

Subject: Agriculture "core business" in the EAA

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1. Summary

In Sweden calculations concerning the agricultural sector have been made for many years. When Sweden became a member of the EU in 1995 we adopted to the concept of the EAA. Compared to what we had earlier the calculations were expanded. Horticulture was totally included as well as reindeers husbandry and other activities outside the traditional agricultural sector. Looking at the needs for economic statistics, traditional agriculture is still in focus. Apart from the need to follow the general progress in the sector it is also interesting to make comparisons with other countries and to follow the impact of the Common Agriculture Policy (CAP). To be able to fulfil the different needs it is not enough to just fulfil what Eurostat requires. Information from the EAA must be extracted according to other dimensions. This requires that the basic material for the EAA can be broken down into parts of particular interest. Regional break-downs as well as break-downs into parts necessary for comparisons with other countries are such areas. An important point is to separate traditional agriculture which here is regarded as the core business from other parts in the EAA. The comparisons and analyses with other countries could then be made in a more valid form.

2. Background

In Sweden different types of calculations for the agriculture sector have been used for many years. The main purpose has been to calculate farmers' total incomes and costs for political decision-making. When Sweden became a member of the EU, the Eurostat concept of the EAA was adopted. This concept was not entirely in line with what we had used earlier, so some complements and adjustments were made. Still there was a national demand for keeping the former calculations, which meant that we had two parallel calculation-systems running. During the last year we have worked on integrating the two different concepts. We have also to some extent broadened the concept by breaking down the calculations to parts that make it easier to focus on subjects of special interest, for example environmental issues.

The purpose of this paper is to show how the EAA could be split up in different parts for analysis and for other purposes. One key point here is how the EAA could be split up in order to give information about parts of the calculation that could be of particular interest for ad hoc studies and other types of studies. Even for comparisons between countries it could be useful to look at certain parts of the calculation and not only on total figures. An issue which is of particular interest these days is how the figures which form the EAA could be used as a tool for the monitoring indicators asked for by the STAR-committee¹.

As a background I will give a short historic review of how we have dealt with calculations for the agriculture sector in the past in Sweden (chapter 3) and also what basic needs of information that could be covered by the EAA (chapter 4).

¹ Comité des structure et du development rural

3. Sector calculation in Sweden- short historic review

The use of the calculation

From the middle of the 60's to the end of the 80's the sector calculation was one of the basic tools used for determining the farmers' producer prices. In brief terms the system functioned as follows. The cost side of the calculation was multiplied with the percentage change in a specific index for a six-month period and the result in million SEK was regarded as a price-related increase in cost for the whole agricultural sector. This amount was the main part of the so-called compensation to farmers. One other part was the income compensation, which was calculated in a first step as the difference between total output value and total costs. This difference was regarded as the farmers' total incomes and was multiplied with the percentage rise in salaries for other socio-economic groups. The cost compensation and the income compensation formed the total compensation. From this amount reductions were made for improved productivity in the sector. The resulting sum was then split up on different agricultural products. Most of the money went to the milk and cereal sectors. The compensation was taken out as an increase in product prices by adjusting tariffs.

As can be read out from what now have been said the sector calculation played a central role in determining of the amount of money that the farmers should have in compensation. A lot of efforts were made to make the calculations as good as possible. Discussions continuously took place in working groups about how different items in the calculation should be dealt with.

In 1989 a new era started in Sweden. The old system was rejected and a transitional period began. A lot of old regulations were abandoned. The interest in calculating incomes and costs for the sector fell radically. No special efforts were made to improve the material. Many costs were just updated by indices, which meant that volume changes were not reflected in the figures. When Sweden became a member of the EU a new demand for sector calculation-figures arose. The Joint Council, which then was responsible for the sector calculation, was aware of the poor quality of some parts of the calculations. The task of adapting the whole statistical system to EU-standards made it though difficult to concentrate efforts into improving the material for the EAA in the short run. However, a project was started in the autumn of 1998 with the task of looking over the material. In time this job coincided with the adaptation to the new EAA standards.

Improvements 1998-1999

The improvement that started in 1998 focused on intermediate consumption, which was regarded as the weakest part in the calculation. In the original version of the Swedish calculation there existed a lot of different cost-items, which were calculated on weaker and weaker basic material. In 1999 a lot of these items were brought together into a few big cost items. After the revision, separate estimations are basically made only for fertilisers, seed, feedstuff, maintenance and Other costs. To estimate the two latter items figures from the Farm Accountancy Data Network (FADN) is used. Appropriate accounting numbers in FADN are put together to estimate these two types of costs. In contacts with Eurostat in the autumn of 1999 we have shown which FADN-accounting numbers we have used. By using FADN-figures on a high aggregation level one could reach more valid estimations compared to what could be achieved by using more broken down FADN-figures for estimations on a total level.

In the EAA there is also a demand for figures concerning fuel, electricity, pesticides and veterinary expenses. In the revised EAA system for Sweden these costs form a part of Other costs and can not be estimated separately from the FADN material with acceptable precision. To be able to fulfil the EAA demands other sources for estimations are used for these four items and they are subtracted from Other costs. This means that they have no impact on the level of total intermediate consumption. The frame for intermediate consumption is all the time made up of the costs for fertiliser, seed, feedstuff, maintenance and Other costs taken together.

For labour costs and interest paid, no changes have been made in the last revision of the EAA for Sweden. The basis for estimation is not quite sufficient here. We are looking for alternatives at the moment. Apart from labour costs and interest paid the items on the cost side and even output side, are as we see it of good or acceptable quality when it comes to traditional farming. The definition of traditional farming will be dealt with in the next chapter.

Principles

Originally the Swedish national calculation followed nominal principles which meant that depreciation was calculated on the purchase value and interest was calculated on nominal interest rate. In the 80's when the inflation in Sweden was quite high a discussion came up concerning how to deal with the inflation in the sector calculation. The result was that principles for real calculation were introduced. Depreciation was calculated on replacement values and interest at a real interest rate.

When we have discussed the principles of the new EAA, some economists have reacted on the combination of replacement value for depreciation and nominal interest. In our view this is a mix of two principles, which lead to overestimation of the cost side and underestimation of some income indicator, for example indicator C (Entrepreneurial income of agriculture).

The distinction between different legal types of agriculture units is not of major interest in Sweden. Juridical persons are treated in the same way as physical persons. Many family farms today have the legal form company and do not in fact differ from family farms run as physical persons.

4. Needs of economic statistics on a sector level

From our point of view a "rough" list of needs that could be partly or totally fulfilled by figures from EAA could contain following points

- to follow economic progress in the agriculture sector in general
- to follow economic progress in the agriculture sector compared to other countries
- to analyse the impact of CAP in general
- To analyse the effects of specific programs in CAP (environmental, rural, etc)

I will now give some comments on the points one by one. I will give more practical examples in some of the areas in chapter 6.

To follow economic progress in the agriculture sector in general

For various purposes there is a demand for figures showing the general economic progress in the sector. The discussion here often focuses upon the farmers' "salary". What is meant by this is what is left over for the farmer's own labour input and return to own capital. This measure is often compared with the number of hours the farmers actually work in the sector and what could be regarded as a fair compensation for own capital invested.

The EAA indicator B² gives a good picture of the economic progress in general in the agriculture sector. What this indicator does not reflect is the compensation for invested own capital. This compensation is difficult to handle both theoretically and practically.

Even indicator A³ and C are of interest for measuring the general economic progress.

In Sweden we previously had an indicator where Gross value added at basic prices plus other subsidies on production were put in relation to depreciation + calculated costs for labour + calculated cost for capital invested. This indicator, which we for the time being could call indicator D, gives some information also about return to capital. It does not perhaps give so much more than indicator A, B and C for just following the general progress in the sector. It could be of some interest when comparing figures for different countries, though. I will come back to that in the following part.

In Sweden we have from time to time measured the result in the sector calculation under the assumption of normal weather conditions. This gives a good indication about the progress in the sector when analysing the effects of the actual agricultural policy for example.

To follow economic progress in the agriculture sector compared to some other countries

There is an increasing interest from our side to compare the economic progress for Sweden with the progress of some other countries. The most interesting countries here are Denmark and Finland but other countries in northern Europe are also of interest. I do not see any immediate needs for having other indicators than A and B for these purposes. If comparisons are made with countries with considerably different production conditions than those in Sweden, one could also consider using the D indicator. Different mixture between countries in labour and capital is reflected in that indicator.

Of interest when comparing figures concerning different countries is a split up of the EAA into major parts (vertical split up). From a Swedish point of view traditional farming is the most interesting part. I will come back to the vertical split up in chapter 5.

To analyse the impact of CAP in general

One interesting area of analysis is the impact of CAP on farmers' economy. Of great value here is to have good background figures of supports and producer prices. It could also be of interest to split up the calculation into regions and subgroups of farms in order to get overviews of trends etc. There could for example be an underlying movement to a specific type-class in a specific area that can not be discerned from total figures.

An important role of the EAA-material is also to be a database for models for projections or prognoses. In Sweden our economic institute is building up such a model. The Ministry of

² Net agricultural entrepreneurial income per unpaid annual work unit

³ Net value added at factor cost of agriculture per total annual work unit

Agriculture is asking for model-results from time to time. This is important especially when the Commission discusses changes in strategic parts in CAP .

There is no point getting into any discussion about different income indicators when it comes to this area of demand. The available data is limited and the income indicator will be what is possible to achieve.

To analyse the effects of specific programme in CAP (environmental, rural, etc)

Both for national purposes and from the Commission there are demands for figures showing what impact different supports have on the agriculture economy and structure. It is important to have good figures for the support schemes that are evaluated as well as statistics for regions.

In the STAR committee so called monitoring and evaluation indicators are discussed. For some of these indicators EAA-material could be used. Another important source for information for monitoring indicators is FADN.

5. Dimensions

For several reasons it is of great help if the EAA could be split up into different dimensions. The purpose is to extract relevant information for a specific question. From a Swedish angle the following dimensions could be of interest:

- I. Production of unprocessed vegetable and animal products for food on agriculture holdings
- II. Processing of products (from point I) to consumption products or middle processed foodstuff on agriculture holdings
- III. Production of plants for house gardening, fruits and green house production
- IV. Production of environmental services (including open farmed landscape)
- V. Production of other products and services
- VI. Regional split up (value and working units)

A short description on each point will follow below. The points listed could be regarded as different parts of the EAA. They are not of equal interest when it comes to the different needs discussed in the previous chapter which will be commented.

I. Production of unprocessed vegetables and animals for food on agriculture holdings

This part corresponds to what we have had in our old sector calculation. In the previous chapter I have called this "traditional agriculture". For us this is the core business in the EAA. The following products belong to this part.

- Cereals
- Potatoes
- Sugar beet
- Forage plants
- Oil seeds
- Protein plants
- Kitchen vegetables on open fields
- Milk
- Egg

- Cattle, pigs, sheep, poultry, equines
- Raw wool, exports of animals (small item)
- Non separable services

All output values and costs that are related to these items are included in the core business part of EAA. The reason for including kitchen field vegetables is that it is not possible to extract the costs for this production from other costs. Therefore both output values and costs for this item must be included. The same goes for non-separable services.

For all four areas of needs pointed to in chapter 4 figures for traditional farming are of interest. In value this part stands for 34 300 million Swedish crowns of a total value of 38 500 million Swedish crowns (EAA 1998)⁴.

II. Processing of products (from point I) to consumption products or middle processed food stuff on agriculture holdings

For Sweden the activity in this area is of marginal importance and we have not considered it at all in the EAA (zero-income). For comparisons with countries where this part is of vital importance it could be of interest to have it specified for that country.

III. Production of plants for house gardening, fruits and greenhouse production

This is a small activity in Sweden compared to traditional agriculture. The gross value is around 2 600 million Swedish crowns out of 38 500 million for the whole EAA. In Sweden the holdings, which deal with plants for house gardening, fruits and green house production usually are specialised and clearly separated from traditional agriculture.

This part of EAA could be of some interest for comparisons between countries. In Sweden horticulture associations stress the importance of having good statistics on this part for analysis for strictly domestic purposes.

IV. Environmental services (including open farmed landscape)

This part of the EAA is closely linked to the need of figures for evaluating environmental support but it could also be of more general interest. Here traditional farming constitutes the basic frame. Environmental services are a part of this and the gross value corresponds to the support paid out to farmers who follow different environmental programmes. The costs for these activities are the special cost the farmer faces when fulfilling his engagement. This cost must clearly be separated from cost of production of vegetables and animals.

It could be discussed if all activities that are subject to environmental support should be regarded as environmental services. Some of the mass-support schemes do not demand any special act from the farmer except what he normally does. Other parts of the environmental programme are heavily restricted. Here the farmer must fulfil a lot of detailed activities to get the support on contract basis.

If one chooses a broad definition of environmental services the total value is around 1 800 million Swedish crowns. If a more narrow definition is chosen the total value is around 600 million Swedish crowns.

⁴ 8,2 Swedish crowns correspond to 1 Euro.

Apart from environmental services connected to specific programs there is another area of importance in the environmental field, organic farming. If possible, it would be of interest to separate organic farming from the rest of EAA. It would then be possible to study the economic progress of this part of the agriculture sector.

V. Production of other products and services

This part consists of what is left of the EAA after reduction for traditional farming and gardening etc (point III). The amount is only around 1600 million Swedish crowns out of 38 500.

For the different needs pointed out in chapter 4 there is of no particular value to have Other products and services included in the EAA. One problem here is that member states do not use the same definitions of what should be included under this headline. A comparison between Sweden and Denmark exemplifies this.

<u>Sweden</u>	<u>Denmark</u>
Reindeer	Straw
Honey	Honey
Furred animals	Furred animals
Horse-breeding	Rabbits
Kennel	Hunting
Energy-forest	Eggs for hatching
	Christmas-trees

Technically this part is clearly separated from other parts of the EAA. It is therefore easy not to include it when comparisons are made between different countries.

VI. Regional split up

This dimension is somewhat different from what has been discussed earlier. The other dimensions are usually interesting to look at one by one. The regional dimension is interesting to study in parallel with the other dimensions. In principle any combination of this kind is possible to study. For Sweden and probably for many other member states there are however limitations in the statistical material that makes it difficult to accomplish this. Traditional farming and environmental services could be broken down regionally. For other dimensions the statistical material is insufficient.

Eurostat demands regional figures on NUTS levels. However other types of regional breakdown could also be of interest. An actual example is LFA-regions and mountain areas for the monitoring indicators.

6. What material is available in Sweden today

Technically the Swedish EAA is divided into three head-blocks, corresponding to the following points.

- I. Production of unprocessed vegetable and animal products for food on agriculture holdings
- III. Production of plants for house gardening, fruits and green house production
- V. Production of other products and services

In chapter 5 these points have already been discussed.

The three parts could easily be separated from each other for analysis etc. The statistical material is fairly good for calculating output values and costs connected to the first point above. We can even calculate results under the assumption of normal weather conditions for that part. For points III we have acceptable figures for the output values but not for the costs. We have almost no statistical material here. Instead we use expert estimations which are based on assumptions about how different costs are related to the output values. Here the cost figures reflect a normative situation (what ought to be) rather than an actual situation.

For point V we have almost no statistical material at all. The figures are to a great extent calculated solely on expert judgements.

Environmental services could be extracted from the output side in the EAA as well as other types of supports. The basic tool we have here is the new farm register, which is closely linked to the IACS system. The new farm register gives both structure figures and figures about supports, quotas etc. Data about the amount of money paid out to certain regions for biodiversity for example, can easily be taken out from the system as well as number of hectares that are under contract for this support. Data about organic farming can be extracted in the same way.

The costs connected to environmental services are a greater problem than the output value and we do not have any concept to measure these costs in Sweden at the moment. There is no information about costs in the IACS-system. Instead figures from the FADN-system could possibly be used. We are working with a revised FADN-system, which will be more flexible than the old one. An important aspect is to provide figures for the monitoring and evaluation indicators asked for by the STAR-committee for the rural development programmes. One of several aims is to estimate costs for environmental services. For the time being the system is not ready and we have therefore no such figures. In the near future we hope to get the system in function which will give good grounds for estimating costs for environmental services on a total level.

We have a data-warehouse system connected to the database for the new farm register, which gives us good technical possibilities to break down all the figures in the IACS system to any **regional level**. Of particular interest here is the LFA-regions and mountain areas.

Most of the statistical material used for output estimations in the EAA comes from macro-studies. On the intermediate consumption side three of the five main items pointed out in chapter 3 are estimated from macro-studies and the other two from FADN. Other items on the cost side are estimated from macro-figures.

There exists no regional information in the macro-estimations. To be able to break the figures down we use help-information from special production-line calculations (PLC). The PLCs are used for a variety of purposes. One area is estimations of SGM-figures. The PLCs are as much as possible built on statistics and give information about incomes from products, supports and costs for all kinds of means in the agriculture sector (1 dairy-cow, 1 hectare of winter wheat etc). The PLCs are broken down on a low regional level.

To make regional estimations the PLCs are blown up. Each PLC - unit (1 dairy-cow etc) is multiplied with a corresponding structure- figure for the same region (for example number of dairy-cows in the region). After this process we have figures for each region and each production line. This information is in itself of value. In the past this material has been used for projections of the impact of different national envelopes from Agenda 2000.

The sum of all regions (from the PLC-estimations) should form the total EAA. Some adjustments have to be made to get the exact EAA-figures. The blown up PLCs are bottom to top approximations and differ somewhat from the macro-figures in the EAA. For the years that have been studied the differences are small and the method used should give a fairly good picture of the situation for each region, at least as long as a NUTS level or a LFA-region is chosen. For smaller regions there could be bigger errors.

For some kinds of contract supports (e.g. environmental support on contract) there exist no data in the PLCs. Here we take figures directly from the data-warehouse system connected to the IACS-based new farm register. The figures from this system could be broken down to any type of region.

In the next chapter examples will be given about regional EAA-figures.

A special problem is the AWUs. These are based on information from the labour part in the structure survey. From our point of view the statistics give satisfactory information for estimations on a sector level (for traditional agriculture and gardening). When it comes to a regional breakdown on a low level and break down on production lines the figures are not sufficient.

For census years in the structure survey there are good figures even on a low regional level. A census is however carried out only every 10th year, which means that other methods for estimations have to be used in between. This is done by a system built on so-called standard working hours. This system is built up in the same way as the SGMs. This means that every characteristic in the structure statistics has its own standard hour figure. Blown up to a total level the amount of standard working hours should in principle correspond to the actual number of working hours from the structure survey. There is however a difference. The standard working hours are estimated as an ideal time under assumption of good weather conditions. The actual amount of working hours is built on the farmers' own estimations and measure the real working time the way the farmer sees it. As a result of the differences the standard working hours are 10-15 % lower than the actual working hours on which the AWUs are built.

For a regional break down and a break down on different production lines standard working hours are used. They are adjusted to be comparable with the actual AWU-figure.

7. The core business and its regional break down - figure examples

Following what has been said in chapter 5, the EAA could be split up into different main parts. In table 1 such a break down has been made into the following three dimensions mentioned in chapter 6.

I. Production of unprocessed vegetable and animal products for food on agriculture holdings

III. Production of plants for house gardening, fruits and green house production
 V. Production of other products and services

In table 1 the terms are simplified in the way that Traditional agriculture stands for the first of the three parts, Gardening stands for the second part (Roman letter III) and Other products stands for the third part (Roman letter V).

Table 1 Main parts in EAA 1997, Million SEK

	Gross value (P)	Intern cons	Capital cons	Comp Empl	Rents interest	Subs	Entrepr income	Number of total AWU	Of which salaried	Of which non salaried
Trad agriculture (I)	32610	24265	5719	1703	3553	6942	4312	77,1	16,6	60,5
Gardening (III)	1960	1054	211	221	200		274	4,7	2,1	2,6
Other products (V)	1635	1243	44	82	45		221	2,0	0,8	1,2
Sum	36205	26562	5974	2006	3798	6942	4807	83,8	19,5	64,3

As has been pointed out before, traditional agriculture stands for the main part of the gross value and incomes. For this part we have also rather good statistical basis. For the second part Gardening (III) the income side is estimated from statistical grounds while the cost side is estimated from expert judgements. The third part Other products (V) is based on rough estimations. No solid statistics exist for this part and the quality of the figures is poorer than for the other parts.

Regional split up

The figures for traditional agriculture that are estimated on grounds that could be combined with structure surveys, IACS and other material that could be used for different types of analysis pointed out in chapter 4 and 5. One basic part is the regional division that is also required from Eurostat. In table 2 one type of regional break down is shown namely a break down in different support areas.

Table 2 Regional break down of the EAA part I, Million SEK

Support area	1	2a	2b	3	4	5a	5b	5c	5m	9m	9s	Sum
Agr goods output(p)	292	1069	691	540	1206	2259	4531	2000	893	8311	9547	31340
Subsidies	173	584	406	284	387	440	802	390	131	2095	1249	6942
Of which det aside	0	9	4	5	35	9	47	32	9	245	138	533
Sum gross value	465	1653	1097	824	1593	2700	5333	2390	1025	10407	10796	38282
Intern. Cons	224	822	551	415	906	1531	3172	1450	643	6198	7082	22995
Comp labour	25	96	58	45	88	169	288	112	41	392	389	1703
Fixed cap comp	57	241	151	121	268	417	835	343	142	1673	1471	5719
Operating surplus	306	1159	760	581	1263	2117	4295	1905	826	8263	8943	30417
Interests, rents	160	494	336	243	330	583	1038	485	199	2144	1853	7865
Entrepr income												4312

Support areas 1-3 corresponds to mountain areas in Sweden and regions 4 and 5 to other LFA regions. Regions 9m and 9s correspond to the flatland where solely horizontal support and special environmental supports are paid out.

In Sweden the regional break down nowadays is much focused upon the regions in table 2. However the background material also permits other types of regional break downs. One example is NUTS regions, which are demanded from Eurostat.

The quality of the material is acceptable for estimating factor income according to EAA on a regional basis for what we here call traditional agriculture. When it comes to Gardening (item III in table 1) the activities are highly concentrated to the southern part of Sweden and the regional break down is therefore not so problematic. Even here it should be possible to calculate factor incomes on a regional level.

For the third part (item V in table 1) we have no indicators at all for regional breakdowns except for reindeers where the production by definition takes place in the northern part of Sweden.

The income indicators stipulated in the EAA also demand figures for AWUs. Here again we have fairly good estimations about number of AWUs for each region for traditional agriculture. In table 3 examples of figures are shown.

**Table 3 Number of AWU in regions
part 1**

Support area	1	2a	2b	3	4	5a	5b	5c	5m	9m	9s	Sa
AWU	1097	4505	2848	2024	4165	8748	13954	4394	1535	17648	15414	76331

If figures from table 2 are combined with figures from table 3 income indicator A (as it is described in the EAA manual) could be calculated for regions. Still the figures only include traditional agriculture. For Gardening the quality of the regional figures are lower and can probably not be used for analytical purposes. For the third EAA-part shown in table 1 exists no figures at all for any kind of regional break down.

Production line break down

With the technique described in chapter 6 the EAA for Traditional farming could also be broken down into production lines. Such a break down is presented in table 4 below.

**Table 4 Milk production line in
region 5a**

Million SEK		
Production-line	5a	Total
Gross value	1491	10413
Support	121	1240
not prod spec supp		
Total income	1612	11653
Intern. cons	803	7297
Comp labour	121	683
Fixed cap cons	286	1586
	1210	9566
Operating surplus	402	2087

This type of breakdown is not requested from Eurostat but it may be interesting for some types of CAP analysis. Especially in times when CAP is changing. Actual figures for supports and

market prices could here be replaced by new calculated figures for what will come according to the proposed or decided changes.

In table 4 the calculation is focused on milk production in region 5a. Similar calculations could be done for other regions and different production-lines. For studies about for example the impact of changes in CAP it could also be of interest to go a bit further and look more in detail at the supports and split them up on different parts. This could be done through the figures in the IACS system.

For rural and environmental monitoring and evaluation indicators requested by the Commission it could be interesting to look at a specific target group from the type classification system. With the technique described the EAA-figures could also be broken down into such type groups. Comparisons could then be made between these groups.

The monitoring and evaluation indicators asked for by the STAR-committee often focus upon structural and economical changes for groups of farms that are subject to a specific support compared with similar farms which do not receive the same support. Broken down EAA material, as well as broken down FADN-material could form a base for these indicators.

8. Problems in comparing figures between countries

One basic problem comparing figures between countries is that you just see the "top of the iceberg". You can only see the final results of the calculations but not the basis for it. For making analyses this is not always enough. To be able to explain why a certain income indicator differ from one country to another it is often essential to have access to at least the most important basic material for the countries in question. This means that some digging into the material has to be made which is not always an easy task. It is not easy even if it concerns your own country. Few persons have access to the EAA-data and have a deep insight in it.

To spread the knowledge about the material, good basic descriptions are essential. The descriptions requested from Eurostat are a good start here.

There are three types of main problems when comparing figures between countries namely

- 1) The vertical mix between different EAA-parts could differ
- 2) The definitions of items could differ
- 3) The statistical methods used could differ

The first problem has already been discussed in chapter 5 and is connected to the great variety of activities that are represented in the EAA. The figures in EAA could represent the cost for packing table grapes as well as feedstuff for dairy cows. Some of the activities could be highly represented in one country and not at all in another.

The second problem is connected to the fact that one country does not always define an activity in the same way as another country. One example of this has already been given in chapter 5 where Sweden and Denmark have different approaches on Other products and services. The differences could here affect both the items that should be included and what population that should be considered (agriculture holdings or all holdings).

The third problem concerns the method used for estimation. This is perhaps the trickiest part to handle. Some discrepancies play little or no role while some other could change the picture in a not negligible way. To be able to sort out the important parts from the less important it is necessary to have access to basic material. It is also of great help to have access to key figures that could be used to test the materials. One example here is the AWUs for Sweden and Denmark where we recently have made some comparisons. These comparisons will briefly be described below.

The Danish AWU-figures is slightly over 80 000. The Swedish corresponding figure is around 82 000 (including green house production). The Danish agricultural production is greater than the Swedish. Spontaneously the Danish AWU-figure should therefore be higher. On the other hand in Denmark there are better conditions for agricultural production than in Sweden, which speaks for higher AWUs in Sweden. A tool for sorting out the net effect of these two factors could be the standard working hour system in Sweden previously described in chapter 5. This system is differentiated on regions. What we call area 9s has the best conditions for agriculture in Sweden, it is even better than the average Danish conditions. If the standard working figures per unit for 9s are applied on structure figures for the Danish agriculture you get the following result. In the table figures for Sweden are also shown as a comparison.

Table 6 Million of standard working hours in Sweden and Denmark

	Milk	Cattle	Pigs	Cereals	Other	Sum	Relation
Sweden	48,0	20,3	9,5	16,4	12,9	107,1	
Denmark	62,2	13,6	18,6	12,5	14,3	121,2	0,90

The figures indicate that the Danish agriculture requires 10% more working hours than the Swedish.

Of course one could suspect that the standard working figures underestimate the differences in production conditions between the countries. There are however big differences between the to sets of standard working hours between the countries. The question is if it should be even bigger or if it is something else that explains the differences in the AWUs. Is the Swedish farmer less effective than the Danish given the same production conditions or is it a statistical measure problem. The tables raise questions that we now are looking into.

Besides the AWU problem we have also on a surface basis noticed differences between Sweden and Finland concerning depreciation that are difficult to explain. Another point is that in Finland and Denmark they do not calculate any value for income interest, which we do in Sweden. There could be methodological differences here.

The comparisons, which have been made so far, have been on a surface level. Where there seem to be discrepancies we take a deeper look. In the future we hope to make more systematic comparisons where all kinds of differences of interest could be analysed. The aim is to make good comparisons between some of our neighbouring countries both on a year to year basis and on absolute levels. It is of interest here not only to focus upon the whole EAA but perhaps even more on the core business, which to us is traditional agriculture.

9. Conclusions

The EAA is an important tool for measuring different indicators concerning several economic dimensions in the agricultural sector. The use could be even wider if more basic facts were available for the member countries. One crucial point here is to have enough basic facts to find out why the results differ between countries. An important step is to have access to a vertical break-down of the calculation so the traditional farming which we regard as the core-business in the EAA could be separated from other parts.