
Summary:

Additional transport costs for goods produced in areas eligible for regional operating aid

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The purpose of this report is to document additional transport costs of goods which have been produced or processed in areas within the regional aid map, as well as suggesting a model by which these additional transport costs can be compensated for. We estimate such transport costs to be, in average, 22 % of the costs for outgoing transport and 21 % of the costs for ingoing transport for firms within these areas eligible for operating aid. We also argue that the additional transport costs are progressive with respect to the transport distance. Calculations suggest that today's rates for operating aid are justifiable; they seem to capture the additional transport costs with just a slight overcompensation that is well within the error margin of the model. We also propose a new scheme with more differentiated rates, higher rates for shorter transports and lower rates for medium transports, compared to today's scheme. The expected aid will, at average, be similar to today's level. However, we argue that the progressivity of the new scheme will match that of the additional transport costs to a greater extent.

Background

The purpose of this report is (1) to document additional transport costs for firms located within areas eligible for operating aid, and (2) to suggest a model by which these additional transport costs can be compensated for. In this case, such a model will consist of a set of rates indicating the share of the total transport costs for which the firms may be compensated.

Data and method

The dataset we utilize is a list of freight flows, consisting of commodity group, number of tonnes, distances and transport costs. This dataset is collected from the national modelling system for Norwegian freight transport. The main weakness is that these are not actual costs, but modelled costs based on a set of national cost parameters. However, we still argue that this is the most appropriate data to use, mainly because the list of freight flows is created with the purpose of covering all freight ingoing to and outgoing of Norwegian municipalities. It will therefore be possible to conduct a more complete analysis than what would have been the case by inspection of the real transport costs from a smaller sample of firms.

We are mainly looking at two sources to additional transport costs. The first is additional transport costs as a consequence of higher costs per tonne-km given the distance for firms located in the areas eligible for operating aid. The second is additional costs as a consequence of having to transport the goods for longer distances.

Documentation of additional transport costs

The data does not indicate that the cost per tonne-km is higher in areas eligible for operating aid. Hence, we base further recommendations on the same cost per tonne-km inside and outside this area. This is the case for both incoming and outgoing freight.

Taking into account the distribution of transport distances for “urban” municipalities and the distribution of transport distances for municipalities inside the area eligible for operating aid, and calculating the expected cost per tonne, gives additional transport costs for municipalities inside this area of 28 % for outgoing transports and 27 % for ingoing transports. This amounts to 22 % and 21 % of the total transport costs for outgoing and incoming transports, respectively. This additional cost also seems to be progressive with respect to distance. These results establish that there is a basis for regional operating aid, and that a progressive rate system seems most appropriate.

Suggestions for rates for the Norwegian regional operating aid

We have chosen to focus this report around three different suggestions for rate systems. The first one is a flat rate, the second one is the rate system that is currently operational and the third one is a new suggestion for a progressive rate system. These rates are shown in Table 1. This table shows the rates for each distance interval for each rate scheme. The share of the total number of tonnes in each distance category is also included, to give a better picture of the relative importance of each rate. At the bottom of the table, the expected aid per tonne for both incoming and outgoing transport is calculated. These are compared with the expected additional cost. The relative difference between the expected aid and the expected additional cost (to what extent a particular scheme overcompensates for the additional costs) is shown in parentheses.

Recommendation

As this table indicates, for all the three schemes the expected aid seems to match the expected additional cost to some extent. The first scheme matches the additional costs almost perfectly in aggregate. However, this scheme is somewhat unfair, since the additional cost seems to be progressive with respect to distance. The second scheme is today’s operational scheme. This gives a more or less satisfactory fit with a slight overcompensation. This overcompensation is, however, firstly well within the error margin of the model. Secondly, in the report we argue that our method of calculation may underestimate the additional transport costs somewhat in the first place, and this makes the overcompensation less problematic. The main problem with today’s scheme however is that it seems to be slightly more progressive than the additional costs are. The third scheme has more differentiated rates, higher rates for shorter transports and lower rates for medium transports, compared to today’s scheme. This scheme is designed to match the progressivity observed in the additional costs, while at the same time resulting in an expected aid as similar to the expected additional cost as possible. We recommend the third scheme as most

appropriate; however, we argue that the calculations indicate that today's scheme can be justified as well.

Table 1. Overview of rates for the three suggested rate schemes, including expected (average) aid per tonne for both incoming and outgoing transport. Expected aid per tonne is compared to expected additional cost per tonne, and the relative differences (to what extent a certain scheme overcompensates for additional costs) are included as a percentages in parentheses.

Distance category	Share of tonnes, total	Scheme 1: Flat rates	Scheme 2: Today's scheme	Scheme 3: A new suggestion
0 - 50 km	33.5 %	21.5 %	0 %	0 %
50 - 100 km	9.6 %	21.5 %	0 %	0 %
100 - 150 km	6.2 %	21.5 %	0 %	0 %
150 - 200 km	3.0 %	21.5 %	0 %	0 %
200 - 250 km	4.7 %	21.5 %	0 %	10 %
250 - 300 km	4.6 %	21.5 %	0 %	10 %
300 - 350 km	4.0 %	21.5 %	0 %	10 %
350 - 400 km	2.3 %	21.5 %	30 %	20 %
400 - 450 km	2.0 %	21.5 %	30 %	20 %
450 - 500 km	4.4 %	21.5 %	30 %	20 %
500 - 550 km	2.7 %	21.5 %	30 %	20 %
550 - 600 km	1.9 %	21.5 %	30 %	20 %
600 - 650 km	0.9 %	21.5 %	30 %	20 %
650 - 700 km	1.1 %	21.5 %	30 %	20 %
700 - 800 km	1.4 %	21.5 %	40 %	30 %
800 - 900 km	2.0 %	21.5 %	40 %	30 %
900 - 1000 km	5.4 %	21.5 %	40 %	30 %
1000 - 1100 km	0.6 %	21.5 %	40 %	30 %
1100 - 1200 km	0.9 %	21.5 %	40 %	30 %
1200 - 1300 km	1.2 %	21.5 %	40 %	40 %
1300 - 1400 km	1.6 %	21.5 %	40 %	40 %
1400 - 1500 km	0.6 %	21.5 %	40 %	40 %
1500 + km	5.5 %	21.5 %	40 %	40 %
Outgoing transport				
Expected additional cost per tonne		Expected aid received per tonne (overcompensation)		
Kr 192		Kr 191 (0.5 %)	Kr 215 (12 %)	Kr 191 (0.5 %)
Incoming transport				
Expected additional cost per tonne		Expected aid received per tonne (overcompensation)		
Kr 205		Kr 206 (-0.5 %)	Kr 244 (16 %)	Kr 216 (5.0 %)