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The political economy of small countries

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The following deals with three subjects:

1. Economics: The small country disadvantage
2. Politics: Is steering easier in small countries?
3. The sovereignty trade off - a model

The subjects will be discussed in three sections, and at the end will be a few concluding remarks.

I. Economics: The small country disadvantage

Many studies have been made of the relative success of small and large countries. The results are not clear. The richest country in Europe is Luxembourg, and the poorest is Albania, both small countries. However, while Luxembourg is strongly integrated into the economy of the rest of Europe, Albania was for long living in self imposed isolation. However, the average of the two is considerably below average.

This seems to be the general result: In large-scale cross-country studies of the wealth and growth of countries (see Syrquin, 1988) a significant positive coefficient to size is normally found. Syrquin reports a coefficient of 1% to the logarithm of the population in growth equations. If two otherwise similar countries where one is 10 times larger are compared, the large one tends to grow 1% faster. This is so large an effect as to be hardly credible (it would cause Denmark to grow by no less than 2% faster than the Faeroes). But it argues that there is a small-country disadvantage.

Three explanations will be discussed: (i) Subsections III.1 and 2 look at economics of scale, (ii) Subsection II.4 considers the consequences of the higher volatility of small countries, but first we shall argue that (iii) small countries are more dependent upon co–operation.

In fact, most of the negative effect fund in the studies quoted by Syrquin is generated by small countries, who follow autarchic policies. The more small countries are isolated, the worse they fare. However, small countries need not fare badly if they are well *integrated*. Think of Liechtenstein, Monaco, Andorra and the Vatican. These micro-states are both economically and geographically integrated into their neighbor(s). Most European micro-states are in fact so integrated into their »big« neighbor(s) that one hardly notices when crossing the boarder.

However, each of these countries have special ways to extract money from their neighbor(s) - most *free ride* on the laws of the big neighbor(s). Monaco is a gambling and tax heaven, Liechtenstein has even stricter bank-secrecy-laws than Switzerland, Andorra is a tax-free booze zone, and the Vatican receives money from half the world. Also, they all sell stamps and every year they are visited by many times more tourists than they have inhabitants. All have solved the small-country disadvantage by a double policy of integration and a free riding gadget that is tolerated by the neighbor(s) as they are so small. The *double policy of integration and free riding is their secret*.

I.1 Economics of scale - some examples

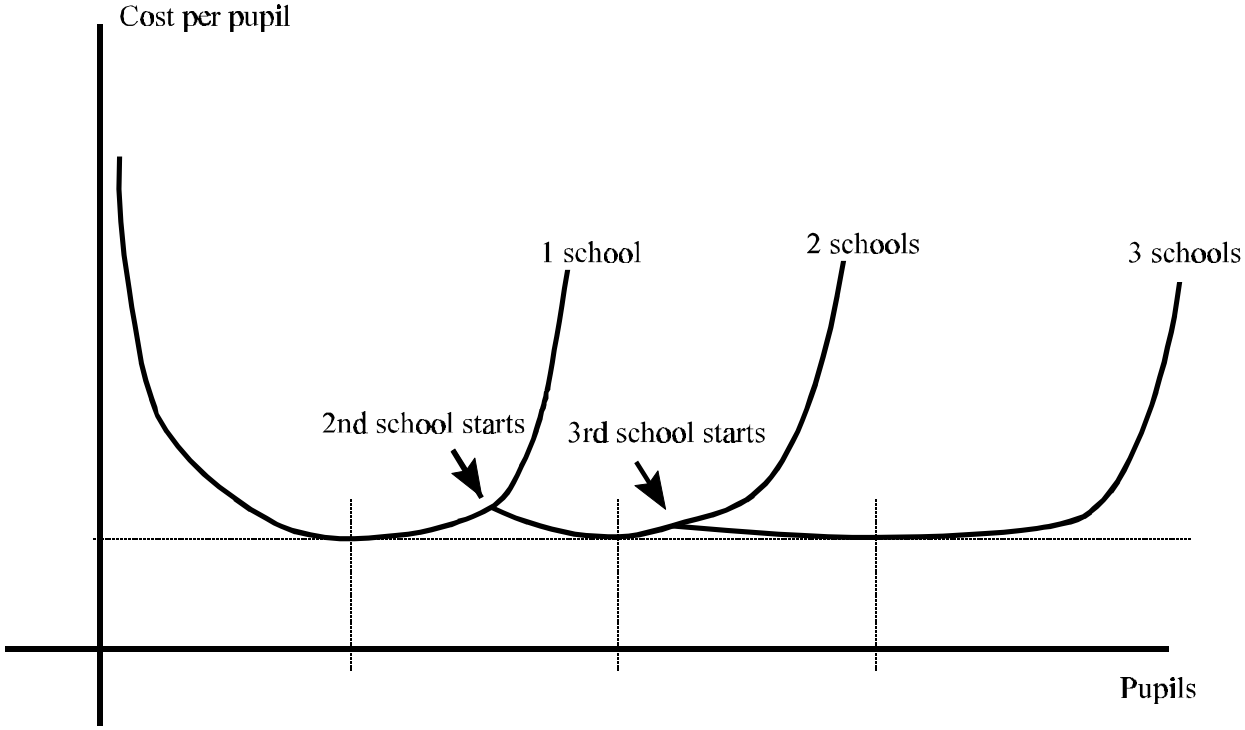
The most obvious explanation for the small-country disadvantage is dis-economics of scale. Most institutions have an optimal size. If this size is large relative to the size of the population, the institution must have sub-optimal size - as a consequence there is a loss, to be borne by the population.

A few examples from the education sector illustrates the point. Let us look at a primary, a secondary and a tertiary school. To make everything simple, we shall assume that we look at a country with a perfectly stable population, where all generations are of the same size. We shall further assume that everybody lives till the age of 80 and then promptly dies. As we are discussing young people, the latter assumption produces the same conclusions as a more realistic age distribution for the old.

A primary school needs a certain number of tracks (lines) to be able to have everything necessary for a modern education and get a reasonable capacity utilization for teachers and special classrooms. It seems that 3-4 lines and around 22 pupils in each class is optimal, as shown for the *1 school-line* on Figure 1. Around the optimal size the cost curve is flat, but the extra costs becomes sizable when the school is very different in size from the optimum. Based on 10 years of primary school the optimal school should thus be built for 7-800 pupils.

As everybody should go to school 10 of the 80 generations - or 1/8th of the population - should hence be at school. A school of the said size needs a population »basis« of 8 times more people than the pupils, That is, it needs a population basis of about 6'000 people. This defines the size of a municipality that can run a reasonable school. If two municipalities are good friends and have 3'000 people each, they can run a joint school. Smaller schools are surely possible, but they cost more per pupil, or give a worse service in the sense that the pupils get a sub-optimal education.

Figure 1. Production costs per pupil in systems with 1, 2, 3, ... schools



The cost per pupil for the said quality of education thus looks as the 1-school-curve on Figure 1. The costs per unit has a minimum for the optimal size, and the same minimum occurs for twice the optimal size, etc. Between the two first minimums the curve does not rise as much as it does in the beginning. It is only below the first minimum that the curve becomes really far from the minimum, so that the extra costs are high. A micro-economy does consequently have few problems with the primary schools, but already with the secondary schools it becomes a bit difficult to make optimal institutions, and for all the other secondary schools necessary the problems become harder.

A secondary school needs much more tracks to be optimal as it has different lines and many choices of subjects. It seems that 12 tracks are necessary for having a basis for the relevant choices. Such a school - in a three year high school system - has about 700-800 pupils. However, only 1/3 of a generation goes to high school (while perhaps another 20% needs other types of secondary schools). The population base necessary to sustain such a traditional high school is thus 80/3 times 3 times the 7-800. This all adds up to about 60'000 people. The reader will see that this is smaller than the middle »county-level« in the typical West European country.

The calculations for a tertiary school - that is **a university** - is more difficult, but surely a full university, which can educate people in all the fields necessary for a modern society needs a population base of no less than 1'000'000. Here cooperation with other countries is relatively easy, though it is expensive, and many who go abroad to study do not come back.

A similar story can be made for the health sector. Here the key figure is that a typical referral hospital with all the usual divisions needs a population base of about 150'000 people to be optimal. And then most countries also wants to have a central university hospital as a back up in particularly difficult cases. Here we are speaking of a population base of 1-2 millions. However, the service of such a hospital can - once again - be purchased from a cooperation partner.

Many other examples can be mentioned. Think of a foreign service. Even a small foreign ministry is hard to get for less then 15 million crowns a year. An embassy costs something like 5 million crowns a year to run. And a country will probably need a minimum of five. This is 40 millions a year, including the ministry. This is surely the bare minimum, but it is still 3/4% of the national product in a case like the Faeroes. It is surely much cheaper to have 5 attaches attached to somebody else's embassies. Many similar cases can be listed.

I.2 Economics of scale - from examples to the national curve

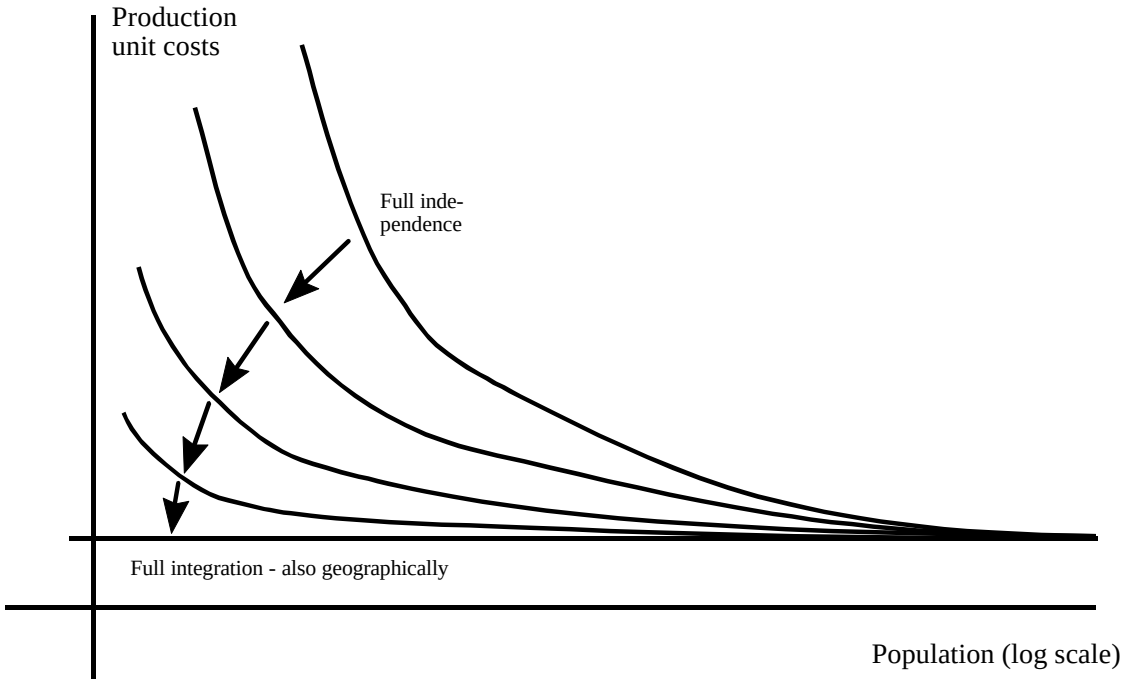
Note that all of these effects are considered a lot depends upon the co-operation/integration of the country into the economy of the neighboring countries. There is two aspects of this integrattion:

(i) a political-legal aspect and
(ii) a geographical aspect.

It is easy for Monaco to be integrated into France. In fact it matters little for a high school pupil from Monaco if her secondary school is in Monaco or in Nice 7 kms away - even the language is the same. It is another matter for Greenland in almost all respects. Even if the Greenlanders wanted full integration into Denmark, there would still be a geographical problem.

When all of the individual scale curves are aggregated, a national scale curve emerges. It looks something like figure 2. If a small country wants full independence and to limit trade to the minimum, the costs would be extremely high - another (even poorer) Albania would emerge. However, most of the legal problems can be reduced with sufficiently strong co-operation arrangements.

Figure 2. Aggregate national scale curve



It is however a fact that even middle-sized European countries like France and Germany feel a strong need to formalize their co-operations arrangements and make them as binding as possible. This is done partly for political reasons - even a cursory glance in the history books will show why - but there is also strong economic reasons to co-operate.

The extent to which a country has found some free-riding gimmick allowing it to make money at the expense of other countries it can allow itself to reduce the formal legal link to other countries. If its gimmick is to free ride on the tax laws of the neighbor(s), it might even want to be independent in the relevant ways.

I.3 The economics of transfers: Dutch disease and automatic socialism

Many small countries somehow manage to obtain transfers from abroad. Maybe, for allowing other countries to use its area for military bases, maybe from being a tax heaven, maybe as a gift from a big partner, as will be discussed in Section III. It is also possibility that a sizable part of the national income is resource rent on exported goods.[1)] A case is the export of oil or fish, where one part of the proceeds

1. The word *resource rent* means that the good fetches a price above what the market would produce it for - that is it has a scarcity price. This does not apply to corn, but to fish and and oil.

is the production costs and another is resource rent.

We hence imagine that the economy receives a sizable *non-labor income from abroad* - we shall call it *the transfer*. This might happen to big countries too (think of Nigeria), but for many reasons it is more common the smaller the country is.[2)] Transfers cause two mechanisms: Dutch disease and automatic socialism. It is important to understand these two mechanisms, as they are commonly seen in small countries.

The Dutch disease mechanism is that the real exchange rate reacts negatively to the transfer. That is, given that the exchange rate is 1:1 before the transfer, the transfer will cause it to fall to (eg) 1:0,75 in real terms. That is, the real exchange rate will revalue by 25%. Or in other words the goods the country sells become 25% more expensive relative to the goods its foreign competitors sell - both abroad and at home. This is surely nice for the domestic consumers - as salaries are the same in real terms, the inhabitants feel that all foreign goods drop by 25% in price, so their standard of living rises handsomely. In a very real sense they experience the »disease« as a blessing. However there is a problem we shall return to - the reason why the word »disease« is used. Let us first see how the real revaluation comes about.

It will happen in a mixture of two ways: (w1) by a nominal devaluation or (w2) by extra inflation. If the country has a fixed exchange rate (or even a currency union) to some much larger country only (w2) is possible. The domestic price/wage level will rise by 25% relative to the one abroad. It is a complicated and much variable story how the price level increase comes about. It has been very different in the cases of Iceland and Greenland. In Iceland the transfer is the resource rente on cod and aluminum - the result has been the famous cod-currency inflation waves. In Greenland the transfer in the Danish grant and the resource rente on the shrimps. The result has been less volatile, but several studies have shown that the Crown is worth 50% less in Greenland than in Denmark (references in Paldam, 1997).

The real revaluation is a disease in the sense that it harms (kills) all other export business than the ones receiving the rents. That is - in a country as the Faeroes - that receives both a transfer from abroad and a lot of »fish-rent« all other export business find it very hard to thrive. In the standard economic terminology the development of the competitive *K-sector* is seriously hampered. However, there is also a *B-sector* - that is a protected part of the economy, which do not compete with foreign goods - it suffers no such effect.

A government observing the demise of (most of) the K-sector will see it as a serious employment problem.[3)] In order to do something about the employment problem, the state needs taxes - in case of foreign transfers they tend to go directly to the domestic state, and in the case of resource rents they are often heavily taxed. In fact, resource rents are the best tax-object possible.

Hence we have a need for employment and a rich state. The result is *automatic socialism*. The typical possibility is for the state to build up the B-sector - the two most easily expandable parts of the B-sector is the public sector and the housing sector (that is much affected by public policies). These

2. See Paldam (1997) for a case study explaining these mechanisms in more detail.

3. In Kuwait the amount of resource rente is so huge that the solution has been to give all Kuwaitians of impeccable national lineage a pension and import foreigners to do the work. This is only possible in extreme cases.

sectors can provide the extra employment needed. Note that no socialist ideology is needed. Even conservative governments have followed this course. In fact the Thatcher loyalist ruling in Northern Ireland did it (see Borooah, 1998), French colonial administrators did (do) it in Martinique, Guadaloupe, etc.

There is one consequence of the commonness of this mechanism. If the transfer is nor a steady block grant, it tends to be highly volatile. It is thus an extra factor makings small countries more volatile. If one considers a case of a very large grant, as is the case of Greenland (see below), the two mechanisms become very strong and creates a very distorted, »extreme« economy, with a very high price level and a very small - almost negligible - »normal«K-sector. In the case of a large grant as the case of the Faeroes the economy becomes moderately distorted only. However, the effect is obvious, even here.

This means that the standard of living becomes rather high, but the dynamics of the economy becomes weakened. So while the short run advantage is great, the long run advantage is much smaller.

I.4 Volatility is a problem

In the last decade a major research effort (partly financed by the Inter American development Bank) has analyzed the effect of economic volatility on economic growth. The empirical results (see Gavin & Hausemann, 1998) are very clear: The higher the economic volatility, the lower is the growth in the longer run. This appears to generalize to all larger data-sets examined.

A number of mechanisms explain the result, but the key one is that investment suffers in a bang-bang economy. A great deal of theoretical models have been developed to explore this result and it seems to be well founded also in basic economic theory.

It tallies well with the finding (see Syrquin, 1988) that countries that specialize in commodity exports do relatively badly and are relatively volatile. It would be interesting to make a specialized study of fishery-dependent countries and areas. My guess would be that they are unusually volatile and fare unusually badly, but there are very few fisheries dependent countries and areas.

Also, it tallies well with the observation that small countries - by the very nature of things - are relatively volatile. It is likely that the volatility contributes to the relatively poor growth record of small countries reported in the introduction above.

II. Politics: Is steering of small countries easier?

This section shall deal with three issues: (1) The optimal policy area theory. (2) The policy tangent problem and (3) the big brother problems.

II.1 Optimal policy areas

A large literature deals with optimal policy areas. What is the best size of an area in which to pursue an exchange rate policy, a monetary policy or a fiscal policy? The results are not clear. International economic fluctuations of many types are always strong in both small and larger countries. In many cases they force countries to act the same in their economic policies, so for any country that is heavily trade depen-

dent (that is wants to be rich) economic policy independence is at best something marginal.[4)]

It seems that the optimal fiscal area is the smallest. It is entirely possible for small countries to have as »independent« fiscal policies as everybody else, especially if they are geographically isolated. It is of course always difficult to have independent policies, but the strongest problems occur when there are open boarders and no transport costs, making it very difficult to have different taxes on goods, and to control labor flows as well. The consensus appears to be that the optimal areas for a monetary and an exchange rate policy is larger. The main point is that there is both a potential gain and a potential loss - while the gain decreases a little by size, the loss decreases a lot by size:

The *potential gain*. In principle countries can gain by skillfully steering interest rate differentials and exchange rate movements. However, many examples can be listed where steering has failed to reap the potential gain, and has rather caused increased risk.

The *potential loss*. If there is risk in investing in a country - for one reason or the other - amazing interest rates premiums can develop. Only a dozen years ago there was a period where Danish and German interest rates differed by no less than 7 percentage points. These strong reactions to risk seems to be largely outside the control of National Banks.

The judgement of most researchers who have tried compare the actual gain harvested against the actual losses countries have suffered have reached the conclusion that the latter far outweighs the former. Governments and National Banks have to work very well together and to be very skillful in outfoxing private dealers in order for any gain to occur and small blunders have large consequences.

So, it is for good reasons that EU countries are increasingly giving up independence in exchange rate and monetary policies. The prevailing opinion seems to be that it is increasingly dubious if countries have had a net gain from having independence in these matters. In my judgement there are no signs that the Danish economy has made net gains from its exchange rate and monetary policy independence in the past. From considering the record of the performance of the Governments of the Faeroes' in other matters, I do not think they would have fared better.

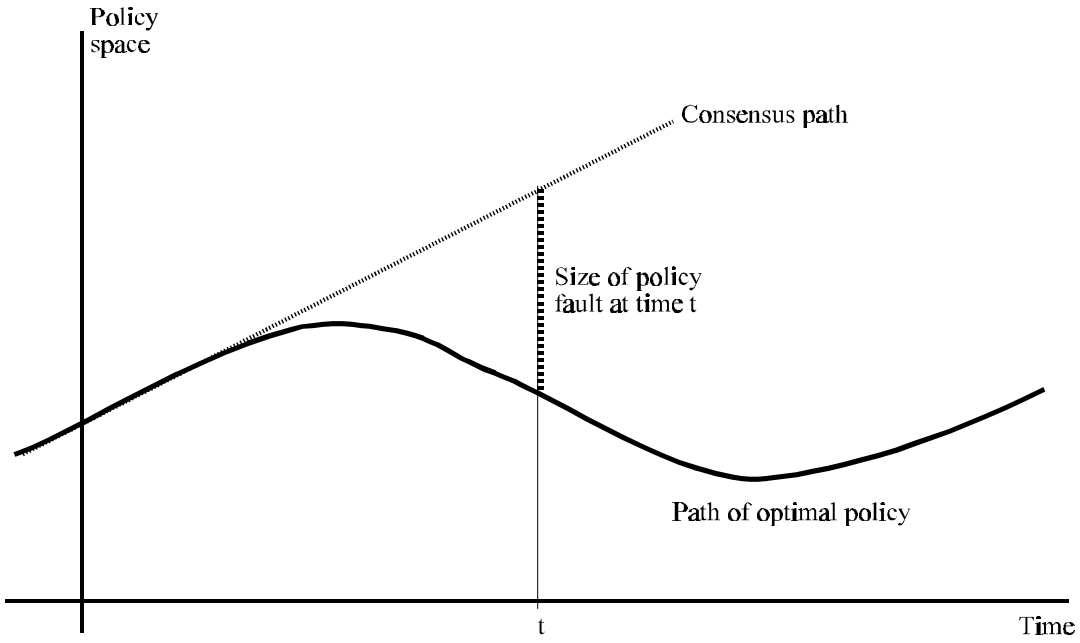
It is a detour from the main subject of the paper, but many studies have shown that both of the two main economic institutions of this world - markets and governments - have lots of faults. No third possibility has been invented, so we have to do with these two faulty institutions. We hence have to try in each concrete case to assess what is the least bad of the two solutions.

II.2 The consensus advantage and the policy tangent problem

Even in such a large country as Denmark »everybody« knows each other. In a micro-country »everybody« is even in family. This has both advantages and disadvantages. The advantage is an extreme and very fast dissemination of information - rumors rapidly kill secrets, so that everybody quickly knows everything. Also, all decision makers have many channels to each other. In such a close society decisions can be made very quickly if there is a majority, and if there is, everybody will know.

4. About 20 years ago the school of *dependency-structuralists* argued that it paid for a country to isolate itself for the international economic fluctuations, but it is a simple fact that the countries who tried became even more volatile, see Gavin & Hausmann (1998) for a summary of calculations.

Figure 1. Illustrating a tangential path



However, in such a country smart politicians will not even try to carry out »politically impossible« decisions. So we get a system that becomes both extremely effective and very stiff. As everybody knows that they have to live with each other, mechanisms of consensus- and taboo-building emerge.

This causes such countries to follow *tangential policies*, as illustrated on Figure 3. A consensus protected by taboos can hinder policy changes even when the policy is obviously crazy under the circumstances. Tangential policies are common in all countries - it is difficult to create a consensus, and few want to break it - but the smaller the country the longer it continues.

One aspect of this is that the smaller the country the more difficult it becomes to have alternative centers, with different ideas. Even in fairly small countries such alternative centers exist. In large countries there can be many - and they can even have a strong academic basis for their ideas. Such centers act as brakes, hindering tangential policies in continuing too long.

II.3 The big brother complex

Nearly all very small countries have a special relation to a bigger country. This relation defines an *extra big-brother dimension* in the national policy space.

A large literature deals with *coalition theory* (a recent survey is found in Part III of Mueller, 1997). That it, it deals with the conditions for the formation of stable political coalitions, with power to rule.[5)] The results are complex, but - with some qualifications - the key result is that the fewer dimensions the policy space has, the easier it is to form stable and powerful coalitions. With several dimensions party systems become more complex and more coalition possibilities emerges. This causes coalitions to

5. The literature has two roots: (1) the game theoretical development of the spatial model of voting as developed by eg Norman Schofield and the empirical study of government formation as developed by eg Michael Laver.

be more unstable and consequently less able to act.

A big-brother dimension in the policy space is thus very harmful for political stability, and consequently for the ability to rule. It is much like a tribal or a religious factor. Each such factor makes policy more difficult. Also, of course, there is the problem that once coalitions are formed, it cannot easily change any policy, as such changes has the inherent risk of breaking up the coalition.

In addition to making coalition building harder and policies more difficult to change there is the further problem that the »big brother« is not a player in the domestic policy - essentially he has no votes. He is therefore a fine candidate to blame for anything going wrong.

It was long (at least for the first 25 years after independence) a very strong factor in the policies of most African countries that everything was the fault of the »imperialists«. In my opinion this a big factor behind the many policy mistakes that have caused economic development in many African countries to have been tragically unsuccessful.

To blame big brother might seem a great solution in the sense that *it creates national unity*. The national unity created might even outweigh the problem of having an extra dimension in the policy space, but there is a serious problem: Once the domestic politicians have made a nice compromise that a problem is due to big brother, *this implicitly argues against domestic reforms in the field!* The propensity to keep following tangential policies even longer thus becomes stronger.

Many cases illustrating this point can be given. A clear one is that when Denmark joined the EU in 1972, the politicians came to promise so much that the next general wage agreements became so large that the whole of the economic advantage Denmark got from joining was already exceeded. That put the country in a very bad economic imbalance when the Oil Crisis hit the country one year later. Had Denmark not joined the EU, the government would probably have been able to steer the economy much better in the next few years.

The big-brother complex thus has two sides, both bad: (i) It gives an extra dimension in the policy space, making decision making more difficult. (ii) It creates a facility for blame shifting that hinders the political system in solving the problems. Both (i) and (ii) make the tangency-problem larger.

In addition there is *a moral hazard problem* of having a big partner. A big partner might be seen as an »insurance« against risk. Being insured makes it more likely that the small partner follows risky policies. If the big partner is financially sound, it is surely easier for the small one to borrow in international capital markets, etc. And, even if things goes badly there is always a big brother who may pay.

It is hence very important to lift the »national« problem out of everyday policies and make it a constitutional issue to be decided once a century only. In the »Danish Commonwealth« this has not been done, keeping the issue simmering as a complex open issue, where Greenland and the Faeroes are some sort of Danish *counties with extended home rule*. The result has been to keep the issue of sovereignty permanently alive.

The trade–off between sovereignty and economic gain becomes a key political issue in politics. It is hence worth some efforts to contemplate how this trade-off looks.

III. A model of the sovereignty trade-off

The present section presents a simple model I have developed to understand two cases:

(i) The relationship between the two small countries Greenland and the Faeroes on the one side and Denmark on the other (see Paldam, 1997), and
(ii) the relationship between the small EU countries (as Denmark) and the EU (see Paldam, 1998).

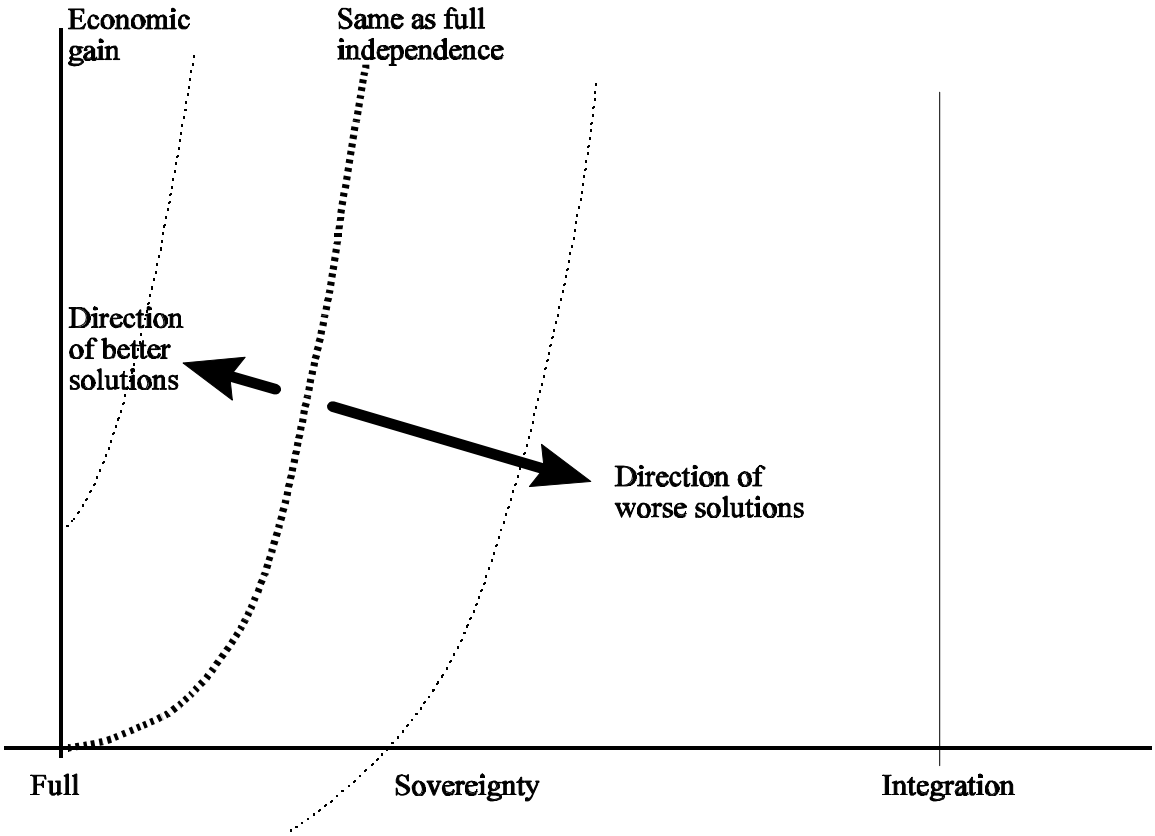
The key point in both applications of the model is that there is a very large difference in size between the small country and its big partner. We shall thus speak of a union between two countries S-land and B-land, where we assume that S-land has a size of 1% of B-land. We want to see how two countries with a large size asymmetry can form a *voluntary union*, and how that union might develop.

The next three sections will analyze the logic of the possible contacts between the two countries. In order for the analysis to be simple enough to keep purely graphical, we shall assume that only two parameters enter into the deal between the two countries. An sovereignty exchange and an economic transfer. In Subsection III.4 we shall introduce a few complications. Finally Subsection III.5 discusses the dynamics in the longer run.

III.1 The interests of S-land - the small country

Economists describe peoples - and thus nations - behavior by welfare functions, who depends upon preferences or interests. The welfare functions are often drawn as indifference curves. S-land has two interests: (A) Sovereignty and (B) economic gain.

Figure 4. The welfare trade offs of S-land, the small country



In the size asymmetry lies that *people in S-land feel* that when they are member of the union with B-land they get no power in B-land, while B-land gets power in their land. Thus, they loose sovereignty. They are willing to do so only in return for an economic gain. Till Subsection III.5 we shall assume that all S-land's population care about is the power they lose in their own land, while they disregard the power they win in B-land.

Figure 4 shows this logic. The fat dotted line is the crucial indifference line. It shows that the people of S-land is willing to accept a small loss of sovereignty to get an economic gain. A small loss is not so important, but once the loss becomes more sizable a big economic gain is necessary. Two thin indifference curves are also drawn, one is better than independence - it is to the left. It is as good as full independence plus a gain. The other curve is drawn to the right - it is worse, and as the reader can see it is as bad as full independence plus paying an annual tax.

The figure consequently shows a division of the plane of all possible contracts into two parts. Those to the left of the fat dotted line that give the contracts S-land will voluntarily accept. Those to the right of the line are the contacts S-land will not accept.

The nature of the two variables is worth some discussion. The horizontal axis gives *the dimension of sovereignly*. It assumes that sovereignty can be measured in one dimension from zero for full independence to one for full integration. This is surely farfetched to imagine that a perfect measure can be made, but when we see what people actually measure it is not unreasonable to imagine that a measure can be made that makes sense.[6)] Also, most people do agree on the direction of change, resulting from various reforms.

The second dimension is the economic gain dimension. It has two parts: EG1 is the economic advantage of being integrated in a larger country, in the sense of counteracting the small country disadvantage, as already discussed. EG2 is the transfer that can be somehow extracted from the big country. It is important that while the first part of the economic gain is a difficult quantity to assess the second is easy to see, especially if it is an outright grant that appears in the budget. Till Subsection III.4 we assume that the whole of economic gain is of type EG2, as it is the most easy to treat within the model presented.

III.2 The interests of B-land - the big country

While the interests of the small country S-land are easy to understand the interests of the big country B-land are much more difficult to comprehend. The main reason is that everything matters 100 times less. Once one goes from clear well defined interests - and simple trade-offs - to a negligible interests things becomes much less clear.

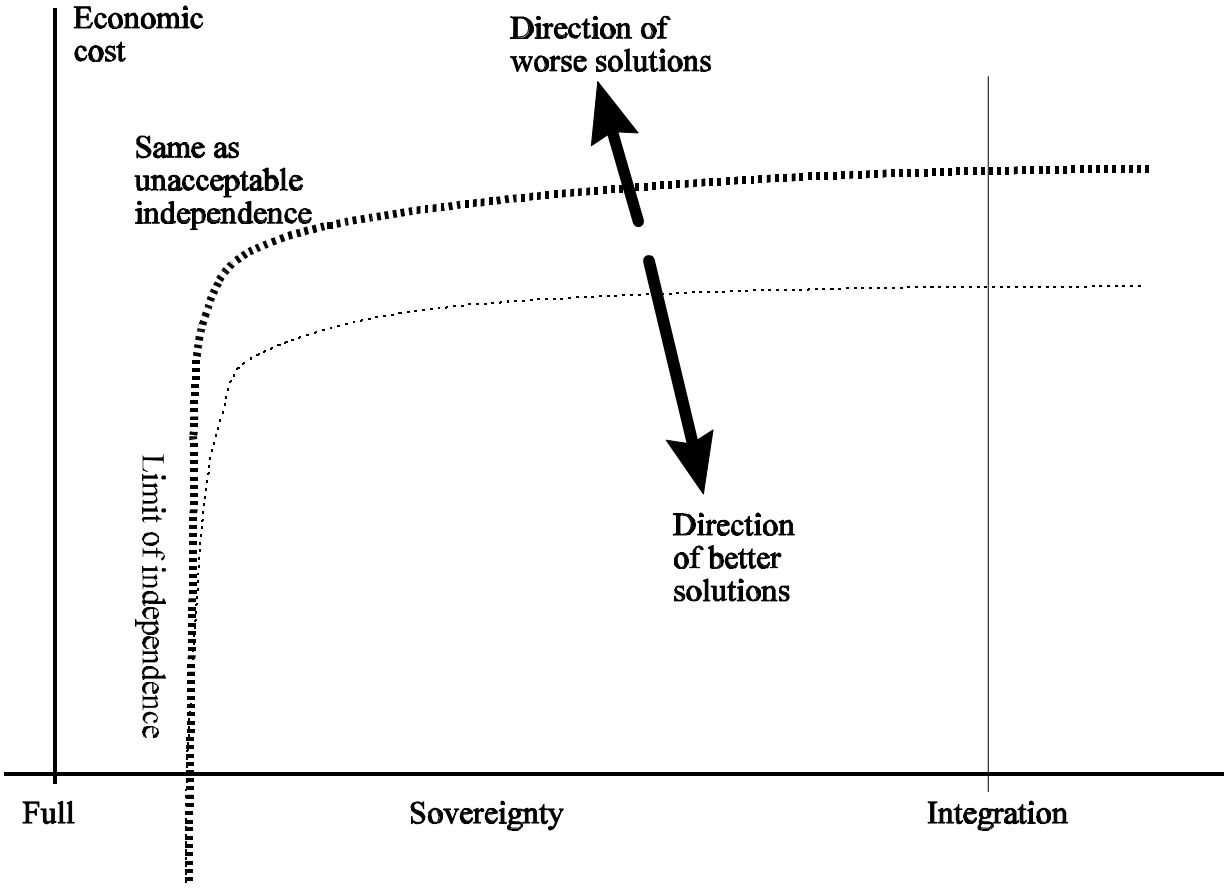
Essentially one comse to deal with vague altruism, historical ties and national feelings. The British are happy to keep the Falklands, the Rock of Gibraltar and a few islands here and there. The French keep Martinique, Guadaloupe and Nouvelle Caledonie, the Dutch keep a couple of Carribean

6. There exists a widely used index of democracy assessed for most countries since 1972, and a similarly used index of corruption assessed for 84 countries, etc. Everybody - including the organization making them agree that these measures are an assessment, but they do make a lot of sense.

islands etc. All of these bits of »old kingdoms« are now bizarrely expensive, but the population of the old »mother country« is happy.[7)]

I think that all Danes recognize that the day oil is found at the Faeroes or Greenland that will be goodbye. And, it is also clear that if there had been a population of 50 millions at either of the two parts of the Danish »Commonwealth« it would have been declared »free«, but in the meantime Danish taxpayers are willing to pay ½% of the Danish GDP for keeping the two small parts of »Kingdom« within the Realm, even by the devise of granting them *both* a large subsidy and almost full home rule. Figure 5 is my theory for the way the indifference curves of the B-country looks.

Figure 5. The welfare trade offs of B-land, the big country



Here the basic indifference curve has an upward and a leftward limit. The leftward limit is a limit of independence. If this limit is exceeded B-land will not want to keep the union with S-land. Where this limit lies it is hard to guess and it probably depends upon the situation. The upward limits is not so hard to assess. It is probably the grant that makes the standard of living in S-land higher the one in B-land.

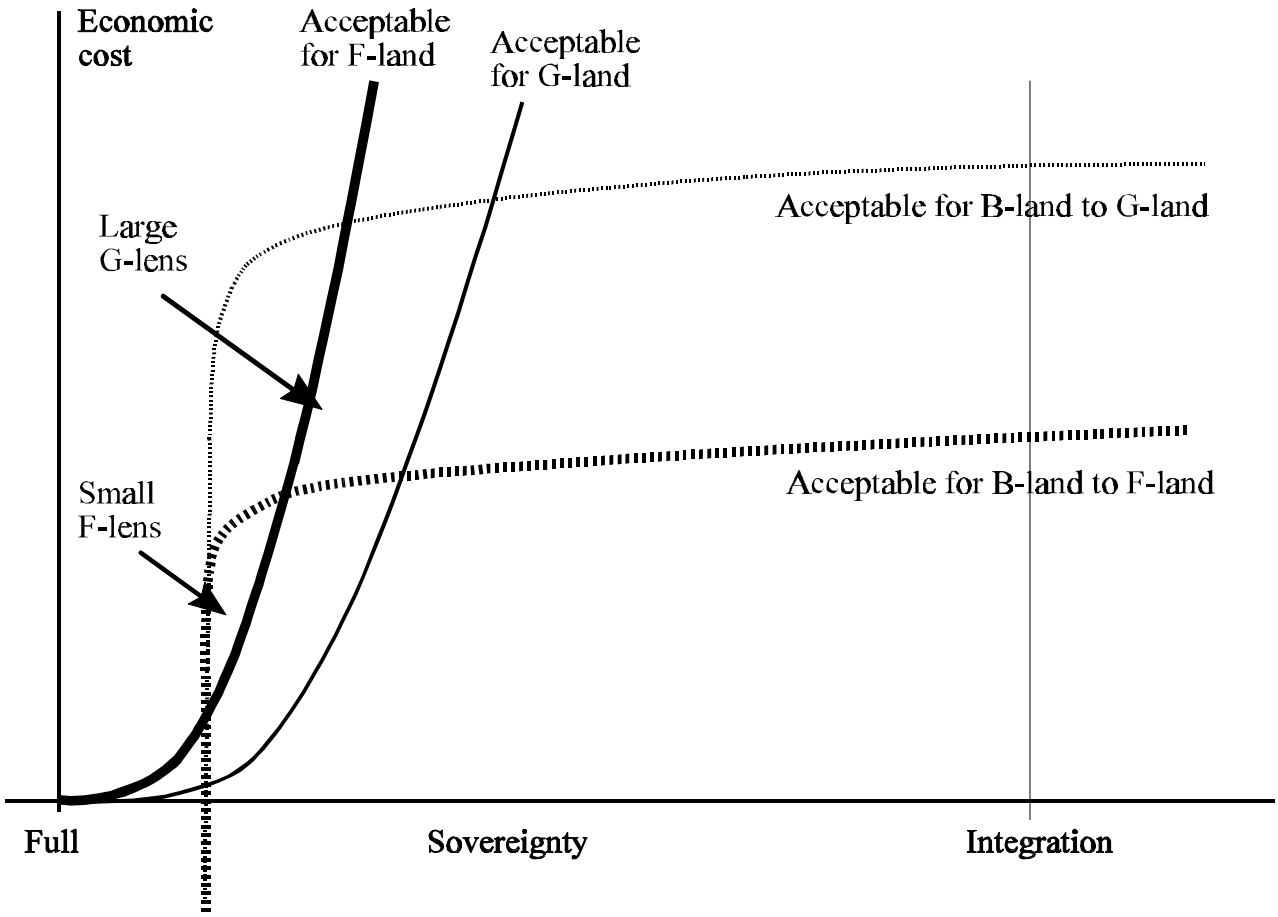
7. For the foreign reader it is interesting to note the staggering numbers involved. In the case of Greenland the subsidy is *app $ 10'000 per year per capita*, while the Faeroes receive *app 3'500 $ per capita per year*. In the second case the annual subsidy is more difficult to calculate as there has been some special grants last in connection with the economic crisis a few years back, that has to be taken into account as an increase in the annual grant.

Imagine two S-lands - let us call them F-land and G-land (to give some associations, without leaving the theoretical framework) - where F-land would have a much higher standard of living than G-land without any subsidy. Obviously B-land will be willing to give a larger grant to G-land than to F-land. So the upper bound of the indifference curve on Figure 5 will be higher for G-land than for F-land.

III.3 Putting the two sides of the model together

The two sets of graphs drawn on Figures 4 and 5 have been put together at Figure 6. It is the economic model termed the »Edgeworth box« of the problem. To make it easy to read we have only drawn the bordering fat curves from Figures 4 & 5, but we have drawn them in two cases: The two fat indifference curves show B-lands relation a the relatively wealthy S-land that is termed: F-land. The two thin indifference curves are for B-lands relation to the relatively poor S-land that is termed. G-land.

Figure 6. Putting together the welfare trade offs of the rich big B-land and two S-lands: F-land that is almost as rich as B-land and G-land that is somewhat poorer



Consider each pair of curves. The area to the left of each of the two S-land curves is the area where it will be a voluntary member of the union. And, the area to the right of the corresponding B-land curve is the area where B-land is willing to offer a union. If there exists an area that fulfils both conditions - there does on the figure - this area is termed the *lens* of the problem. Any »deal« within the lens makes

both parts better off than without the union. It is hence the area where a voluntary union can be made.

In the case of the wealthy F-land and B-land there is *a small lens* only. It is small for two reasons. As the F-land is reasonably wealthy the grant is not so important,[8)] so its indifference-border (drawn as the fat curve) starts relatively *steeply* from the zero-point. Seen from B-land it appears that the F-people is a difficult lot to deal with! The second reason is that the maximum grant B-land is willing to offer is small - so their indifference border (drawn as the fat broken line) lies relatively low. When the lens is small the deal between the two countries is fragile. It is necessary to define the contract very carefully. A small change, due to the shocks that keep occurring in the world, may suddenly take the existing »deal« outside the lens, and a crisis occurs between the two countries.

In the case of the poorer G-land the lens is (much) larger, as both curves shift in the direction increasing the lens. Here the lens is drawn as the corresponding thin lines. It is much easier for the two parts to make a deal giving both a welfare gain.

III.4 Three complications

The reader will remember that in order to make a tidy model we left out various important matters:

The first item to remember is that the small S-land has two advantages in being member of the union with the B-land. As mentioned in III.1, the two advantages is EG1 the integration effect offsetting the small country disadvantage, and EG2 the grant S- land obtains from B-land. The above analysis only dealt with EG2. However, EG1 is important too. There are two problems with including EG1. First of all it is intangible and hard to calculate. Also, it can be obtained by S-land from other unions than the union with B-land.

However, we can include this economic advantage by shifting the indifference border for S-land vertically down, so that it starts below zero. That is instead of the thin indifference-border drawn as the one on Figure 6, we now draw the new fat indifference border marked as »acceptable for S-land«. This shift makes the lens larger - it shows why small countries may be EU-members in spite of getting no budget grants from the Union. However, to get this shift demands that the population of S-land recognizes this part of the economic advantage of the union.

Another complication is that the small countries also get power in the big country - S-land thus gains power in B-land in exchange for the power B-land gets in S-land. In most democracies there is a narrow balance of power (for reasons not to be discussed at the moment, see however Nannestad & Paldam, 1999). S-land may come to become pivotal power-wise in B-land in a great many occasions. Being pivotal is a position of great power.

Consider eg the position of Luxembourg in the EU. It is amazing that a country with about 0.1% of the population has managed to provide the Chairman of the EU Commission in no less than 5% of the time. Many similar examples can be given. Small countries always get much more power in the big country than vice versa, if that power is weighted by the relative sizes of the countries.

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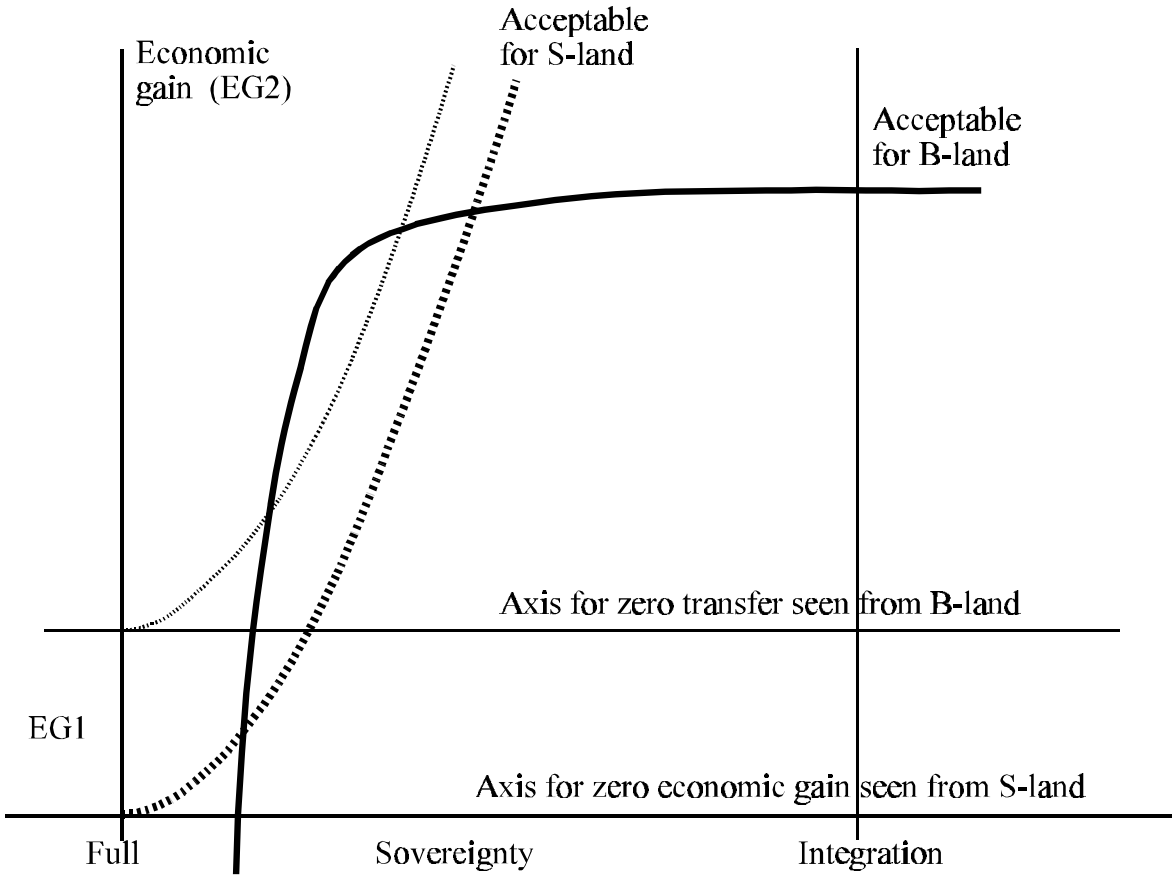
8. The welfare gain is probably relative to the pre-grant income. Imagine two (otherwise similar people) where one is poor making an income of 50 and the other is rich making 100. Now each receives a gift of 10. Surely, it gives the poor man a higher welfare gain than the rich man. The difference in welfare gain is likely to be something like a factor two. This difference explains the steeper slope of F-lands indifference border than G-lands.

Figure 7. Taking both gains of the union into consideration



Hence it is somewhat irrational that the population in the small country disregards net gain of power when assessing its loss of sovereignty. The solution to this paradox is that we are dealing with two concepts. One is sovereignty and the other in power. A net gain in power does not offset a loss of sovereignty.

A third complication is that the transfer from B-land to S-land typically does not come equally to everybody. It is typically paid directly to the government of S-land. It hence make the government rich relatively to the population and increases the mechanism termed automatic socialism in Subsection I.2. The political leadership of S-land hence tends to like the union better than people do.

In all polls made about the EU it is a constant finding that the »elites« of all member-countries like the EU much more than people do. The gulf between the elite and the people is especially large in the small EU-countries

III.5 The dynamics and two examples

The model is designed to discuss the relation between any two parts of a union, where one is much smaller than the other. We can now see what conditions that have too:

(A) The big county pays enough to the small to offset the loss of sovereignty. This explains the strange »mini-remainders« of the old »empires - all these mini-remainders are all very small and

very expensive.

(B) The population in the small country recognizes that the union gives it a sufficiently large gain by offsetting the small country disadvantage.

Obviously (A) would appear to imply that the small country is poorer than the big one or that the small country finds a way to free ride on the economic system of the rich one in such a way that it makes a sufficiently large gain.

Let us consider two examples: the unions between Denmark and Greenland and the union between Denmark and the Faeroes. In both cases one part is very small, and both unions are very expensive for the big country - being only possible as the small country is about 1% in size of the big one. The historical process by which the union with Denmark came about is very different in the two cases:

Greenland started as a colony with a very poor non-European population, and the present union-situation is a part of a colonial liberalization process. However, the process has developed into a trap for both countries as Denmark has got into paying an enormous annual subsidy, that makes the Greenlandic state one of the richest in the world. It receives an annual subsidy of $ 10'000 per capita. It thus has more than half the GDP in its hands even before it starts to tax. That is the subsidy is a bit larger than the GDP would be without the subsidy. The subsidy started suddenly in the early 1950s and it created a rapid, but very skew, growth of the Greenlandic economy in the 1950s and 60s into an extraordinarily distorted economy, where growth ceased. By the mechanism discussed in I.2 the subsidy came to create a state that owes everything, and a political system who has no interest in reforms. So the grant has created a wealthy economic »monster« that is unable to develop and has no real interest in reforming. The idea - if one asks the political parties in both Denmark and Greenland - is that the annual gift is to help Greenland becoming a normal wealthy economy, and that the grant shall then be gradually reduced. At the speed this process has been going for the last 15 years this will never happen. Nobody predicted or wanted this outcome, and it is in the long-run interest of nobody, but once again economics has proven much stronger than the individual decision-makers involved. Now everybody prefers speaking about the short run only. Here the situation has reached a rather strange equilibrium with no easy way out.

In the case of the Faeroes, the historical process was very different as the islands were always a part of the Danish Kingdom, treated as any other part - that is somewhat like Bornholm, Jutland, Norway, Holstein or Iceland. The long distance and geographical isolation created a strong identity, and that has gradually developed into a very real political independence, however, legally a very strange situation persists. The mechanisms seen in an extreme version in Greenland, also work in the Faeroe case. The aggregate public activities are relatively large, the non-resource-rent based K-sector is small and not developing, etc. These mechanisms have caused the economy to be very dependent upon the most volatile of all primary sectors: the fishing sector. It is particularly volatile as the sector has managed to keep the resource rent. The Faeroe state receives the Danish grant it does not really need to extract the resource rent, as would otherwise be demanded by economic logic. The result is a bang-bang economy that for the last 20 years has been through larger economic fluctuations than any other rich western economy, and that probably will for the next 20 years come to experience equally large

fluctuations. In the long run such fluctuations are surely very detrimental for economic growth. Here the situation is much more fluid, and it appears that several solutions are almost equally likely.

IV Concluding remarks

The small model drawn above in a number of versions illustrates the nature of the deal that makes a union between two countries with very asymmetrical size possible.

The main point is that the interests of the small part is easy to understand. It gets two types of economic advantage an integration partly offsetting the small-country disadvantage and a grant, against a very moderate loss of sovereignty. The interests of the large country are much harder to understand. Reactions we do not understand are hard to forecast. However, we note that a considerable number of rich countries have been willing to pay a great deal for keeping small countries within their commonwealth.

However, in the interest of both partes it would appear that it is crucial that all legal aspects are very carefully defined, and only renegotiated with long intervals. This - especially - would be a great advantage for the small country as the sovereignty dimension in the policy-space is an extra dimension. Political decision making is even under the best of conditions always very difficult, but with an extra dimension it becomes even more so.

At the end let us look at the concrete case of the Faeroes. It is a country with an economy that is based on fishing. A lot of experience show that fish-based economies are bound to be very volatile. To steer such an economy is surely very difficult. Also, the Faeroes need several large and politically very heavy reforms. I think that no outsider can observe eg the municipal structure and the fishing policy of the islands and consider the policies in areas without getting a strong impression that here are fields needing large reforms. For an economy as the Faeroes to have an extra dimension in its policy space is particularly unfortunate.

On the other hand it is obvious that the most stable factor in the economy of the Faeroes has been the grant from Denmark. Without that factor the economy would have been even more volatile.

References:

Borner, S., & Paldam, M., 1998. *The Political Dimension of Economic Growth*. For the International Economic Association. Macmillan.

Borooah, V. K., Growth and Political Violence in Northern Ireland, 1920-96. Cpt 14 in Borner & Paldam (1998)

Gavin, M., & Hausmann, R., 1998. Macroeconomic Volatility and Economic Development. Cpt 5 in Borner & Paldam (1998)

Mueller, D.C., ed., 1997. *Perspectives on Public Choice. A Handbook.* Cambridge UP: Cambridge UK.

Nannestad, P., & Paldam, M., 1999. *The Costs of Ruling*. Paper for workshop 12 at the ECPR 1999 Meeting in Mannheim

Paldam, M., 1994. *Grønlands Økonomiske Udvikling. Hvad skal der til for at lukke gabet?* Aarhus Universitsforlag: Aarhus.

Paldam, M., 1996. Købe venner købe frænder. Cpt 12 in Bukh, P.N.D., & Skott, P., eds. *Markeder i Opbrud.* Aarhus Universitetsforlag: Aarhus.

Paldam, M. 1997. Dutch disease and rent seeking: The Greenland Model. *European Journal of Political Economy*, 13: 591-614 (See also *Nationaløkonomisk Tidsskrift* 1995: 29-51).

Paldam, M., 1998. Den politiske økonomi for Eus integration. Et forsøg på at generalisere de danske erfaringer. Cpt 3 in Quigstad, J.F. & Skånland, H., eds., ØMU og Pengepolitikken i Norden. Særutgave av Peger og Kreditt, Norges Bank: Oslo.

Syrquin, M., 1988. Patterns of Structural Change. Cpt 7 in Chenery, H.B. & Srinivasan, T.N., eds, *Handbook of Development Economics* Vol I: North-Holland: Amsterdam.