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AN EVALUATION ON THE IMPACT OF NORDIC AID SCHEMES IN NORTHERN FINLAND AND SWEDEN

EXECUTIVE SUMMARY

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This report evaluates the impacts of the national Nordic Aid scheme, applied in northern Finland and Sweden over the period of 1995-2005. It presents the results from an 8 months study conducted in Sweden and Finland investigating the impact of the Nordic Aid scheme.

Nordic Aid Scheme

Following Article 142 of the Act of Accession to the European Union of Austria, Finland and Sweden, the Commission has authorised Finland and Sweden to grant *"long-term national aid with a view to ensuring that agricultural activity is maintained in the northern regions."* The regions cover agricultural land situated to the north of the 62nd parallel in addition to some adjacent areas south of that parallel affected by comparable climatic conditions, rendering agricultural activity particularly difficult. The measures under the Nordic Aid scheme were approved by Commission Decision 1995/196/EC for Finland and by Commission Decision 1996/228/EC for Sweden. The regions were determined by the Commission, based on existing national classifications of regions with severe conditions for agriculture, taking into consideration in particular:

- low population density (lower than or equal to 10 inhabitants per square kilometer);
- share of agricultural land in the areas (utilized agricultural area (UAA) per square kilometer considered to constitute 10% or less of the overall surface area of the municipality);
- proportion of the UAA devoted to arable crops intended for human consumption (less than or equal to 20%);
- municipalities surrounded by others within before mentioned areas (even where they do not satisfy the same requirements).

In Sweden the area of Nordic Aid reaches from latitude 59^{o} to 69^{o} whereas in Finland the corresponding latitudes are 62^{o} and 70^{o}.

The aid should in particular be granted in order to (Act concerning the conditions of accession 1994, Article 142(3)):

- to maintain traditional primary production and processing naturally suited to the climatic conditions of the regions concerned;
- to improve the structures for the production, marketing and processing of agricultural products;
- to facilitate the disposal of the said products;
- to ensure that the environment is protected and the countryside preserved.

The rationale for the scheme is that the natural handicap, such as climatic and topological conditions, and population density in these regions pose special problems for the agricultural economy. In large parts of the respective countries the growing season is less than 180 days per year, implying low agricultural output, and high costs of production. Topological conditions often prohibit large interconnected fields, resulting in a structure of small farms with scattered plots. Population density is in several regions less than 10 persons per km^2, restricting the development of local markets and, consequently, implying that distances to markets are long and transports of agricultural products, as well as inputs, become costly.

When Finland joined the EU, due to a national price support mechanism and import restrictions, Finnish agricultural prices were 40-60% above the corresponding market prices within the EU. Therefore, it was considered in Finland that the available support measures within CAP would not

suffice to cover the income losses for the farmers without additional national aid. In Sweden, the situation was different since a substantial agricultural policy reform had been undertaken in the early 1990s. An overriding concern for both countries was that Accession should not worsen the economic conditions for the farmers. Hence, in the Accession negotiations both countries aimed at retaining the total level of the pre-accession agricultural support to northern areas.

Nordic Aid is granted based on the level of production or the number of production factors, such as reference quantity of milk, head of livestock or number of land hectares depending on the type of product. Aid is also granted for the transport of cow's milk between the place of production and the first collection point in both Finland and Sweden, and for the transport of livestock to slaughter houses in Finland.

In Finland, the Nordic Aid scheme comprises payments for agriculture, horticulture and reindeer husbandry, transport aid for milk and meat, storage aid for horticultural products, wild berries and mushrooms and aid for young farmers. Some 1.4 million hectares, which is 55.5% of the utilized agricultural area (UAA) in Finland, is eligible for the Aid. The total expenditure for the Nordic Aid scheme was about 328 MEUR in 2005, of which 50%, or 159 MEUR, went to milk production and 101 MEUR to livestock.

In Sweden, Nordic Aid is granted for fewer agricultural products than in Finland. It covers cow's milk, pigs, goats, piglets, eggs and soft fruits and vegetables. The sub-regions cover almost 2/3 of the total land area, including approximately 0.5 million hectares of UAA which corresponded to 11% of Sweden's total UAA in 2006, but 14 % in 2004. This change is due to the CAP reform. As in Finland, the main part of the Nordic Aid scheme is directed to milk production. Together with the transport aid for milk, milk production receives more than 90% of the total allowable aid in Sweden. In total, some 32 MEUR was paid in Nordic Aid in 2005, of which 29 MEUR was directed to milk production.

Evaluation approach

The overall purpose of the evaluation is to analyze

- to what extent the objectives of the scheme have been met,
- if the aid scheme has led to any side effects, and
- whether the instruments applied under the scheme are still appropriate and justified.

A further goal is to analyze the effectiveness of how the scheme is implemented, the efficiency of the measures under the scheme, and the relevance of the scheme in relation to the particular situation of the regions in the two Member States. These analyses are carried out in the light of the observed developments in the Nordic agricultural sectors and in the development of the agricultural policy measures. In addition to the Nordic Aid payments, the analyses account for other agricultural policy measures, such as the CAP and RDP measures.

The report consists of two main parts: a descriptive part and an analytical part. The descriptive part includes a full inventory of the implementation of the Nordic Aid scheme in northern Finland and Sweden. It starts with describing the Article 142, and then looks at the structure of beneficiaries of the aid and further describes the impacts of these aids in a static, descriptive setting. The descriptive part also lists other policy areas and programs to which the Nordic Aid Scheme is linked. Particular attention is paid to the reforms and gradual adjustments in other policy programs that have taken place over the evaluation period.

The second part highlights the evaluation approach and includes the economic impact analyses in addressing each of the ten evaluation questions within the five broader evaluation themes. Both surveys and quantitative models are used. The surveys give stated preferences about the performance of the Nordic Aid scheme as experienced and understood by the supported farmers, their stakeholders and those administrative officers, who are responsible for agricultural administration.

The quantitative models rely on observed data and they have the objective to produce either revealed preferences or normative information on farmer response to the Nordic Aid as well as the dynamic and indirect effects of the aid. The quantitative analyses involve three types of economic modelling approaches: *mathematical equilibrium models (1), econometric farm models (2), and input-output model (3).* Mathematical equilibrium models (1) are partial equilibrium models developed and maintained by the contractors. In this evaluation project, they are employed and simulated to assess the effects of Nordic Aid scheme on input use, land use, animal production, farm structures, investments and agricultural income in different regions. Information about certain environmental effects of Nordic Aid schemes is also received.

Econometric farm models (2) are used, as statistical tools, to identify and test for the

(i) spatial productivity differences in agricultural production between different sub-regions
(ii) determinants of farm land allocations and
(iii) determinants of farm successions, *i.e.* factors affecting farm transfers from elderly farmers to the next generation.

Input-output (I-O) model (3) is used to estimate the importance and spill-over effects of agricultural production and agricultural holdings in local industries and economies.

Impacts

Agricultural activity, regional handicaps and structures

The evaluation results suggest that the Nordic Aid Scheme has contributed to maintaining the agricultural activities, production and land use in the Nordic Aid regions. The impact is particularly evident within the Finnish sub-regions but not so evident in the Swedish sub-regions, where the support rates are smaller. These general results hold, in particular, to the milk production, which is the most important production line and also the agricultural activity best suited for the conditions in the Nordic Aid region. Nevertheless, the northernmost sub-regions (sub-region 1 in Sweden and sub-region C4 in Finland) have been loosing production to the more southern sub-regions. In the Finnish sub-regions, the dairy and livestock production has been concentrating to sub-region (C2) and towards the western coastal line. The spatial concentration and increase of production volumes have been the most evident in the Finnish pig meat and poultry sectors. The production of beef has remained quite stable in the Nordic Aid region.

The Nordic Aid reflects differences in regional handicaps, when the natural handicap is measured by dairy farms' physical productivity, *i.e.* by the ratio of physical farm output to physical farm input. When the support payments are accounted for in the regional comparisons, the farms located in the Nordic aid regions have either worse or almost equal competitive position in the common market as compared to their equally sized counterparts located in more productive regions in Denmark. The competitive position has remained the worst and behind other regions in the northern most Swedish sub-region. Even if the Nordic Aid measures have decreased the spatial differences in natural handicaps, the market has continued to concentrate production within the aid regions, as

described above. This suggests that exogenous constraints for expanding production have been smaller in the southern than in the northern aid areas.

The results indicate that Nordic Aid scheme has not impeded structural development, which has been faster in the Nordic Aid regions than elsewhere in Finland and Sweden. A rapid drop in the number of farms has, nevertheless, been avoided in the Finnish regions where producer prices declined by 40-60 % at the entry in the EU. The average annual exit rate for the number of farms in all Nordic aid areas was 3.5%, whereas the total number of farms in whole Sweden and Finland decreased at the rate of 2.5%. The development has been the fastest in certain northern most sub-regions, where more than eight percent of all farms have quit annually. At this speed, the number of farms is cut to a third in every ten year period. The evaluation results suggest, however, that without Nordic Aid, farm exit rates would have been higher as Nordic Aid has kept medium size farms active more than would be the case without the support.

Processing and marketing

The spatial distribution of the processing industries has not been directly addressed or maintained by the Nordic Aid Scheme, and the market driven developments have been two fold. Amongst the largest companies, the efficient commodity and capital markets have been concentrating, specializing, and relocating processing plants. These developments have been feasible, because food processing is not directly linked to spatial distribution of natural resources. Nevertheless, new small entrants have also been emerging in the market (*e.g.* in the Finnish meat processing).

The environment and viability in rural areas

Nordic Aid scheme does not explicitly include targeted environmental measures, but it indirectly contributes to European agri-environmental programs and regulatory framework concerning the Nordic agricultural regions. The results support the view that Nordic Aid, together with the conditions in the CAP and RDP, has had a positive effect on the arable land area kept under active cultivation. The statements of the administrators, in particular, support the view that, if the Nordic Aid had been lower, more land would have been left idle in the most remote Nordic Aid regions, where land rents are approaching zeros.

The impact of Nordic Aid on maintaining mosaic and biodiversity value was found to be negligible. Instead the allocation of land was affected. Nordic Aid in combination with investment support have resulted in a greater area of intensive land uses (cereals and arable grass) at the cost of less extensive land uses (arable pasture and grazing land).

The functioning of the internal market

Under an assumption of efficient market, the price supports and other support measures that are coupled to farms' output levels are trade distorting by definition. Nevertheless, the data do not seem to support the view that Nordic Aid has caused more distortions in interregional trade, as compared to the pre-accession situation. Both countries have witnessed a substantial increase in agri-food trade, such that both exports and imports have increased, since the accession in 1995. Nevertheless, neither Sweden nor Finland has increased their net exports of products eligible for the Nordic Aid during the period of 1995-2005. In fact, both countries exhibit increased deficits in agri-food trade with the EU. Model results suggest, nevertheless, that without the Aid, Finland would have imported more and exported less agri-food products, which would have converted Finland from a net-exporter to a net-importer of dairy products. Furthermore, the results indicate that without

Nordic Aid, overall domestic trade flows would have decreased by 10 – 20 % in Finland. In Sweden, on the other hand, the scheme does not seem to have caused significant distortions in domestic trade or trade between Sweden and other countries even if we compare the current situation with a situation without Nordic Aid.

Coherence and efficiency

The Nordic Aid measures, such as the price supports for milk and the headage payments for live animals, are coupled to farm production. The results suggest that these measures have been efficient in maintaining primary agricultural production, as compared to partially de-coupled arable land payments or fully de-coupled payments. The weight of price supports in maintaining agricultural production has further increased after the recent CAP reform, which de-coupled most of the CAP support payments from production into the Single Farm Payment.

Nevertheless, decoupled support would be more transparent and efficient to fulfil income support objectives, but it would result in lower production, especially after 2003 CAP reform policy framework. So, depending on whether the objective is income transfer or maintenance of production, different measures are the most efficient. The overall purpose of the CAP reforms has been to increase market orientation and competitiveness with support not longer coupled to production and defined for specific commodities. In this respect, incoherency between the Nordic Aid measures and the CAP measures has likely increased.

Relevance of Objectives

With regards to the primary agricultural production and food distribution oriented situation of the Nordic agricultural sectors, such as the persisting natural handicap, low productivity, long distances and decreasing population densities, the relevance of the Nordic Aid Scheme has remained. The evaluation results suggest that productivity of farms located in the Nordic Aid regions has remained significantly lower than productivity of the corresponding farms of equal size in Denmark. The distances from the agricultural holdings to the food processors and logistic centres have increased as food processing industries and logistic centres have been concentrating into fewer and fewer locations in the southern sub-regions. Further, migration has gradually decreased population densities in the Nordic Aid regions. Agriculture has remained an important source of vitality in rural economies, but it has not been able to maintain vitality of local economies in areas where population densities have initially been low and where economic pressures on other economic activities have resulted in migration and decreasing services.

Hence it may be concluded that the natural and economic disadvantages faced by the Nordic regions remain and the identified needs are still relevant. However, it may be questioned, whether operational objectives of the scheme comprising of a large number of coupled and commodity specific support programmes are still appropriate. Under a more production neutral support mechanism the regions would have more potential to specialize in production lines exhibiting comparative advantage at the regional level. Furthermore, such a change of the scheme would be more in line with the development of the CAP at large. Moreover, the importance of agriculture for the vitality of the rural economies is likely to decrease further with declining number of farms and declining farm employment. A different set of measures may in the future be needed to ensure that the environment is protected and countryside is preserved.

Recommendations

It is expected that maintaining agricultural activity in the Nordic areas will be a challenge also in the future even if the ongoing rapid and productivity enhancing structural development is expected to continue. The market will spatially concentrate agricultural production and processing industries further and agricultural employment will continue to decline. The role of agriculture for protection of environment and preservation of the countryside will, accordingly, change. Therefore, there is scope to increase the relevance of the objectives of the Scheme by broadening the goal of maintaining agricultural activity from primary production more towards sustainable land management practices, provision of environmental services and rural development programmes. Targeted measures broadening the scope of the scheme, *e.g.* in protecting the artic environment, would be valuable development options to be incorporated also in the Nordic Aid Scheme.

Notwithstanding the positive contributions of agricultural support policies to rural economy, the payments concentrated to agriculture cannot solve the problems of sparsely populated rural areas and rural heartland areas. The logic of remunerating the multifunctional role of agriculture also calls for better consideration of factors like the rural territory, the environment, the landscape, rural communities and rural employment. The results signal that, in particular, if the goal of maintaining agricultural activity is shifted from intensive agricultural production (e.g. milk and meat) more towards extensive land management and environmental services, there is likely space for simplifying the rich set of coupled support measures. Simplification would also allow for a more efficient allocation of resources between the individual production activities such that allocations would be steered more by the market signals than locked in by the specific support measures.

The separate administrative restrictions concerning monetary payments, quantity of production factors and production volumes, are not all necessary for reaching the goals of the Nordic Aid Scheme. The restrictions on production factors and volumes have been, for the most part redundant. The monetary budget constraints would be sufficient regulations (in addition to the economic incentives provided by the payments) for reaching the goals of the Nordic Aid Scheme. This simplification, in fact represents the practices already adopted in both countries.