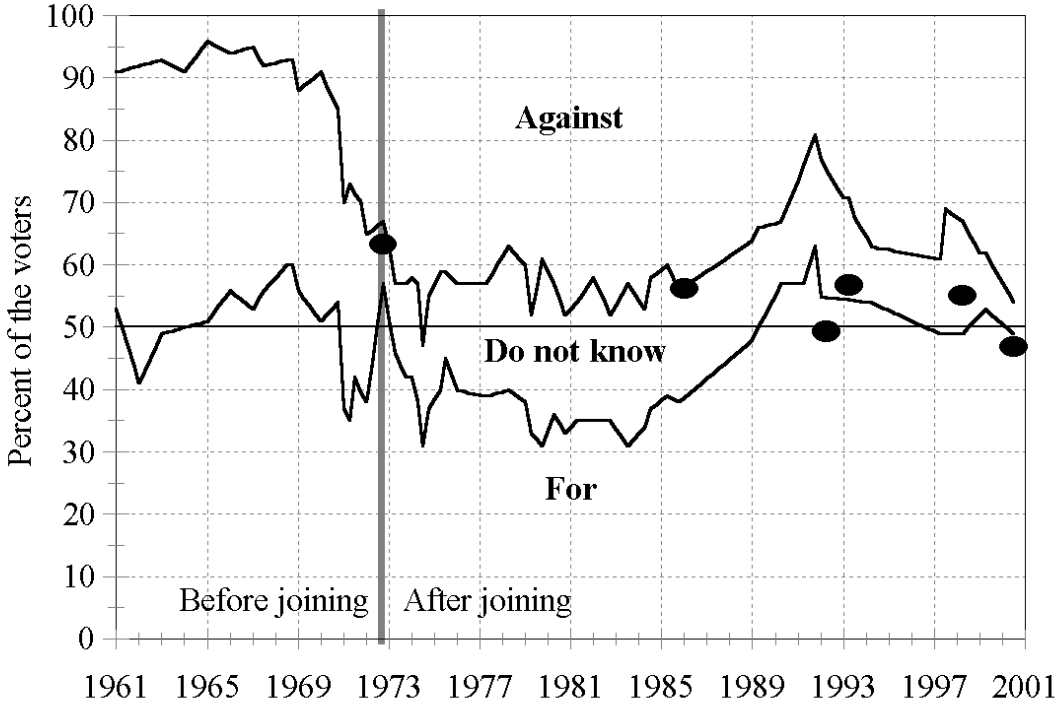
Figure 1 shows the popularity of EU during the last 40 years, including the 29 years where Denmark was a member. As a rule of thumb barely 50% of the Danes like the EU, while almost 40% are against. The

2. The word "elite" is taken to cover the most powerful 0.1% of the population. I imagine that $^1/_5$ of the group is politicians and perhaps twice as many civil servants, while the rest work in organizations, business and the media.
3. That does not include micro states as they have special possibilities for semi-membership.
4. It is easy to show that the difference is highly significant, by dividing the countries in two groups (eg, at 10 mill inh) and running binominal tests on the groups, or by giving countries a membership score and correlating.
5. It is my experiences that few foreigners understand the Danish relation to EU. The key to the understanding probably is that Denmark has a long tradition for free trade, and wants EU to be a free trade organization – also for agricultural products – not a European *Union*. We thus want to be members of another organization, which is not available.
6. Nannestad & Paldam (2000) show that elections give a large increase in the level of knowledge also in other fields.

series illuminates several popular conceptions and hypotheses. Two points are worth noting:

1. The referenda do not deviate much from the curves,[7)] but the theme, the political situation and the propaganda/information during the campaign play a small role.
2. Many used to believe in an *erosion-hypothesis*, where the resistance would erode as people got accustomed to the membership.[8)] Data does not support this notion – as discussed in Section 5.

Figure 1. EEC/EUs popularity in Denmark



Note: The question is: "What would you vote today, if you should decide about membership in the EU?". The *For-percentage* goes from 0% up to the lower of the two bold lines. The *Against-percentage* goes from the upper of the two bold lines up to 100%. The *Do not know-percentage* lies between the two lines. The six referenda on EU-themes are shown as black dots. Data from Gallup.

When the popularity is disaggregated, a pattern appears. It looks remarkably as predicted by economic theory. The pattern of popularity across groups and nations illustrates that human behavior goes by the book – that is the pocketbook. Groups for whom EU have favorable arrangements support the organization. That, eg applies to Danish farmers. Groups having an especially favorable national arrangement – threatened by the joint policies – dislike EU. That, eg applies to Norwegian farmers.

7. The vote hence reflects the general popularity of EU as such. The referenda themes are complex, dealing with decisions reached by compromises, and codified in an impenetrable bureaucratic language.
8. The alternative – but much shorter – series from Eurobarometer shows a similar pattern. The EU-membership is a salient issue for most Danes.

2. The setup: Five variables and some stylized facts

The four parts of this section define the basic setup: (1) looks at the big underlying reason to join an international organization: the big-country advantage. (2) discuss the two power variables and the nature of the sovereignty exchange between the two parts (3) discuss the new rents generated by the organization. Finally (4) summarize the discussion in the form of the contract and 4 stylized facts.

2.1 The big-country advantage, F

The latest 50 years have seen two reverse trends.

Trend 1: The big empires have dissolved – mostly voluntarily. Most colonies have simply been set free. Section 4.5 suggests an interpretation using our model.

Trend 2: Increasingly countries join *international organizations*. Their number is steadily growing at a rate of about 2% per year (see Frey, 1997). Denmark is pt a member of several hundred organizations. We will consider several explanations for this proliferation.

The most straightforward explanation is that it is an economic advantage to everybody. Many statistical studies have tried to explain the wealth and growth of countries. Here the *size* of the country, S, normally contributes positively.[9)] Crudely, a variable for LogS, gives a coefficient of 1%. A country of 50 mill inh tends to grow 1% faster than a country of 5 mill. A country of 500 mill may even grow 2% faster. The small-country disadvantage is mainly observed in LDCs that have followed autarchic development strategies. Such strategies may work for large countries, but they fail – often spectacularly – in small countries (such as Albania of the old).

The main reasons for the big-country advantage are: (a) *Economics of scale*, and (b) in closed economies *rent-seeking* tends to be pervasive. In my reading of the facts, (b) is a far stronger phenomenon than (a). A major part of F is thus caused by a reduction in domestic rent-seeking.

There thus is a strong reason why small countries join international organizations. Small rich countries are typically keen members of many international organizations, to counteract the small-country disadvantage. However, the problem is *sovereignty*.

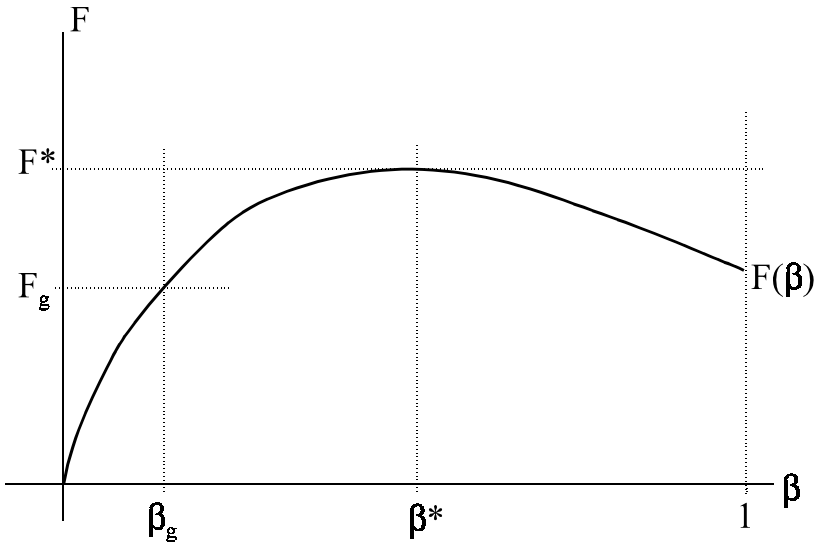
A country joins Org(i), as it pays to coordinate a group of decisions. These decisions constitute a fraction $\beta_i \in [0,1]$ of all decisions made by the country. All members thus give up the sovereignty β_i to Org(i), but gain an influence over the joint decisions, β_{Org}, made by Org. The members of Org typically give up the same β to a given Org, ie $\beta_i = \beta_{Org}$ for all i. Most Org's have small, stable and well-defined β's. A country that is member of N organizations, has given up the sovereignty:

$$\beta_\Sigma = \Sigma_N \beta_i \qquad (1)$$

A country thus obtains an advantage, F_i, from joining Org(i). If all possible organizations existed, and the country consistently optimized F, a F-curve, $F = F(\beta)$, as depicted on Figure 2 would appear. For the optimal portfolio of organizations β* the country obtains the maximum F*. For a small country F* may be 10% or even 20% of GDP for the first decade – if the alternative is to be *fully* independent.

9. It is assumed that S is measured in mill inhabitants or another reasonable measure. The effect of S was already found in "the pattern of growth" literature see eg Syrquin (1988).

Figure 2. The advantage F as a function of the degree of integration β



On the figure β* is placed nicely in the middle of the interval [0, 1]. For a small country it is perhaps optimal to be half-independent. For a big country β* will be (much) smaller. It is likely that some of the organizations in an optimal portfolio have many members while others are small (see Frey, 1998). In practice the choice of organizations is limited; but most small countries join many soft organizations (with low β's), as GATT/WTO, OECD, the UN-system, BIS, The International Postal Union, etc. Sland is thus in point $g = (\beta_g, F_g)$, where it has already harvested $F_g < F^*$.

We now consider an additional organization (EU) with two characteristics: (i) *β is unusually high* (though still well below β*). The additional F to be gained is perhaps 5% (of GDP) for the first decade. (ii) *The EU contract is dynamic* so that β is scheduled to grow. Hereby F grows, but the marginal productivity $\partial F/\partial \beta$ is falling. After F* the marginal productivity of further integration turns negative.

F should also include the political risk reduction. EU is often characterized as a peace maker, as the organization has tied the old enemies Germany, France and England together with many subtle strings. Maybe the risk of war in central Europe is reduced from 2% per decade to 1%. The economic effect of this reduction is not included in our F.[10)]

This political advantage is hardly affected by the inclusion of Sland. The small country obtains most of the political advantage when the big countries cooperate. In fact, this also applies to the economic advantage, as long as Sland is close to the *big-country block* and has a set of agreements (partly through other organizations) with the members of Org. So for Sland some (perhaps even most) of F appears as a positive externality F_e.

$$F = F_m + F_e, \text{ where } F_m \text{ is the net gain due to membership} \qquad (2)$$

F is hard to calculate, as it is the cumulative and dynamic sum of many small effects – and it is even more difficult to sort out F into F_m and F_e. Below, we do not distinguish between F and F_m.

10. We would all like to believe that these percentages are much smaller – now that everybody is so civilized – but a look at the data for the last couple of centuries would certainly give at least 10 times higher risk estimates.

2.2 Country size and the two power variables: γ, β

From now we simplify by considering one organization only. That is, we start the analysis with g = (β_g, F_g) as (0, 0). Also, all other members of Org are aggregated as one unit. Org makes the *joint decisions*, β. Sland thus gives up sovereignty β_{Sland}. To distinguish as clearly as possible, we term $\beta_{Sland} = \gamma$.

γ is thus the decisions Org make in Sland, or the power of Org in Sland. In our illustrations we assume that the two variables are one-dimensional, γ, β ∈ [0,1]. If they are 0, the country is fully independent. If they are 1, it is fully integrated. Member-states in a federation (as the USA or Germany) have large β's (and γ's), but they are well below 1. It appears that all federations know political fights between those, who want to increase β, and those who want to decrease γ.

When Sland joins Org, it loses sovereignty, γ, and gains a share, α, of the power over the joint decisions, β. Normally α is *fairly proportional* to the size of the country.

$$\alpha \approx \pi = S(Sland)/S(Org) \quad (3)$$

If strict proportionality applies, Sland gets exactly as much power in Org as it loses in Sland itself:

$$\text{Strict proportionality:} \quad \alpha = \pi \leftrightarrow \alpha\beta = \gamma \leftrightarrow S(Org)\gamma = S(Sland)\beta \quad (4a)$$

$$\text{Power gain:} \quad \alpha > \pi \leftrightarrow \alpha\beta > \gamma \leftrightarrow S(Org)\gamma < S(Sland)\beta \quad (4b)$$

We assume that Sland is a small country, where S(Sland) << S(Org). We use the term small country in the following precise sense:

Sland is a *small country* if people consider α = 0, so that αβ = 0 [11)] (5)

A small country is thus a country where people feel that they give up sovereignty without getting a corresponding power in Org in exchange. A big country is thus a country where people feel that they get power αβ in Org in exchange for the power, γ, it gives up – see here Section 4.5

A careful review of the data will normally show that small countries get a power gain, as defined in (4b). The reason is that Sland tends to become over-represented in all committees and boards. If Sland has to be represented and such bodies have to have a manageable size, Sland must become over-represented. Also, Sland's representatives will surely become pivotal in many cases. Thus, Sland does get a power gain by joining an Org. This has no reality for people in Sland, but is well understood by the elite, which has to provide relatively large numbers of representatives to committees and boards. In fact, the smaller the country the larger is the fraction of the elite that gets (extra) jobs.

2.3 The remaining two parameters: T and R

The net transfer, T, from Org to Sland. T is a sum that appears in the budgets. Apart from administrative costs, T is a zero-sum game within Org.

R is the sum of *new* rents produced by Org. When Org creates an international arrangement in a field, which used to have large domestic rents, they are normally reduced, but then new rents are created by the arrangement. The whole idea of EU (and several other Org's) is to replace domestic regulations with international ones. Hereby the process of rent-seeking becomes more cumbersome. It does not – of course

11. Our definition of a small country is surely a limiting case – note that the assumption that α ≈ 0, so that αβ < γ, is crucial for our analysis. It is my strong impression that this assumption is realistic, and not only in Denmark.

– become impossible to obtain rents, and many lobbyists have descended upon Bruxelles. The net drop in rents is included in F. But, all organizations also generate new rents, R. The distinction between the reduction in the old domestic rents and the new rents R, is sometimes hard to make.

The CAP (common agricultural policy) of EU is a pertinent case. It surely creates rents, but probable (much) less than the national agricultural policies would have created in the absence of EU. At least, this is the impression one gets when looking at the far more "rent-intensive" agricultural policies of the rich European countries outside the EU: Iceland, Norway and Switzerland. However, we do know that a new EU agricultural bureaucracy is setup without a corresponding reduction of the old national ones.

The decision process in all international organizations is separated by one step from the normal democratic controls. The potential recipients of salaries and payments tend to have a relatively large influence upon their sizes. International organizations give the elites of the member countries a most appreciated opportunity for rent-seeking. In addition to the necessary administrative costs a rent, R, appears in every international organization. Three points are relevant:

a. The rent is likely to grow with the number of organizations. This is a second explanation for the proliferation of international organizations.[12)]
b. Most of Sland's rent accrues to the elite.
c. As in all theories of rent seeking we have a measurement problem for R. It is conceptually difficult, and those participating in the feast do not try to make measurement easy.

2.4 The contract between Sland and Org

The contract has three *explicit* parameters: $\mathbf{A} = (\gamma, \beta, T)$. Sland "sells" some γ to "buy" some β and T. In addition, Sland hopes to obtain a large positive F, and finally there is R. Both F and R are *hard-to-calculate side-effects,* which are *implicit* parts of the contract.

EU is an organization with a parliament, but power-wise it is a strangely free floating parliament. Basically, the EU bureaucracy is as far removed from the normal democratic process as other international bureaucracies. However, two important points apply:

A. EU is an Org, where the contract $\mathbf{A}_t = (\gamma_t, \beta_t, T_t)$ is dynamic. Integration is small in the beginning, but it is scheduled to grow in the treaty. This has happened as discussed in Section 4.4.
B. In the case of EU we know a little about R.

Here the central budget is 1.27% of the GNP of the members. It does not contain all rents generated and most of the budget is not rents. A small fraction of the budget goes to wages. Here we know that some rent is included. Let us assume that (1) the EU wage level is 20% too high,[13)] and (2) that this is typical for the R-margin in the Org, and (3) we multiply by 2, as the budget covers only half the R-generated. We hereby get a first guess of $R \approx ½\%$ of the GDP of the member countries. This is surely a wild guess, but the true value is perhaps within 50%, so that we conclude that $R = ½ \pm ¼\%$ of GDP.

12. Imagine that the same aggregate β is produced by 10 small or one large organization. The aggregate R is likely to be less controllable – and hence larger – in the first case. This is an *illusion* result like the *complexity of tax structure* result in the fiscal illusion literature, see Holsey & Borcherding (1997).
13. Those who have tried making the concrete choice, know how complex the calculations are. The advantage is not as large as it seems at first. Much depends upon the job possibilities of the spouse, the choice of car, house etc.

Table 3. Summarizing four stylized facts

Fact 1	In practice small countries get a net power gain as members of an Org: $\alpha > \pi$.
Fact 2	People in the small country feel that $\alpha\beta$ is zero, so that the gain is of no consequence.
Fact 3	In addition to net reduction in old rents included in the big-country advantage, F, Org produces new rents R. It is mainly due to the relatively large wages and fringe benefits in Org
Fact 4	All of β and most of R *accrues* to the elite of Sland, while R is paid by people.

The elite knows F and R better than people do, but the question is if the assessment of the two parts can be systematically different. The hypothesis that people's assessment of F and R is an unbiased estimate of one of the elite is our *RE-hypothesis*.

Till now, we have thus reached the four "laws" of Table 3. The logic of law 2 and 4 relies on the well-known 1/N-complex – even if there is a small deviation from strict rationality it is in a field where we know that such deviations are common.[14)]

3. Two points: the profits of organizations and the gap

Before we discuss the contract two perspectives should be considered: The first treat an organization as a production function for (F+T). The second is the gap between people and elite.

3.1 The hypothesis that the rent R, is a cost in the production of F+T

R can be understood as a cost in the production of F. To produce F a bureaucracy is necessary, and it takes a rent, R. The rent is larger than the usual bureaucratic rent as the international bureaucracy is by necessity removed by one step from the normal decision process and the democratic controls. We can define the profit, *Π*, which Org gives people in Sland as the surplus in excess of R:

$$\text{Slands profit from Org:} \qquad \Pi = (F+T) - R \tag{6}$$

Thus formulated R becomes a cost to be minimized – the problem is that those, who have to minimize R, have a large overlap with those who consume R. However, an even more important problem is the risk that the competition to obtain the rent ends up expending all of R. That is, the competitive forces on this special rent-market may compete the profit, Π, down to zero.[15)]

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14. Several of the most persistent anomalies in economics occur for decisions where the *expected utility or costs* should be multiplied with a small probability. One family of 1/N-problems involves the frequency of a rare type of accidents. Another 1/N-problem *is the paradox of voting* (see Aldrich, 1997). The 1/N-problem is important for the effort people make to be well-informed about the facts on which the decision should be based. When the 1/N-complex enters *ignorance becomes rational*. The 1/N-complex is relevant for our analysis in two ways: (i) when we consider people's level of information regarding EU. It would be irrational for them to study the issues much before voting. (ii) When assessing the weight (α) people assume Sland has in Org. We have argued that people assume $\alpha = 0$ and thus $\alpha\beta \approx 0$. One sign that this is the case is that while about 80% vote at national elections, much fewer participate in EU elections and referenda.

15. The models of rent seeking competitions often converge to the zero-profit result – see the surveys by Nitzan (1994) and Tollison (1997). If this occurs, the elite has managed to consume all of F while people get nothing. However, one may argue that it is the elite that produces F, and that people only lose if R becomes larger than F.

If we assess F to, eg 5% of GDP, Sland obtains a handsome profit if R is ½% of GDP. That is, EU does have a large R, but it is a cheap price to pay for a much bigger F. In other Org's – such as a number of the member organizations in the UN family – it appears that Π has been competed down to zero. Going back to the argument in Section 2.1 we now see that it is a problem for Sland to put together an optimal portfolio of many soft Org's. With many Org's the control problem becomes impossible – the result is likely to be a much bigger aggregate R.

3.2 The gap between elite and people – two models

We are now able to present a model explaining the big gap between people and elite. However, let us start with an alternative model that is quite popular in the elite:

A: The "mob-model": It sees people as a mob, which is an irrational and chauvinistic crowd, who just do not understand. However, the elite understands. This model is supported by polls of people's knowledge about the EU. They do not know much.[16)] On the other hand, they do have strong opinions which they vent in their crude way. There is no end to the low motives the elite ascribes to the primitive mob. And, in fact, when one listens to the kind of statements people regularly voice at anti-EU rallies one has to pinch oneself to determine if it is not a nightmare.[17)] Fortunately, the wise and tolerant elite has undertaken to lead the prejudiced and ignorant mob, so that things do not fall apart.

This model does not fulfill the conditions for being sound economic theory as it builds upon a big irrationality. Fortunately, an alterative theory exists, which is impeccable economics.

B: The "rational" model: In the perspective of the facts of Table 3, the gap is due to the different *interests* of the groups, as regard β and R. Both are acquired by the elite, and R is paid by the people. Regarding β it is power obtained by the elite and it enters their utility function, Sland's people do not care if their elite gets power in Org, so it does not enter their utility function.[18)] Regarding R it is a "levy" the elite extracts from people, so it *should have* the *reverse sign* in the utility of people and the elite.[19)]

The story as regards F is more complex. However, the gain people get as citizens of a member state in Org does come in all kinds of unrecognizable ways. It is taken for granted. We return to this point in Section 5, when discussing *myopia* and the *grievance asymmetry*.

4. A model of a voluntary union between a large organization and a small country

Formally we consider an agreement **A** = (γ,β,T) between Org and Sland. To be voluntary, it must be better than no agreement **0** = (0,0,0). A *lens* must hence exist with points giving more utility to both parts than

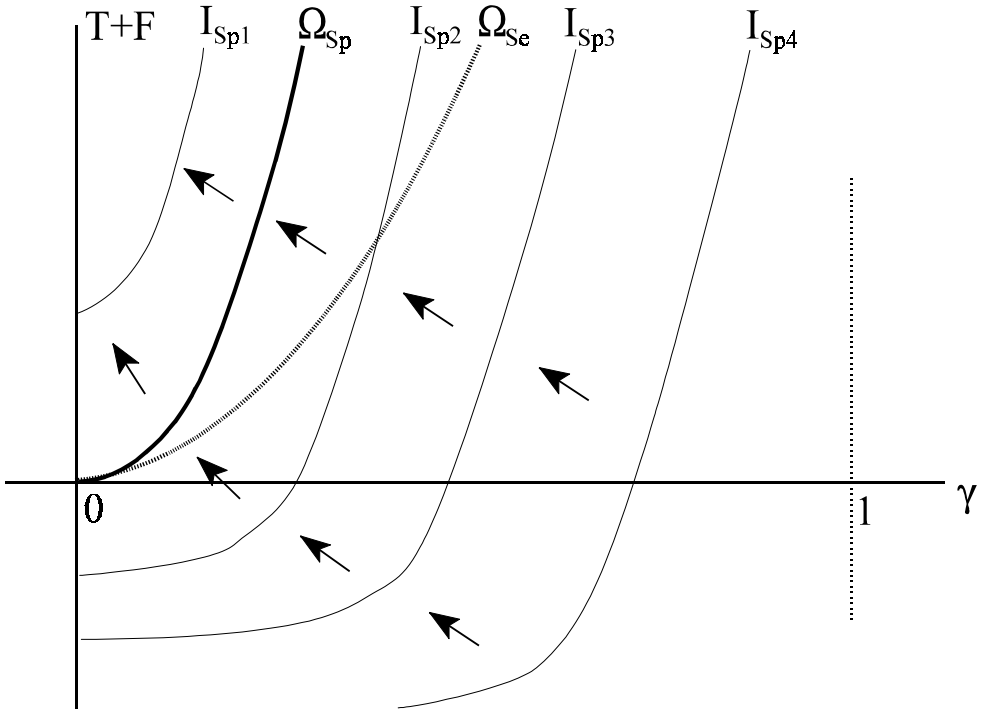
16. Thanks to the many referenda, Danes know more than most EU citizens about the organization, but the knowledge is soon exhausted when it comes to the details of the different EU treaties.
17. The combination of the EU membership and the in-migration of 6-7% immigrants (from outside the EU) into the hitherto very liberal and tolerant NW-European countries has revealed ugly parts of the "souls" of our people's.
18. When we draw the indifference curves (in Figure 3) for the two groups, we need a γ-axis, but no β-axis for people. In principle, we need both a γ-axis and a β-axis for the elite. However, by assuming that β and γ are proportional, we can get away with suppressing the β-axis, also when drawing the indifference curves of the elite.
19. R it is a newsworthy variable. Many stories circulate via the media and among people regarding the great salaries and wining and dining in Bruxelles. Also, certain aspects of the CAP – the mountains of grain and butter and the lakes of wine – greatly appeal to the public imagination and wit. People understand and greatly disapprove of R.

0. In addition, **A** must be within this lens. This situation lends itself to an Edgeworth-box presentation. A non-empty lens, K, must exist between Org and Sland, in the case where the two parts look like EU and Denmark. The lens must be empty in the similar case, where the two parts look like Norway and the EU.

4.1 The bound for Sland's indifference curves – I_{Sp} and I_{Se} – as regards A

Consider first how Sland's people see the contract A = (γ, β, T). They get utility from T and F, disregard β, and get disutillity from γ. Their indifference curves, I_{Sp}, hence look like drawn on Figure 3. People want a low value of γ and a high value of T (+F). The arrows show the direction for increasing utility. The curves bend upward for the following reason. People in all small countries know that international cooperation is necessary (ie that F > 0). To give up a bit of sovereignty to get a T+F > 0 is thus acceptable, but if γ becomes significant, people react.

Figure 3. Sland's indifference curves



While T is explicit in the contract F is not, and neither is R. We have argued (as per our RE-hypothesis) that people come to know both F and R, but also that they do not follow these variables closely (there is a great deal of rational ignorance). So, in the short run they are predetermined: F, R = $\underline{F}$, $\underline{R}$. If F grows, the curves move upward and become steeper. The situation is the reverse for R. If R grows, the curves move down and become flatter. We conclude that $I_{Sp}(F, R, \beta, \gamma, T) \approx I_{Sp}(\underline{F}+T, \gamma, \underline{R})$, as drawn.

One indifference curve, Ω_{Sp}, is singled out as it goes through (0,0). It is hence the outer bound for the lens. That is, it divides the plane into two parts: To the left of the bold Ω_{Sp}-line people in Sland will voluntarily accept contacts, while they will not to the right of the curve.

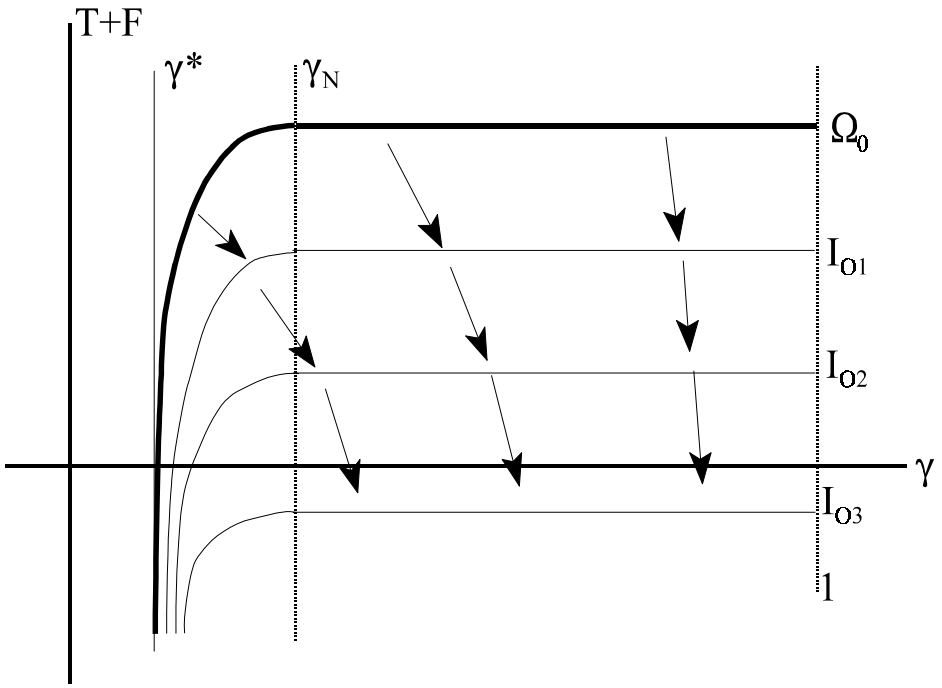
We can also draw the indifference curves for the elite of Sland, I_{Se}. Here β and R enter differently as discussed. Obviously, R shifts the elite-curves to the right, and the curves become flatter compared to people's curves. As γ and β are approximately proportional, we may simply take the new elite-curves, $I_{Se,}$

as x times the people-curves, I_{Sp}, where x > 1 is a factor of proportionality. On the figure we have depicted a bold dotted line, Ω_{Se}, as the bound for the lens of the elites. Ω_{Se} also starts in (0,0) and then proceeds at a flatter path relative to Ω_{Sp}. In the same way we can add the whole set of indifference curves for the elite, but they have been omitted not to clutter the graph.

4.2 The bound for Org's indifference curves, I_o, regarding the contract A

Figure 4 shows the indifference curves, $I_O(F+T, R, \gamma)$, of Org regarding the contract. One γ_N shows how a "naive and legalistic" country fulfills the contract. No member country behaves like that. Everybody tries to do some free riding, but it has a limit, γ^*, which Org do not allow any country to cross, so $\gamma^* < \gamma < \gamma_N$. My impression is that the interval from γ^* to γ_N is rather large in the case of EU. The Greek and the British do much as they please, without being kicked out of the organization.[20)] And, also Denmark has been allowed a γ, well below γ_{id}.

Figure 4. The indifference curves of Org



The other variable shown is T+F (where F is semi-fixed as before). If Org was free to choose, it would surely give Sland as small a T as possible. The indifference curves are flat to the right of γ_{id}, but they must bend downwards to converge toward γ^*, and Org has a higher utility for a curve with a lower T than with a higher T at the flat part. However, rules exist giving Sland a "right" to a certain T_g, at the time of the entry. The rules change over time as new members joins, but new members get an offer from Org when they negotiate about the treaty.

Note that without a positive F only countries with a positive T would join Org. We take it that F

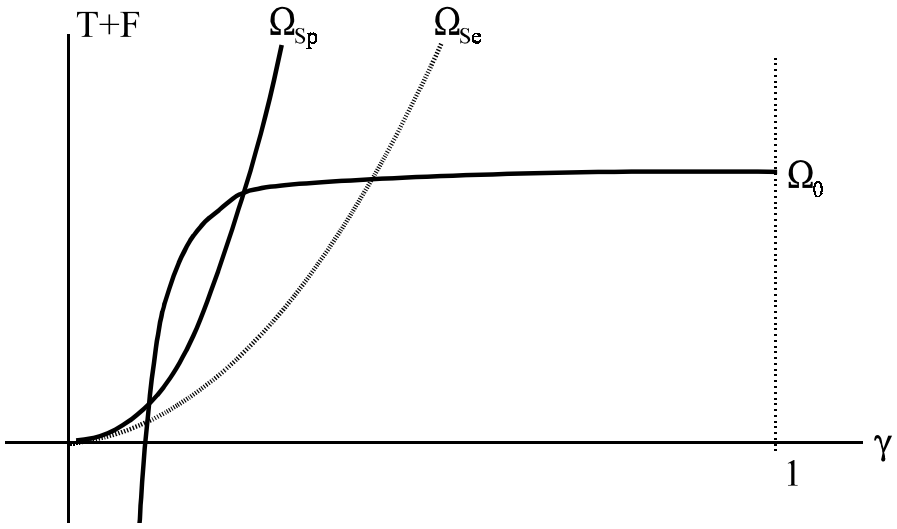
20. Some countries have national exceptions from EU rules. Others are slow to use the legal machinery to pursue their citizens, when they cheat the EU. All countries have experienced that the EU court has declared one law or another to be against the treaty. Everybody wants special exceptions, so all γs are well below γ_{id}.

is seen as reasonably large by everybody. However, T is the more variable and visible part of the "gain" drawn on the vertical axis. In the EU-case two factors determine the T offered: (a) Agricultural exports and (b) relative poverty. When Denmark negotiated, it had a large agricultural export and received a high T-offer. When Norway negotiated, it was both rich and without agricultural export, so it got an offer with a low T. The reason why T+F differ from one country to the next is thus mainly that T differs.

The bold Ω_o-curve that starts as a tangent γ^*, and goes up to the maximal T acceptable by Org is thus specific for Slands. The set of curves drawn on Figure 4 is thus for a country like Denmark or Ireland, who had an offer of a high T.

As before, we need to consider how the curves depend upon F, R, β. Now we consider the three variables for the whole of Org. F shows how much the F of Org changes if Sland becomes a member, R how much the R of the Org changes etc. These variables are even harder to calculate. We conclude that $I_O(T+F, R, \beta, \gamma, T) \approx I_O(T+\underline{F}, \gamma, \underline{R})$, much as before.

Figure 5. The two lenses between Sland and Org – the "Danish" case



4.3 The small and the large lens between Sland and Org

When Figures 3 and 4 are superimposed, we obtain an Edgeworth-box. To make the resulting graph easy to read we have included only the bound-curves – that is the Ω's. Note that the drawing includes one small trick: We have shifted the vertical axis of figure 4 so that the two (F+T)'s – of Sland and of Org, when Sland joins Org – are the same. Since the curves become virtually vertical at the lower end this does not change the way the curves look.

Figure 5 shows how things look in the case we term the "Danish" one, where Org offers a substantial T. Here a small lens exists, where voluntary contacts can be made. It also appears that a much greater lens exists for the elite and Org. The bound-curve for the elite is situated in the direction generating a larger lens, and hence gives a larger addition to the lens.

Figure 6. The one lens between Sland and Org – the "Norwegian" case

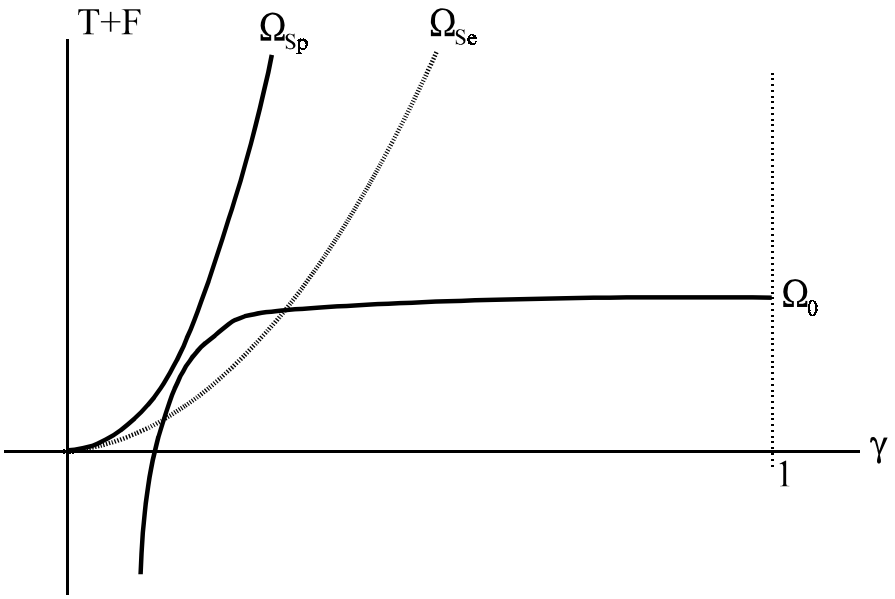


Figure 6 is our "Norwegian" case, where hardly any T is offered – even when F is still positive. Here no lens appears between people and Org. However, the elite and Org has a lens, so from time to time the elite negotiates a treaty and puts it to a referendum where it promptly fails.

In a broader perspective our analysis has an interesting implication. It shows why it is difficult for a small country to join an organization with a large β. If people do not take β as something real, they must have something else as a compensation for the loss of sovereignty, γ. A normal F is not enough. Small countries get either a big T (as Denmark, Greece, Ireland or The Netherlands), some special political advantage (as Finland) or a particularly large F (as Belgium).[21)] Both Island and Switzerland know that they would get a negative T if they joined – they have not even tried to negotiate – also, they know that they get F_e anyhow.

4.4 EU as a dynamic Org: growing out of the lens

Our main example is EU. It is an Org with the explicit aim that β (and hereby γ) is growing over time. The treaty itself contains promises looking as (7). The promises are vague and have to be interpreted, but it is a goal to reach a considerable integration.

$$\gamma_t = \beta_t \rightarrow \beta_M \text{ for } t \rightarrow 100 \qquad (7)$$

The goal β_M is not a full integration, but rather an integration to a federation as the USA or Germany. That is the aim is a β_M well below 1. The hope probably is to hit the optimal β* (see Figure 2) for the average country. The countries have to reach the same $\beta_M = \beta^*$. However, the optimal β* is larger in small than in large countries, so presumably a compromise will be reached, where the large countries become too integrated, and the small countries become too little integrated.

It is clear that the dynamics promised by the treaty means that β (and hence γ) has to grow a great deal in the future. The next great step – soon completed – is the introduction of the EURO and the

21. Belgium receives all the activity effect generated by the EU administration. In addition a substantial part of the rent seeking expenditures of all lobbies etc takes place in Bruxelles.

upgrading of the ECB (European Central Bank) to a real central bank.[22] If this is depicted on Figure 5, it means that the contract A = (γ, β, T) will move to the right.

In addition T is dynamic. The big positive T's that several small members obtained, when they entered EU, are likely to fall – as has already happened. In particular the big net contributor Germany is unlikely to continue paying as much in the future as it did in the past.[23] Also the more different the new members become, the more difficult it is to have rules that generate large payments in extreme cases. However, there is a counteracting force. When β grows so does F, though F grows less and less as β approaches β*, as discussed in Section 2.1. The dynamics of the three variables are thus:

1. β and – hereby γ – will increase.
2. The increase of F will decrease, till ΔF reaches zero.
3. T will decrease for most old members.

From (2) and (3) we conclude that the sum T+F must eventually starts to fall.

Both the increase in γ and the (eventual) fall in T+F makes it less likely that the contract can remain voluntary. The lens shrinks as T+F falls, and γ's growth pushes the contract out of the lens to the right.[24] From the whole argument so far – and Figure 1 – it is obvious that the lens was always small. The analysis thus predicts that the dynamics of the contract inevitably threatens Sland's EU-membership.

Note that while the movement of the contract will push it out of the small people's-lens, it will still remain inside the larger elite-lens.

4.5 Generalizing the model

This model is easy to generalize. We sketch two generalizations: (A) to big countries and (B) to the colonial liberalization process.

A: The big-country case. The main reason to treat the case of a small country as a particular one is the assumption that people care about γ and not about β. In a big country it is different. Here people are accustomed to be far away from the government than in a small country. Also, they take it for granted that their country plays an important role in the world – a role often much exaggerated in the public mind (think of the French). It is likely that the assessment of the two power variables is less asymmetric than in the small countries. The asymmetry might even be the other way – causing the indifference curves to have a negative slope around (0, 0). The asymmetry as regards R is inevitable, but the indifference curves are

22. The European central banks holds a group of the elite which has been a keen proponent of the EU. This group is less keen on the EURO than it was of the previous steps. The reason for the change of heart is not difficult to understand. It is better to be a central banker than a bureaucrat in the local office of a European Central Bank system.
23. The two main reasons why Germany accepted a large negative T probably were: (1) The German horrors made Germany politically weak. (2) The key national aim of Germany was to obtain a reunification – it was an important aim to buy support for that aim. Obviously, (1) becomes less important with each new generation of Germans. Also, (2) is now achieved. Furthermore, (3) the unification is a great financial burden for the Germans – this surely puts pressure on the expenditures to the EU.
24. The model helps us understanding the Danish EU-policy. The Danish politicians know that they have a difficult political problem to solve. A problem that is slowly growing. They need time and hope for the resistence to EU to erode (as discussed in Section V). They get time if the speed of integration is reduced. This can be done in three ways: (i) by reducing γ relative to β, and (ii) by fighting against the various individual steps of integration and (iii) by adding as many new members as possible. These policies all have costs: (i) and (ii) cost influence in the EU, and (iii) is a threat against T. However, to delay the integration is an overriding purpose, under the circumstances.

likely to look quite different.

The reader will see that we have constructed a theory that produces the same result as Olsen & Zeckenhauser (1966) – that is, the small countries get the best deal in the Organization. However, it is more due to a self-selection bias than free riding.

B: The colonial liberalization process. The colonial "contact" was based upon the use of force – in the beginning little force was actually needed.[25)] However, during the 20th century two things happened: (a) The idea of self determination spread, so more and more power became necessary in order to control colonies. (b) The use of power became less and less acceptable for the populations in the colonial powers. Both of these developments caused a movement toward the voluntary contract. Since the contract included some domination – that is a positive γ – it became more and more necessary for the colonial country to pay, to compensate the colony for the disutility of γ.

The result has been that all large colonies became impossibly expensive. Even the Soviet empire became expensive in the end. Hence, most colonies were given freedom – sometimes after some violence, but mostly voluntarily and with relief. Only a number of small countries have remained as voluntary member countries of a union. Paldam (1996) shows – by the same model as above – how such a limiting case occurs for the Union between Denmark, the Faeroes and Greenland, where the latter two are the small counties in the union dominated by the big one (Denmark). It has resulted in a situation where the old "mother" country came to accept a low γ and a T that amounts to $10'000 per capita per year. The last of the colonies have turned into bizarrely expensive voluntary parts of a union.[26)]

5. Will the resistence to EU erode over time?

Our model thus gives us a growing problem, where the small country, Sland, finds it increasingly difficult to stay in Org, the organization. Sland will thus leave Org if Sland's people do not become accustomed to Org, so that their resistance erode.[27)] Figure 1 shows the development in EUs popularity over 40 years in Denmark. No erosion is apparent in the series. However, the underlying variables F+T and γ (and β) have changed, so maybe the popularity should have changed.

5.1 How does the popularity function of EU look in Sland?

The model for the popularity of EU emerging from the previous pages looks a great deal like the one for I_{Sp}. That is people's indifference curve as regards EU:

$$Pop_t = Pop(\gamma, T, F, R, t) \approx Pop((T+F)_t, \gamma_t), \text{ where t is time} \qquad (8)$$

Two hypotheses can be made as regards the dynamics of the resistence to EU. They are listed in Table 4.

25. The small sizes of the colonial armies dominating large areas illustrate this point. In the beginning, the new "white masters" were seen as relatively benign in many colonies, compared to the previous local masters.
26. The extreme way the economy of Greenland is affected by the subsidies is discussed in Paldam (1997).
27. The erosion hypothesis was widespread both among opponents and especially proponents in 1972. The proponents assured the voters that EU was basically a question of getting more money for the agricultural exports, and that all these promises in the treaty about future integration were typical "Latin" hype – "big words" they did not need to worry about. In particular all these ideas – whatever they meant – about forming a "union" was baloney. There is still today a widespread, though weakened, belief in the erosion hypothesis.

Table 4. Two hypotheses on the resistance erosion

Hypothesis 1: The rate of *erosion is constant*	People get accustomed to status quo with a constant underlying rate. $\partial Pop_t/\partial t > 0$. If γ and T keeps constant $Pop_t \rightarrow 1$.
Hypothesis 2: Pop_t has a *natural level*, Pop*	Pop* depends upon factors which are hard to change – not on γ. When γ changes, Pop jumps in the reverse direction; but it later returns to Pop*, as people adjust to the new γ.

If we take the graph for Pop_t shown on Figure 1 to be trendless, we may argue that the erosion in the resistance to EU corresponds roughly to the growth of γ. Unfortunately, no attempt to measure γ has been made, and even at the conceptual level it appears a difficult variable to quantify. My hunch is that γ has grown a little, but not much.[28] So if hypothesis 1 is true, we have to conclude that the erosion process is slow. This is possible, but it seems that nothing supports such a notion.

There are a couple of sudden movements in Pop_t on Figure 1. With a little imagination they can be taken to correspond to known movements in γ. If that is the case, we can see the long-run constancy as an indication that Pop_t returns to the old level. In other words Pop_t has a natural level.

We thus have two hypotheses as listed in Table 4. Unfortunately the polls are few and have irregular intervals, and no data are available for γ, so it is hard to make a formal empirical analysis. The only possibility for gaining some insight in the two hypothesis is thus to look into the theories and findings on related phenomena. That is the popularity of other political agents.

5.2 Can we learn something relevant from the VP-function literature?

A large literature analyzes the *popularity of governments at elections and pols* (see Nannestad & Paldam, 1994). Only a few papers deal with the popularity of EU, see Anderson & Gelleny (2000) and Anderson & Kaltenthaler (2001). The pattern is much like a weak version of the standard responsibility pattern.

The VP-function literature mainly deals with the changes in the popularity of the government, while it says little about the levels. However, an old theory exists in political science about people's long-run attachment to parties – often known as their *party identification*. It gives long-run stability to the party system. Hypothesis 2 is an idea of the same type – saying that people obtain a pro-EU-identification or an anti EU-identification. What interests us is the possible changes in the identifications.

The theoretical basis of the VP-function literature is the *responsibility hypothesis*: People hold the *government* responsible for the changes in the economy. But what do they hold EU responsible for? Maybe there is a connection between the popularity of EU and of the government. This will be discussed in 5.3.

Two robust results in the literature deal with adjustment over time. (i) Voters' myopia says that voters adjust quickly. If a change occurs in either a political or an economic variable causing a change in the popularity of the government, then the effect (or at least 2/3 of the effect) goes away within a year. This result may be taken to be contrary to hypothesis 1 but to support hypothesis 2. If Pop_t returns to Pop*, we may expect the return to be quick. (ii) The *cost of ruling* result says that the popularity of the average government has a downward-sloping trend (amounting to 0.5% pa).[29] The cost of ruling result is a

28. Joint policies are often announced, but frequently a pathetic gap appears between words and deeds. Think, eg on the declarations about the joint EU foreign policy.

29. Several explanations exists for the cost of ruling, see Nannestad & Paldam (1997).

powerful one, as it causes parties to change in power, and thus create long-run stabilities of the parties – just like Hotelling's median-voter result and the party-id theory. But in EU the power does not change between parties, so the relevance of this result is dubious.

It all leaves us with a very weak basis for understanding the popularity of EU. Hypothesis 1 appears to find no support, while only weak support was found for Hypothesis 2. However, if Hypothesis 2 is true one can continue with an integration process, if it goes slowly.

5.3 The governments and EU's popularity

Imagine that a connection exists between the popularity of the national government and the EU. The closest parallel in the literature is probably to the French case with both a president and a government to split the blame. The US case is a bit similar with the Congress and the President being independently elected. In these models one often sees a complex intertrade of popularity between the two levels – often in the form of "coat tail" effects where the popularity of the most visible agent rubs of the less visible one. Once again it is dubious if this is relevant. But perhaps two connections do exist:

C1. Maybe there is a coat tail effect: $\partial Pop/\partial VP > 0$. The voters may want to punish/reward a government by sending it signals at a EU referendum or poll. Perhaps such a connection is likely, but it is not strong in the data.

C2. The EU is less popular among left-of-center voters than among right-of-center voters (at least in Denmark). This is often said to imply that a left-of-center government is more likely to be able to carry through a EU referendum.

S2 relies on a *can* and a *will* claim: Only a left-of-center government *can* convince left-of-center voters to vote yes. Also, it is likely that a left-of-center opposition *will* make small efforts only to convince their voters to vote for the theme the right-of-center government has proposed for the referenda. The right-of-center voters are likely to vote yes in any case.

6. Concluding remarks

When the Danes voted no to the Maastricht treaty in 1992, the Economist showed a front page with a longboat of foul-looking and fairly dirty Vikings. They were surely against. Looking at the picture one got a clear impression the elite of the country had good reasons to fear the great unwashed. Danish politicians do fear anything pertaining to the EU – they know this is a dangerous issue where they can easily harvest a defeat.

Above we have made a small theory explaining how a steadily ongoing process of integration inevitably will run into trouble, leading to a break between the small country considered and the international organization. The only possible escape from that predicament is if a process of erosion undermines the resistance. We have found little evidence to support its existence, and only weak theoretical reasons why it should exist, but perhaps there is a long-run level of popularity to which it returns each time an upward change in the integration causes the popularity to drop. If this hypothesis is true, it is possible to go on with an integration process provided it is slow.

However, to this problem is a corresponding problem of existence of alternatives. The small rich

NW-European countries are not faced with a choice of all the possibilities they may want. If they were, most Danes (and Norwegians, Swedes, etc.) would probably choose a different organization from the one of EU, provided it consisted of approximately the same members. The Danish opponents of the EU are never tired of proclaiming how much they want international cooperation, but it should be different from the one existing.

So, maybe several of the small EU-countries are moving toward some sort of semi-membership.

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