

# **The Local Impact of European Policy Integration – some Issues relevant to the Nordic Countries**

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## **Preface**

Across all Nordic countries there is now an intensive debate on changing responsibilities and the division of labour between the state and the regions. Recent trends toward decentralisation have been accompanied by a further trend towards supranational centralisation. Besides the extensive adoption of European legislation into national law, this trend has been most notable in the field of macroeconomic policies. Although macroeconomic policies have no intended geographical bias, there are certainly unintended effects. An understanding of how the regional economy is affected is therefore necessary in order to make informed choices between different the policy designs and different policy instruments to be targeted at the regional level. In this report Stein Østbye, University of Tromsø, discusses some issues relevant to the Nordic countries concerning the local impact of European policy integration.

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## 1. Introduction

It is now generally accepted that state autonomy has increasingly come under pressure from two different angles in recent times.<sup>1</sup> On the one hand, we can posit the trend towards the decentralisation of the public provision of goods and services. Such decentralisation may take different forms: Through the re-allocation of authority from the national to the regional governance level, or through privatisation and the imitation of private management practices thus delivering greater influence to markets and proportionately less to politics. The second, and somewhat older trend is that of the centralisation of policy instruments, not from a regional to a national level, but rather from the national to the supranational level. This trend has been visible for the whole post-war period, beginning in the economic area with the institutions emerging from the Bretton-Woods conference in 1944 and the subsequent development of regional trading blocs. Undoubtedly however this process has gained in momentum over the last decade, in particular through the creation of the single market in Europe and more recently through monetary union. Perhaps the most remarkable example of the state's loss of autonomy is the adoption of European legislation into national law, not only in the Nordic countries participating in the European Union, but also in those who remain outside, i.e. Iceland and Norway, but nevertheless remain significantly effected through participation in the European Economic Area agreement. When a new law is adopted, the national economic implications are often difficult enough to gauge in advance let alone the regional implications within the country (for the experience in Norway, see Statskonsult 2000). This issue urgently deserves more attention and should thus be high on the agenda for future research. This is the case not so much because autonomy could be regained through influence on the process preceding the EU decisions, but more because the ability to translate preferences into authoritative actions through domestic policy depends on knowledge of how the effects condition the outcome.

The trend towards centralisation is also notably present in the field of macroeconomic policy. Knowledge of the various intra-national effects of such policies makes little or no difference to the pursuit of supranational macroeconomic policy, but it certainly makes a difference when it comes to choosing the right decisions in policy areas where a significant measure of autonomy remains at the national or regional levels. *As such, the simple message is that the performance of domestic policies cannot be properly evaluated without some knowledge of the constraints imposed by the trend towards centralisation in general, including the ongoing centralisation of macroeconomic policies in Europe.*

Although macroeconomic policies have unintended intra-national effects and may therefore be analysed from a regional policy perspective, studies of the intra-national impact of *national* macroeconomic policies hardly exist. Some exceptions to this can be found in Blake (1995) on the regional implications of monetary and fiscal policy in the U.K., and, ignoring the distinction between national and federal, a study on the implications at the state-level of federal monetary policy in the U.S. (Carlino and

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<sup>1</sup> "State autonomy" as an analytical concept is discussed in Forder and Menon (1998), pp.2-4. The nature of the two-dimensional pressure has been discussed in general terms by several authors from different disciplines, notably Keating and Loughlin (1997), Lindström (1996) and Cassella (1992,1994).

DeFina 1998, 1999). On the other hand, there are several available studies relating to the *ex ante* evaluation of *supranational* macroeconomic policies in light of monetary union in Europe.

An interesting observation by Genberg (1999) is that the creation of a monetary union may lead to larger fluctuations in the demand for goods imported from countries outside the union if the economies of the member states become more synchronised, a point made also by Frankel and Rose (1997). Studies based on data relating to European *regions* rather than countries *per se* (i.e. Bayoumi and Eichengreen 1993, Grauwe and Vanhaverbeke 1993, Forni and Reichlin 2001, Fatás 1997), indicate that international differences may indeed be declining, but at the same time intra-national differences seem to be on the increase. The implication here being that some regions are now increasingly out of phase with others. It may come as no surprise that this group of regions is comprised of several peripheral areas such as Sicily and most of Greece. Unfortunately, regional data from the Nordic countries is absent from the studies mentioned above. We would not be surprised, however, if regions classified as periphery along traditional dimensions, in general turn out as periphery regions in this respect as well. Here then is another gap that should be filled: *regions in the Nordic countries susceptible to increased macro risks should be identified*. A small step in this direction is provided in the appendix, where a pilot study based on Norwegian data is presented. The results are directly comparable to Fatás (1997), and the study could easily be replicated for data from the other Nordic countries. A tentative conclusion is that regions with predominantly resource-based economies, seem to be particularly ill suited to supranational policy targeted at the European average.

The intra-national effects mentioned above are related to the fact that we do not have synchronised business cycles across regions. There are also less obvious connections working through institutions. Monetary policy may be transmitted in different ways in different regions and lead to different real effects in the short run, even when the industry structure is identical, often because of capital market imperfections (Carlino and DeFina 1998). The basic argument is that monetary policy not only affects the real economy through interest rates (the traditional Keynesian transmission mechanism, or *money* channel), but also the size of the external finance premium that exists because of information asymmetries between borrowers and lenders (the *credit* channel). Moreover, there is some evidence to suggest that contractual monetary policy has the strongest real effect in regions with small banks and small firms (Hanson McPherson and Waller 2000). It would not be surprising therefore if the regions identified as those susceptible to increased macro risks were also the regions where the credit channel was the most important.

Another possible mechanism, one likely to be of particular interest to the Nordic countries, works through the effect on wage setting institutions. Some recent studies discuss the connection between supranational macroeconomic policy and the feasibility of co-ordinated wage setting (Calmfors, 2000, Holden 2001). There is already a well-corroborated connection between centralised or co-ordinated wage setting and wage compression (Wallerstein, 1999). Wage compression pertains also to regional wage differences (Moene and Wallerstein, 1997). There is also a possible connection between centralised or co-ordinated wage setting and investment in new technology, in particular in regions with slack in their local labour markets. We call this the Rehn-Meidner effect after the Swedish economists Gösta Rehn and Rudolf

Meidner who made the argument in the early post-war period (Rehn 1952, Meidner 1974). If co-ordinated wage setting is replaced by local wage setting, we expect relative wages to fall and technological change to slow in peripheral regions compared to the economic core regions. This is a good example of the importance of awareness concerning the larger picture: The effect of macroeconomic policies on the regional economy through the change in wage setting institutions may mistakenly be attributed to the design of a regional or sectoral policy. Again this reminds us that we need to know how the backdrop is likely to change from policy-off to policy-on, in order to evaluate the impact of policies *ex ante* as well as *ex post*.

The body of this paper is organised as follows. The tendency to supranational centralisation in Europe and the implications for macroeconomic policy in the Nordic countries will be discussed in Section 2. The connection between the supranational centralisation of macroeconomic policy and the national co-ordination of wage bargaining is discussed in Section 3. Regional wage compression and the Rehn-Meidner effect are discussed in Section 4. The connection between the macroeconomic policy level and regional macro risks is discussed in Section 5. Section 6 concludes with a discussion of research priorities.

## **2. Centralisation of macroeconomic policy**

The European integration process has a decisive on-going impact on the policies and policy processes, not only on member states inside the EU, but also of the states partially outside, and in particular the members of the EEA. In fact, the distinction between members and non-members has been blurred by the introduction of Economic and Monetary Union, where Finland is the only Nordic member so far. Let me briefly recapitulate the situation: apart from Finland, Sweden is the only Nordic country likely to join the monetary union in the foreseeable future. Unlike Denmark, who negotiated an opt-out clause before signing the Maastricht treaty, Sweden has formally made no reservation concerning EMU membership, except for approval by parliament. When Sweden becomes a member is probably dependent on a swing in popular opinion from the current (at time of writing) predominantly negative stance, towards a more favourable view on EMU. Economic recessions are a good predictor of increased demand for integration in Europe, as convincingly argued by Mattli (1999), and troubled times are sure to return sooner or later, even to Sweden. Denmark used its opt-out clause after a referendum turning EMU down despite overwhelming support from the political establishment. It is hard to see how Denmark could therefore be an EMU member within the foreseeable future, *de jure*, although membership in some respects, *de facto*, may be achieved through *policy mimicry*. This is of course also an option for the Nordic countries outside the European Union, namely Iceland and Norway, neither of whom are eligible for membership proper. In summary, the Nordic countries are themselves highly representative of *l'Europe à vitesses multiples*. In the long run, however, the likelihood is that the levers of national economic management will increasingly come to be shared within the EMU is something that goes for all countries, albeit, at least for the moment, at very different paces. In the short run however, the differences in national autonomy are important and may continue to be so for some time.

The most obvious loss of autonomy as regards EMU membership is the loss of the exclusive right to issue money. By issuing money the State may finance public expenditure. The revenue raised, *seignorage*, depends on money growth and real

money balances. The larger real money balances people are willing to hold in a currency, the larger is the seignorage earned, *ceteris paribus*. If the part in the seignorage that a member of the monetary union receives deviates from the seignorage earned outside in a substantial or significant way, the issue would deserve some attention from an intranational point of view, as the possibility of financing expenditures in general, and regional expenditures in particular, would be affected. Sinn and Feist (2000) estimate the loss of seignorage for members, such as Finland, as well as potential members, like Sweden and Denmark. All of the Nordic countries are estimated to have a small net gain by joining EMU.<sup>2</sup> Hence, we dismiss the discussion on seignorage as mostly irrelevant.

A potentially more important aspect of acceding to Monetary Union is the loss of control over short-term interest rates, a power that would then be left to the European Central Bank. As such, members would then be unable to set their own interest rates, even though a uniform interest rate may be destabilising if the national economy does not follow the aggregate European cycle. From a regional point of view, the interesting question is whether the regional cycle is closer to the national cycle than to the European. If so, the change in regime would mean that the regional economy faces increased macro risks in the sense of larger fluctuations and less predictability as regards output, employment and inflation, caused by bad timing of interest rate changes.

In theory, the situation would not be much different for Denmark outside the EMU, who has chosen to peg its currency to the Euro in a narrow band. Under the assumption of perfect capital mobility, implying uncovered interest parity, the Danish interest rate would be almost equal to that of “Euroland”. However, empirical evidence supports the view that parity is violated. It appears to be a risk premium in the foreign-exchange market that varies over time (de Santis and Gerard, 1998). As such, there does not necessarily have to be a perfect correlation between the domestic and the European interest rate. But this does not necessarily imply greater national autonomy in terms of monetary stabilisation policy as the Danes can hardly be expected to pursue a policy based on manipulation of the credibility of their own currency. Rather, it simply equates to no autonomy with more uncertainty under normal circumstances. Still, Denmark retains the possibility to leave the peg as a precautionary step if a strong shock should occur. This may however prove to be an important option not available under EMU membership, but one that could only be utilised in an extraordinary situation.

Sweden has chosen to let its currency float and to pursue price stability through a flexible inflation target. Norway is in the same position after, *de facto*, giving up an exchange rate target in early 1999 (formally acknowledged by the Government in March 2001). Using national autonomy in monetary policy through discretionary

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<sup>2</sup> Finland is estimated to receive a net gain equal to 634 Euro per capita in present values. If Greece, Denmark, the UK and Sweden all join, Denmark is estimated to receive a net gain equal to 409 Euro and Sweden 330. In this case Finland’s net gain would be reduced by 108 Euro, most of it being redistributed to the benefit of the UK. These estimates are small – a message that would have been better conveyed by the authors to the general public if the estimates had been expressed as annuities rather than present values.

interest rate changes, the nominal currency appreciates when the interest rate is raised and *vice versa*. The disadvantage for exporters represented by fluctuations in the exchange rate can be avoided simply by substituting the Euro for local currency. Importers may do the same, leading to a one-for-one correspondence between the exchange rate and the contribution to the domestic price level. At the limit, if all transactions, domestic and foreign, were quoted in Euros, such a policy of price stability would of course be no different to that of the Danish policy for fixed exchange rates. Hence, the room for national autonomy depends largely on the degree of currency substitution between the Euro and other currencies. Trade data for Norway and Sweden with EMU members, eventually including countries pegging their currency to Euro, could thus give some indication of the degree of autonomy. Of course, if uncovered interest parity is violated, even as an approximation, there is considerable leverage for the Central Bank to raise or reduce interest rates as compared to those in “Euroland”. The Norwegian experience from 2000 suggests that the Central Bank may indeed raise the interest rate substantially. In this light it becomes an interesting question then to ask what the reasons for this autonomy may be?

In summary, autonomy to pursue a national discretionary monetary policy appropriate to the national business cycle is practically non-existent in Finland or Denmark, though it is somewhat greater in the other Nordic countries, depending on how integrated the economies are with that of “Euroland”. As such, regions less in step with “Euroland” than with their own nation state face larger fluctuations and less predictability because of destabilising interest rate movements.

A third issue related to EMU is the lack of exit or escape clause in extraordinary circumstances when the national currency no longer exists. Good examples of the usefulness of exchange-rate changes as adjustment mechanisms can be found by looking at Finland and Sweden in the early 1990’s. EMU membership removes this possibility and increases the demand for alternative adjustment mechanisms. Such examples are, movements of mobile factors of production, e.g. labour migration, nominal adjustment of profit margins when goods markets are imperfect, and nominal adjustment of prices on immobile factors of production, e.g. wage rates. When adjustment works through the exchange rate mechanism relative domestic prices are preserved. Hence, the burden of adjustment is born by all citizens. When adjustment works predominantly through other channels, the burden will be distributed less equally. This will most certainly also be reflected in the regional distribution with regions most exposed to foreign competition paying a higher price for deep recessions.

EMU also restricts fiscal state autonomy, through the “Growth and Stability Pact”, agreed in Dublin, in December 1996. States pursuing stabilisation through the use of fiscal policy must observe a restriction on the budget deficit in relation to GDP equal to 3 percent. In cases where this constraint is violated, in principle the pact calls for fines that ultimately are to be transferred to states obeying the restriction. Andersen (1997) compares the deficit-to-GDP ratio for Sweden, Finland, Denmark and Norway in the period 1970-1995. There are several examples of recessions that have caused an increase in the ratio exceeding 3 percentage points. This suggests that the restriction may effectively limit the scope for fiscal policy. This goes for both discretionary and rule-based fiscal policy. Even in the absence of discretionary policy, slumps weaken

the public budget balance through automatic stabilisers. Ultimately, in order to obey the EMU-restriction it may be necessary to reduce the size of the public sector or reduce tax rates, unemployment benefits and other benefits provided by the welfare state, in order to make taxation and public expenditures less cyclically dependent. The consequences are more severe in regions where the public sector is large, and tax rates and benefits high. Even life outside EMU may not however provide insulation from this scenario. Andersen (1997) argues that the more national economic policy deviates from the EMU norms, the less credible a unilateral exchange-rate peg will be. Hence, in order to maintain credibility in the foreign exchange market, Denmark may feel constrained by the Growth and Stability Pact, even outside EMU. For Norway, the constraint may be less severe. The public funds of revenues from oil and gas extraction may act as an effective buffer here. But the Norwegian situation is unique.

Closing this section, Finland is probably the country losing most autonomy given its formal membership of EMU. Non-members are however significantly affected as well, and Denmark probably more so than most, given its choice of exchange rate regime. The loss of autonomy in monetary policy calls for more alternative instruments targeted at the national and intra-national levels. However, arrangements such as the "Growth and Stability Pact" and provisions motivated by fair trade in EU legislation reduce rather than increase flexibility.

### **3. Policy level and wage setting**

Most studies on wage setting simply take the bargaining level as exogenously given. But bargaining levels are different in similar countries and over time. It is therefore both interesting and pertinent to know what drives these changes. Following Holden (2001), it is argued here that the centralisation of macroeconomic policy beyond the national level may have an important effect on wage-setting institutions.

The Nordic countries have in general been conceived as countries with highly centralised wage bargaining systems (Calmfors, 2000, Table 1, 2, 3 and 6; Wallerstein, 1999, Table 5). In recent years, Denmark, Finland and Sweden, have moved in a more decentralised direction in the sense that the formal bargaining level has gone from that of the national to one of industry-wide bargaining (Calmfors, 2000, p. 6). However, at the same time there has been a general tendency towards more informal co-ordination in the form of social pacts on wage moderation in many European countries. Classifying countries according to actual co-ordination as opposed to formal centralisation, Denmark is still considered to be an example of centralised bargaining, along with Norway. Finland and Sweden are now by some analysts considered intermediate cases. However, none of the Nordic countries have systems of local wage bargaining as in U.K., where the move has been from industry-wide to local bargaining in recent years.

The question posed in this section is then to what extent the creation of EMU is likely to affect the predominantly central bargaining systems in the Nordic countries. Can we expect the Nordic countries to follow the UK's lead, or will perhaps the Nordic model be adopted at the European level?

Holden (2001), using non-cooperative game theory, argues that membership in EMU makes co-ordinated wage setting less likely. He considers an economy with several industrial unions where un-coordinated wage setting leads to an equilibrium with

higher nominal wages and higher unemployment than was deemed acceptable by the unions. A preferred trade off with lower unemployment could have been achieved through co-ordination. In principle this could be achieved in several ways: The externality through the wage obtained by one union and the aggregate unemployment rate affecting all unions could be internalised if industry-wide bargaining was replaced by nation-wide bargaining. Another possibility could be that the unions signed binding agreements up front.

Although there are empirical examples of both arrangements, they are rare. Apart from these solutions there is the possibility that co-ordination can be sustained as an equilibrium motivated by self-interest: there must be long -term costs to the union from deviating, and they must be sufficiently high to predominate over the short-term gain. The monetary regime may affect the cost-benefit margin and therefore the incentives for the unions to co-ordinate. If the monetary regime is strict in the sense that high nominal wages are met by high interest rates in order to maintain price stability, unemployment will rise substantially. This will discipline the unions even when they do not co-ordinate. The short- term benefit of deviating is small, but so is the cost. The incentives for co-ordination may therefore be too small. On the other hand, if the monetary regime is accommodating, high wages do not lead to higher interest rates and therefore to less severe effects for unemployment. Compared to the strict regime, the disciplining effect for wage restraint is smaller. The short run gain is increased, but so is the cost of breakdown. Since the loss of a breakdown is related to the deviation by all unions after the first period and the gain only to the deviation by one union during this period, the cost dominates the gain. Hence, co-ordination is less likely under an accommodating monetary policy than under the strict one. By implication, co-ordination is more likely inside EMU than outside under a strict monetary policy, since the unions will anticipate that the European Central Bank will not respond to the increase in wages. Although the ECB pursues a strict policy at the European level, the reaction to higher wages in small countries is negligible and therefore equal to an accommodating national policy. Although there are other arguments that possibly qualify these predictions, it is interesting to note that we could expect some changes of the bargaining level in the Nordic countries which may be caused by EMU. Denmark would be expected to preserve its co-ordinated wage setting. Finland would go back to more co-ordination. The intermediate position in Sweden continues outside EMU, and will possibly be reversed inside. Norway moves in the direction of less centralisation through the change from a fixed exchange rate target to an inflation target.

It would be interesting to expand the analysis and look at two more alternatives: Is it likely that inflation-targeting outsiders move further in the direction of decentralisation, from industry-wide to local bargaining at the level of the firm. Is it likely that insiders and pegging outsiders move further in the direction of centralisation, from co-ordinated industry-wide bargaining at the national level to industry-wide and even co-ordinated industry-wide bargaining at the supranational European level? It appears that no formal analysis has been conducted with the express intent of analysing these questions. Calmfors (2000) offers some speculative suggestions, but solid work is needed here in order to move forward.

There are of course many obstacles to the centralisation of wage bargaining across European borders, some of which are discussed in Marginson and Sisson (1998) and

Calmfors (2000). However, one important aspect related to European wage bargaining has gone unnoticed. We will however return to this point in the next section in connection with the discussion on the Rehn-Meidner effect when we look at the *regional* implications of a change in bargaining levels.

#### **4. The intra-national implications of the bargaining level**

A significant finding taken from the empirical studies undertaken on this issue is the lower wage dispersion in countries with centralised or co-ordinated wage bargaining (Wallerstein, 1999). This wage compression is manifest along several dimensions, but for our purpose we should emphasise *regional* compression (Moene and Wallerstein, 1997, p. 404). A short discussion on wage compression in the Nordic countries can be found in Pedersen (1996), p.22-23. Most of the empirical attention, however, seems to be directed to other dimensions by studying inter-industry, intra-industry and intra-firm rather than inter-regional compression. The link between bargaining level and regional wage compression deserves closer scrutiny based on data from the Nordic countries before closing the case, but the correlation and possible causation may serve as a provisional maintained hypothesis.

Some indirect evidence on regional wage compression may be found by looking at the intranational distribution of public sector employment, since wage compression is found to be particularly strong in the public sector, with regional effects practically absent (see Barth and Mastekaase, 1996, and Barth and Kongsgården, 1996).

The distinction between private and public is important, since the “Rehn-Meidner effect” works through the decision by firms to open and close production facilities based on commercial viability, something that is hardly relevant in the public sector. Bargaining at the industry-level raises the wage rate above the rate the least efficient facilities are able to pay, which adds to wage compression by raising the lower end of the wage distribution. As such, facilities are made economically obsolescent at an earlier stage than if local wage bargaining prevailed. The exit of old facilities makes room for the entry of new, more productive ones. Centralised bargaining therefore stimulates structural change and increases productivity. But there may be more to this. If wage compression also pertains to the higher end of the wage distribution scale, wage formation acts as an explicit subsidy to highly productive facilities and thus not only as an implicit subsidy through the tax effect on low-productivity ones. Hence, the mechanism for structural change is more effective if compression works from above as well as from below.

Centralised bargaining is always supplemented with local bargaining. In some regions the centrally negotiated wage rate may be above the market clearing wage rate. In other regions local labour market conditions inflate the going wage rate through wage drift negotiated at the local level. The wage level in these regions is therefore probably closer to the wage rate under local bargaining. Although the higher end of the wage distribution in the private sector might have been subject to compression through centralised wage setting in certain periods, it is difficult to understand that a wage level below the feasible level through local bargaining can be sustained.<sup>3</sup> It is

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<sup>3</sup> This is debatable. Holden (1989) and (1998) argues that a lower level may be sustained, depending on the extent of co-ordination and the designed of the rules of conduct in cases where wage bargaining breaks down.

therefore reasonable to predict that the Rehn-Meidner effect operates predominantly from below in regions where productivity is low and from above, though not in so forceful manner, in regions where productivity is high. As such, centralised bargaining represents a substitute to competition for labour in local markets, and thus acts as a catalyst for structural change. The relationship between centralised bargaining, wage compression and productive efficiency is particularly well documented through the work of Douglas Hibbs and Håkan Locking on Sweden (Hibbs and Locking 1996, 2000). They find evidence on wage compression at both ends of the scale. The regional perspective is however unfortunately missing.

It is interesting to observe that although Norway has possibly been the most persistent example of centralised bargaining in the world, the Rehn-Meidner effect there may have been partially neutralised through the system of regionally differentiated payroll tax rates. Lower rates in presumably less productive regions have reduced producer wage rates and probably delayed the introduction of more modern facilities. Since there are reasons to believe that the payroll tax system may be abandoned (see Østbye 2001), the Rehn Meidner effect may however become more important in future if bargaining above the local level is maintained.

At the risk of over-simplification, let us make some tentative predictions about the regional implications of less autonomy in macroeconomic policy through the effect on wage setting institutions, based on the reasoning so far. In countries where we expect more centralised or co-ordinated wage bargaining because of EMU membership or policy-mimicry, countries such as Finland and Denmark and possibly also, in future, Sweden, wage rates should be higher in peripheral regions with less employment, but with a more modern industry structure. The implications of this for outsiders with a strict monetary policy depends on whether decentralisation of wage setting will go further, in which case we expect the adverse outcome: lower wage rates, more employment and a wider gap between actual and best practice technology in the periphery.

Let us for a moment leave the narrow regional perspective and instead re-focus our attention on an issue considered to be a major long-term macroeconomic problem in Europe today: many countries have experienced rising debt levels over time. Allsopp (1998) argues that a cure for the problem must involve a revival of productive investment by the private sector, and he concludes somewhat pessimistically: "There is no credible strategy to achieve this. But, if the needed higher investment is not achieved, this does not just mean a slightly lower growth but a continuing tendency to recession and unemployment combined with a failure to bring public borrowing and debt under control" (ibid., p. 171). Could the Rehn-Meidner effect be the solution to this problem and industry-wide bargaining in Europe the strategy called for? As already mentioned, there are many obstacles to collective bargaining at the European level. However, collective bargaining at the European level is not necessary in order to make the Rehn-Meidner effect work. All that is needed to improve upon the present situation is a move towards more centralised collective bargaining in more countries.

## 5. Policy level and regional macro risks

As pointed out by Frankel and Rose (1997), economic cycles are not exogenous but may change as economic and political integration develops. They argue that cycles become more synchronised as a consequence of the creation of economic and monetary union.

What is the evidence that integration has made macroeconomic cycles in Europe more synchronised?

Fatás (1997) analyses fluctuations at the regional, national and European levels, using annual data on employment. One advantage of this approach over more common measures of economic activity, such as GDP, is the availability of relatively good quality employment data at the regional level. Comparing the change of correlations over time beginning in 1966 and ending in 1992, a general finding is that the correlation of employment across national borders have increased and the correlation between regions within some countries has decreased. "For example, in the post-EMS period, northern Italian regions display higher correlations with German regions than with southern Italian regions." (ibid., p. 749)

This description is confirmed by other studies using other measures of economic activity and more sophisticated methods, see in particular Forni and Reichlin (2001) presenting results at the NUTS 2 level (no data on Nordic regions). They find that most regions appear to move in step, but notable exceptions are Sicily, Sardinia, some UK regions and Groningen.

So the data is consistent with the view that economic cycles on average become more synchronised while at the same time some regions are moving increasingly out of step. This implies that all regions face increased macro risks in the sense that fluctuation in demand for a region's export is amplified.

Inside EMU, increased fluctuations may not be a large problem for regions moving in phase. A large part of the variance is common and may be eliminated through the use of a common monetary policy targeted at European stabilisation. The part of the variance that is specific to the country cannot be removed as was previously the case with a national central bank, but this is not a problem related to increased fluctuations, *per se*. Other possible remaining problems relate to increased unpredictability because of larger changes in the interest rate, and larger fluctuations in the value of Euro quoted in USD or Yen through the effect of the interest rate in foreign exchange markets. For regions inside that are out of phase, the situation is however totally different. If interest rates fluctuate more in response to increased synchronisation, idiosyncratic economies are stimulated when domestic conditions ask for contractual policies and depressed when the call is for expansionary policies.

For regions outside EMU, the reference point for monetary policy is the national and not the European aggregate cycle. If the options are to join or to stay out of the EMU, interesting conflicts would arise if the national cycle is idiosyncratic and the regional one not: for some regions the local cycle may be more in phase with the European than the national average, or indeed *vice versa*. The same type of conflict would arise in the choice of exchange rate regime outside EMU, between a fixed exchange rate

target and an inflation target. In this case than an interesting issue would be, how regional payoffs in terms of reduced fluctuations depend upon the exchange rate regime.

The salmon farming industry in Norway provides an interesting and relevant case study of the local impact of exchange rate fluctuations and by extension, the exchange rate regime. Unexploited farming locations for future expansion are predominantly in the peripheral north. Salmon farming is becoming increasingly important in these areas. At the same time, the demand for salmon is volatile and the single most important determinant of demand has been identified as the exchange rate (Kinnucan and Myrland 2001). The volatility caused by exchange rate movements could be eliminated if Norway adopted the Danish policy.

What about the Nordic regions? We do not know much. Hassler (1997) looking at Swedish manufacturing asserts that the risk that some regions would be particularly hard hit by an EMU membership is not high as, in reality, there are small variations in industry composition. However, it would be interesting to know much more and the Fatás approach based on Nordic data is interesting in this regard.

Differences in industry composition may be one reason why cycles are correlated or not, as noted by Hassler. Although the simple lack of data on the industry-mix at the regional level precludes regional analysis, interesting data does exist for the national level. Midelfart-Knarvik et al. (2000) show that the industrial structure of EU member states has become increasingly different over the last 20 years: Denmark is similar to Ireland, Belgium, and the Netherlands. Finland and Sweden have remained similar to each other but have become increasingly different from the rest. Germany and Italy are becoming increasingly different from each other as well as from the UK and France, etc.

As such, it appears that specialisation between countries has increased. In view of the evidence that cycles appear to be more synchronised, industrial composition thus seems to be a poor guide to the existence of cyclical movement.

Industrial composition may be more useful as an indicator of sensitivity to monetary policy through the money channel. Several studies have dealt with the impact of interest rate changes on the economy. These studies do not however discriminate between the effect seen through the money channel and that through the credit channel (Carlino and DeFina 1999, Dornbusch et al. 1998). Unfortunately, results differ and methodological problems abound, leading Kieler and Saarenheimo (1998) to conclude that the jury is still out in this case.

## 6. Discussion

The centralisation of macroeconomic policy has a potentially important impact on regional economies. An understanding of how the regional economy is affected is naturally however necessary in order to make informed choices between different policy designs and different policy instruments targeted at the regional level.

Several possible channels of influence are identified. One channel is that through the effect on the level of collective bargaining. If collective bargaining is made less centralised, there is convincing evidence that wage dispersion is increased. This is also claimed to be true for the regional dispersion of wages, but more evidence in this respect would be welcome. If wage dispersion is increased there are also reasons to believe that the rate of change in the industrial structure will slow down, as studies on Swedish data seem to indicate. Here, it should however be a priority to include the regional dimension. This could be done if the study by Hibbs and Locking (2000) was extended to investigate the intra-national bias in the distribution of wage cost and net value added per employee. Theoretically, more work is needed on the connection between national autonomy and collective bargaining, extending the work by Holden (2001).

The second channel identified is that which works through the interest rate. A division of regional industrial composition into interest rate sensitive and insensitive industries provides information on how vulnerable regional production may be to a change in monetary policy. The impact depends on industry-mix, but also on capital market imperfections. Information on the regional financial structure may give some hint of the imperfections, as suggested by Hanson McPherson and Waller (2000). Local banks, eager to document their own roles in the regional development process would probably welcome research in this area.

The third channel works through the effect on regional macro risks. By regional macro risks, we mean the extent of fluctuations in the regional economy, the degree of synchronisation with national and supranational economic cycles and the degree of predictability. We suggest that this is the issue that should be given highest priority. On the basis of available regional data for the Nordic countries, attempts should thus be made to construct an index of macro risk. The purpose of the index would be to provide guidance for policy by showing which regions are the most vulnerable and how the macro risks change for the better or for the worse over time. Although agreements such as the "Growth and Stability Pact" may constrain the overall size of the public sector, the relocation of public sector employment from low risk regions to high-risk regions, should also be considered. In this way, more insurance through automatic stabilisation would be provided where it is most needed.

## **Appendix: Regional macro risks – a pilot study**

A successful European stabilisation policy aimed at smoothing out fluctuations in economic activity at the European level would tend to be expansionary during economic recessions and contractionary during expansions. If a country exhibits idiosyncratic fluctuations, the European policy could be harmfully destabilising, deepening downturns and boosting the booms. However, regional cyclical variations within countries may be substantial. Some regions may be out of step compared to the country, but not compared to Europe. Hence, increased policy integration may be beneficial to the region even when the country is harmed. Other regions must then be worse off.

Our interest here is to make a start towards detecting and monitoring Nordic regions susceptible to increased macro risks, i.e., regions facing the threat of increased destabilisation through a European stabilisation policy because of idiosyncratic and possibly larger than average fluctuations in economic activity (see Genberg, H. 1999, EMU and the changing structure of macro risks. Swedish Economic Policy Review 6, 7-34).

Recessions and expansions are usually defined by reference to quarterly data on real gross domestic product. The convention is to define a period as a recession if the growth rate is negative in two consecutive quarters. Since we will be using annual data, it is reasonable to define a single negative observation as a recession and a positive as an expansion.

Regional quality data on real gross domestic product is scarce. An alternative variable here revealing information on economic activity however is that of employment. In the short run, variation in economic output is attributable to changes in labour productivity and employment. Labour productivity may change for two main reasons: either, because firms hoard labour during recessions and demand more effort during expansions, or because of technological progress. Only the second reason is interesting here as it is an exogenous cause to rising output, whereas the first reason causes productivity to rise when output rises so causality is reversed. On average exogenous labour productivity growth is positive, albeit somewhat different in different countries, regions and time periods. On average therefore, a positive growth rate of employment implies expansion while only a negative rate of some magnitude implies recession. Notwithstanding this caveat, there appears to be reasonable consensus on the degree of European integration in different studies using different data.

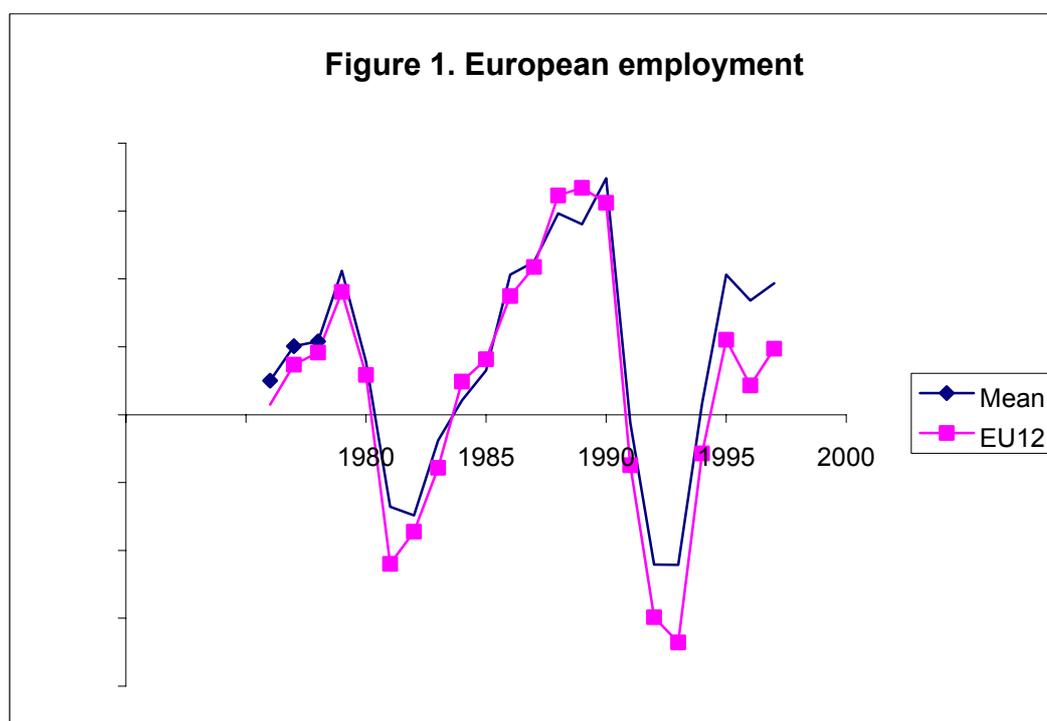
“Our estimates on the degree of European integration based on output data are in line with what was found by Fatás (1997) for employment, Fuss (1997) for income per capita and by Viñals and Jimeno (1996) for unemployment.”

(Forni, M. and L. Reichlin 2001, Federal policies and local economies: Europe and the US. European Economic Review 45, 109-34, p. 120).

The growth rate of employment is defined by  $y_t = \frac{Y_t - Y_{t-1}}{Y_{t-1}}$ , where capital letters denote employment and the index indicates for what year. Hence, if the first

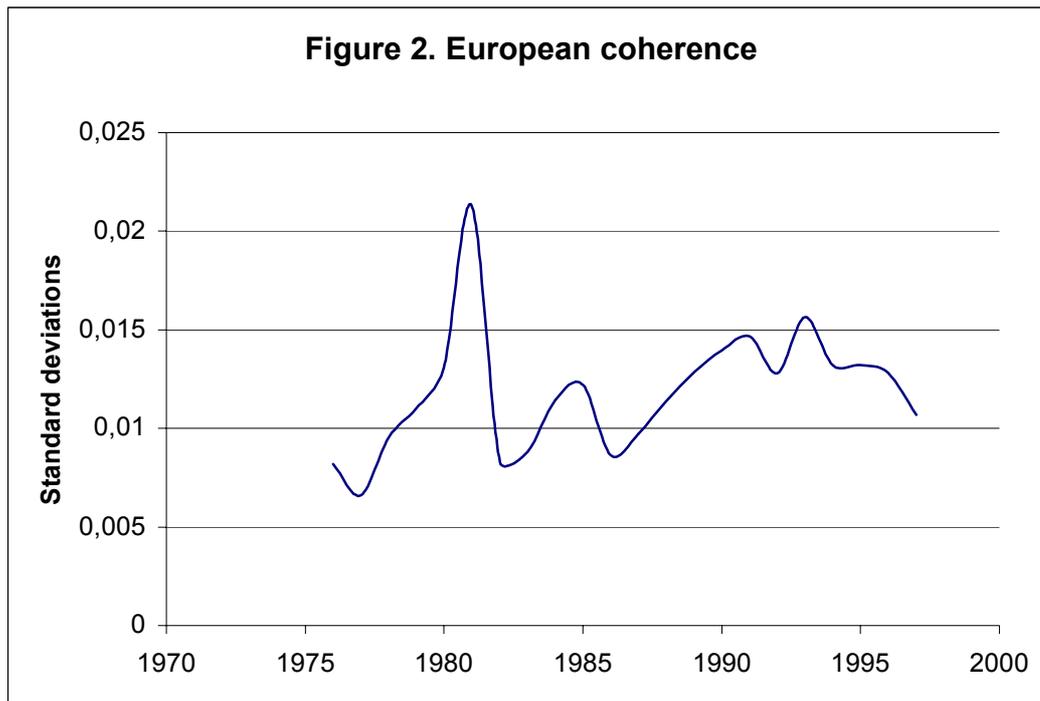
observation on employment is for 1975, the first growth rate observation will be for 1976. Often, growth rates are approximated by  $\ln Y_t - \ln Y_{t-1}$ , the difference in (natural) logarithms, as e.g. in the study by Fatás, op.cit. Since this may be somewhat confusing to the non-specialist, a brief explanation may be warranted. If employment is treated as a continuous rather than a discrete variable and growth is exponential between time  $t-1$  and  $t$ , the growth rate is a constant, say  $g$ . We may write  $Y_t = Y_{t-1}e^g$  or  $e^g = \frac{Y_t}{Y_{t-1}}$ , and therefore  $y_t = \frac{Y_t - Y_{t-1}}{Y_{t-1}} = \frac{Y_t}{Y_{t-1}} - 1 = e^g - 1$ . For small  $g$ ,  $e^g \approx 1 + g$ , implying that  $y_t = \frac{Y_t - Y_{t-1}}{Y_{t-1}} = \frac{Y_t}{Y_{t-1}} - 1 = e^g - 1 \approx g = \ln Y_t - \ln Y_{t-1}$ . Although the error caused by the approximation may be small, though we have computed exact growth rates based on the employment data.

The European employment data is the same as used by Fatás (1997), updated to cover 1996 and 1997. The indicators we can construct from this data that seem most relevant for European stabilisation policy are the arithmetic mean of growth rates for EU12 and the European growth rate based on aggregate employment for EU12. EU12 refers to the 12 members of the European Union as of 1992. The mean is relevant insofar as small countries may be given more weight than their population entitles them to. However, the two indicators turn out to be rather similar. The two series are shown in Figure 1.



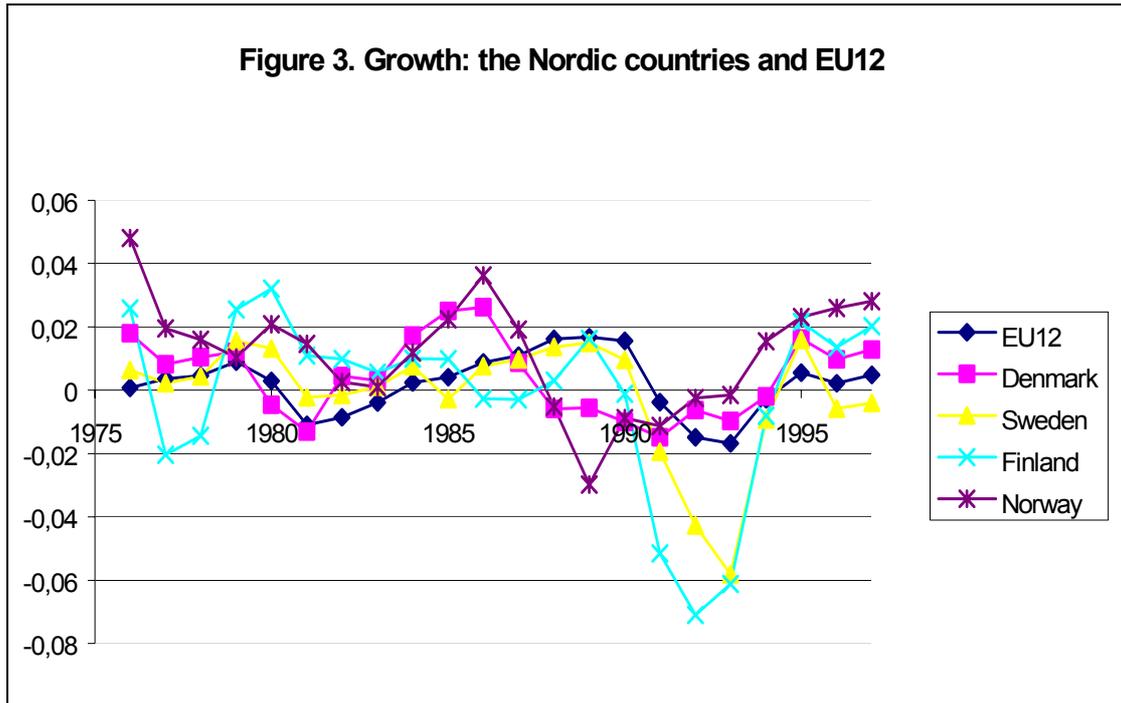
Both series indicate two periods of economic recession, the first during the years 1981, 1982 and 1983, the second a decade later in 1991, 1992 and 1993. The difference in magnitude between the two series tells us that both recessions on average hit harder in large than in small countries. If we look at the growth rates for the 12 countries in the years of European recession, there are interesting differences.

The dispersion in growth rates is shown in Figure 2. There is in particular a large dispersion in the first year of recession, in 1981. This year growth rates varied between -3.4 % for U.K. and +5.2% for Greece, whereas the growth rate in Italy was close to the European mean at -0.7%. A policy targeted at the European average in 1981 would therefore be appropriate for Italy, but far too contractionary for the U.K., and possibly also too expansionary for Greece. We also notice that dispersion is larger than usual in the second period of recession from 1991 to 1994. *If this turns out to be a regularity, the cost of agreeing to a European rather than a national stabilisation policy is greater in times of depression than in times of expansion.*



Now, what about the Nordic countries? The growth rates of EU12 and the Nordic countries are shown in Figure 3.

A visual inspection of the chart suggests that there is no clear-cut connection between the development in different countries and in Europe. When considering the question of how an economy will be affected by monetary policy at the supranational level, what matters is the contemporaneous correlation. As such, do the growth rates move in the same direction at the same time, and is the magnitude of fluctuation rather similar or very different? In the first case, the timing of policy may not be very different when conducted from a national or from a supranational point of view. However, if the fluctuations are larger in one economy than in another there may be some conflict of interest concerning how contractive or expansionary the policy should be. Please observe that possible differences between countries concerning the time a policy change needs in order to be transmitted into the real economy would make the situation more complicated.



**Table 1. Correlation matrix 1976-1997**

	EU12	Norway	Denmark	Sweden	Finland
EU12	1				
Norway	-0.04	1			
Denmark	0.28	0.70	1		
Sweden	0.80	0.21	0.39	1	
Finland	0.53	0.36	0.43	0.85	1

The matrix of correlations in Table 1 confirms that the Nordic countries are not moving in step. Sweden is most in tune with the European development, followed by Finland. This picture is even more pronounced for the most recent years. If we split the sample into two sub-samples representing the period 1976-1988 when unemployment was generally rather low in the Nordic countries, and the period 1989-1997 when unemployment was higher, we may get an impression of how well tuned the countries are in downturns as well as in upturns. The matrices of correlation for the two periods are presented below.

**Table 2. Correlation matrix 1976-1988**

	EU12	Norway	Denmark	Sweden	Finland
EU12	1				
Norway	0.03	1			
Denmark	0.30	0.56	1		
Sweden	0.73	-0.01	-0.05	1	
Finland	-0.18	0.14	-0.18	0.31	1

**Table 3. Correlation matrix 1989-1997**

	EU12	Norway	Denmark	Sweden	Finland
EU12	1				
Norway	-0.24	1			
Denmark	0.20	0.76	1		
Sweden	0.93	0.02	0.45	1	
Finland	0.83	0.26	0.66	0.91	1

For Finland there is a remarkable break when comparing the two periods. While development in the first period was negatively correlated with EU12, the correlation in the second period is positive and indeed rather high. Finland and Sweden appear to be the countries best suited to the timing of a European stabilisation policy as judged by reference to the recent period. Denmark, and particularly Norway appear however to be moving in the opposite direction. Denmark seems to be less integrated with Europe than it was in the first period, and Norway is the odd man out as its development is moving contrary to development elsewhere.

Let us now move on to look at *intra-national* development. Are all regions moving in step or are some regions out of phase with the country, and perhaps more in phase with Europe? To partially answer these questions we need to look at data for Norwegian regions. The regional data for Norway was kindly provided by Mr. Tor Petter Bø, at Statistics Norway. It should be noted however that this data does not correspond strictly to the European NUTS 3 level of aggregation. Some Norwegian regions corresponding to the NUTS 3 division, are aggregated. The units of analysis are: Akershus, Oslo, Hedmark and Oppland, Buskerud and Telemark, Østfold and Vestfold, Agder and Rogaland, Hordaland and Sogn og Fjordane, Møre og Romsdal, Sør-Trøndelag and Nord-Trøndelag, Nordland, Troms and Finnmark. Growth rates for employment have been computed for these 11 units based on average annual employment data for the period 1975 to 1997.

Tables 4, 5 and 6 present correlations between regional growth rates and growth rates at the national and supranational level for the same time periods as Tables 1, 2 and 3. From the tables, it appears that the oil and gas region Agder/Rogaland and the

fisheries dependent northern periphery Troms/Finnmark are particularly out of tune with “Euroland”.

**Table 4. Regional correlations 1976-1997**

	Norway	EU12
Akershus	0.88	-0.04
Oslo	0.41	-0.12
Hedmark/Oppland	0.85	-0.04
Buskerud/Telemark	0.73	0.17
Østfold/Vestfold	0.70	0.06
Agder/Rogaland	0.77	-0.21
Hordaland/Sogn og Fjordane	0.80	0.05
Møre og Romsdal	0.59	-0.05
Trøndelag	0.80	0.17
Nordland	0.58	-0.11
Troms/Finnmark	0.50	-0.28

**Table 5. Regional correlations 1976-1988**

	Norway	EU12
Akershus	0.77	-0.04
Oslo	0.46	-0.14
Hedmark/Oppland	0.84	0.12
Buskerud/Telemark	0.69	0.10
Østfold/Vestfold	0.48	0.04
Agder/Rogaland	0.66	-0.15
Hordaland/Sogn og Fjordane	0.80	0.31
Møre og Romsdal	0.37	0.14
Trøndelag	0.66	0.10
Nordland	0.54	-0.18
Troms/Finnmark	0.52	-0.31

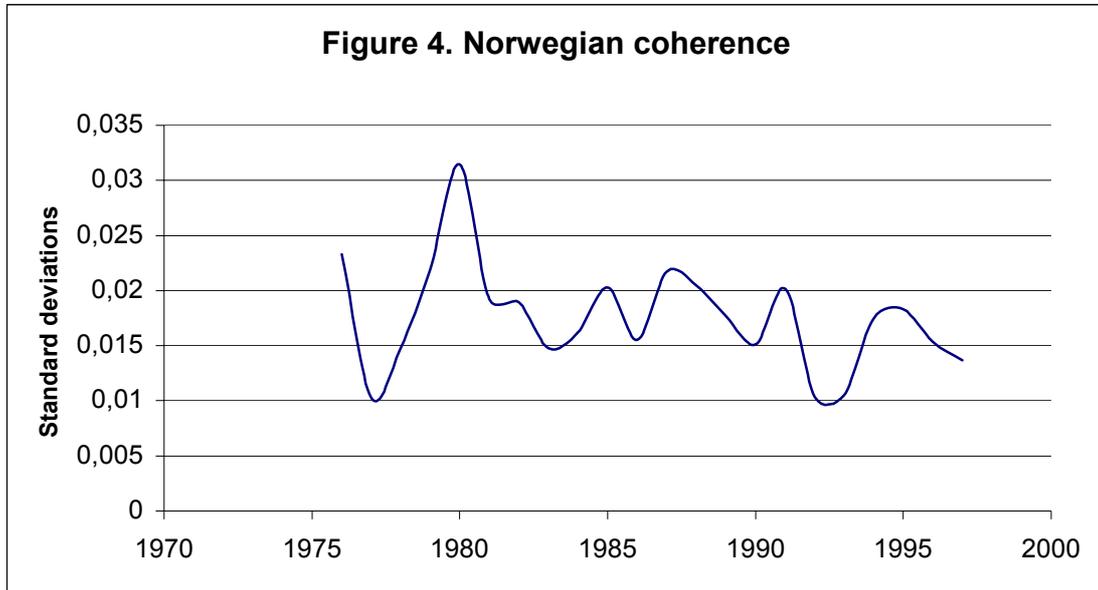
**Table 6. Regional correlations 1989-1997**

	Norway	EU12
Akershus	0.92	-0.24
Oslo	0.62	-0.07
Hedmark/Oppland	0.77	-0.34
Buskerud/Telemark	0.79	0.22
Østfold/Vestfold	0.84	0.01
Agder/Rogaland	0.80	-0.51
Hordaland/Sogn og Fjordane	0.76	-0.40
Møre og Romsdal	0.69	-0.30
Trøndelag	0.92	0.11
Nordland	0.94	-0.11
Troms/Finmark	0.54	-0.42

Let us now take a closer look at recessions and start with the first year of European recession in the sample, 1981. If we look at Norway in general there is no sign of recession. The growth rate is +1.5% preceded by years of growth. An optimal national policy would therefore probably be contractionary rather than expansionary as called for in Euroland. Not all parts of Norway were at this time in an expansionary phase however, as the regional data for Norway readily reveals. The data shows that Oslo experienced zero growth in 1981 after two years of decline and thus that it would probably be better off with the European policy. So would Buskerud and Telemark with -1.7%. On the other extreme we find the oil- and gas region, Agder and Rogaland, with +3.8%. This is probably no coincidence since the event that triggered the European recession was the doubling of the oil-price in 1979-80. If we exclude Agder and Rogaland, the mean growth rate of southern Norway is less than 1 % and interestingly much closer to Europe than northern Norway with a growth rate twice as high. What the Rogaland region and northern Norway has in common is dependency on natural resources. *Perhaps then it is regions with economies based on natural resources in general that turn out to be particularly ill suited as regards implementation of a supranational policy targeted at the European average?*

If we move on to 1988, we notice that the situation of a decade earlier is now reversed. This time Norway is clearly moving into recession with a growth rate of 0.5% succeeded by another year of negative growth with a record low -3.0%. Europe on the other hand experienced growth rates at about +1.6% for both years. Let us take a closer look at the extreme year of 1989. Again the oil region (Agder and Rogaland) stands out, this time with a negative growth rate (-4.9%). Oslo on the other hand has a small, but positive growth rate of 0.8 %. Fisheries dependent northern Norway had a growth rate of -3.7%, whereas the mean in southern Norway, excluding the oil region, was -2.6 %. Hence, the interpretation of the picture from the first period seems to be confirmed.

The intra-national dispersion of growth rates for Norway is illustrated in Figure 4 showing standard deviations for each year. Compared with the European dispersion in Figure 2, there is a remarkable resemblance despite the very different geographical scale. Moreover, dispersion among small regions rocketed in the same way as it did among countries in the wake of the oil price shock.



Leaving the regional data aside for now and moving back to the wider Nordic scene, it is apparent from Figure 3 that Finland is the Nordic country experiencing the most spectacular swings in employment growth. The situation in the early 1990s was terrible: -6.1% in 1993, -7.1% in 1992 and -5.1% in 1991. Although “Euroland” also experienced recession, a policy targeted at the European average would clearly be far too contractionary. Here for Finland. The interesting question here is of course to what extent the recession hit harder in some regions than others, and if there are some common characteristics shared by the regions that are most severely hurt. This certainly also applies to Sweden in the same period. A further analysis here would be interesting, but the necessary data has not been available for this preliminary study. More work is thus urgently needed along the lines suggested above.

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