Statistiska centralbyrån Statistics Sweden

TAPAS 2004 Phase 1

– Improvement of FADN concerning rural development

2006:2

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Preface

The Commission decided in 2005 to award a grant to Statistics Sweden within the programme for "TAPAS 2004, Phase 1". The title for the action was "Improvement of FADN concerning rural development".

The objective for the project was to review the importance of complementary activities in the Swedish Farm Accountancy Data Network (FADN) by combining data from the survey on structure of the agricultural holdings and the investigation "Incomes of agricultural households" with data from the FADN.

The results from this study are presented in this report.

FADN is the primary instrument for micro analyses in the agricultural sector. The complementary activities in FADN have never before been analysed in detail in Sweden.

Ann-Marie Karlsson has been the manager for this project. Gunnar Larsson, Lars Persson and Tomas Westling have participated in the compilation of the report.

Statistics Sweden, October 2006

Inger Eklund

Marie-Louise Widén

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Summary

The objective of the study has been to improve the quality of FADN-data regarding complementary activities and to review total household incomes for the holders of the FADN-farms.

Data from Swedish FADN mainly regarding forestry and other entrepreneurial income as well as additional data collected within this project have been studied. A merge between the information given in the Swedish FADN and the information given in the rural development part of FSS has been made. In order to analyse the information from the Income and Taxation register (IoT) for the FADN-sample, the IoT and the FADN-sample have been merged. The different income sources from IoT (business, employment and capital) have been analysed for the FADN-farms. The economical result from the Swedish FADN for the main holder has been compared with the income from business for the same holder in IoT. A comparison has also been made between the total economical result from the accounts in the Swedish FADN and the income from business for all holders and their household on the FADN-sample.

The results show that about 15 to 25 per cent of the Swedish farmers have some sort of complementary business activity. These activities are included in FADN but have a fairly limited importance for the results of FADN. About 75 per cent of the Swedish farmers have forest land. In the Swedish FADN the receipts from forestry are no more than 10 per cent of the total receipts in any of the presented type groups. The most common activity, besides forestry, is contractual work.

The most important source of income for the farm household beside the agricultural activities is income from employment and not from complementary business activities.

Information that was collected about the complementary activities was gained by additional questions in the FADN-questionnaire. The result shows that it is probably more beneficial to send a separate questionnaire to the FADN-farms were complementary activities could be more comprehensively addressed. A merge of the answers from the farmers who answered the question and the rural development part of FSS shows that the merge adds information to the FADN-register and that it might be useful to add information about other gainful activities to the FADN-register.

The overall conclusion from the merge between the FADN and IoT-incomes is that the incomes and transfers are not systematically different between the FADN-estimates and the FADN-population. The correlation between the FADN-result and the business income from IoT is high. For the average figures The FADN figures exceed IoT figures with 10-20 percent for most of the groups.

The overall conclusion from the merge between FADN and IoT is that employment activities on the farms in the FADN-population are fairly well covered in the Swedish FADN. IoT might be used to add information about income from employment and capital for the FADN-sample.

1 Background

1.1 Introduction

The structure of the agricultural sector in Sweden changes rapidly. The number of full time farmers is decreasing while part time farming is increasing. Agricultural activities are integrated with other activities in the society. Therefore incomes from other sources than agriculture are an important part of the incomes of the agricultural households in Sweden.

FADN is the primary instrument for micro economic analyses in the agricultural sector. Data is collected from accounts for a sample of 1 000 farms. In accordance with regulation (EC) No 1837/2001 and RI/CC 1256 rev2 some complementary activities are included in FADN, for example tourism. The complementary activities in FADN have never been analysed in detail in Sweden. Furthermore it is not possible to get statistics about all complementary activities taking place on the FADN-sample farms. FADN does not include incomes from off farm activities like off farm business, employment and capital.

The investigation " Incomes of agricultural households" covers all income sources of the agricultural households. Incomes from business, employment and capital are included. It is however not possible to specify the agricultural activities in detail in this investigation. The investigation is made with the Income and Taxation register (IoT) as a base.

Some additional information regarding rural development are collected in the survey on structure of the agricultural holdings (FSS) Council regulation EEC 571/88. In the survey other gainful activities on the holding directly related to the holding are noted.

A challenge is to combine the FADN-database with the rural-development part of FSS and with IoT. If the data sources could be combined, the added information might improve the quality and completeness of data on complementary activities in the Swedish FADN.

1.2 Objectives

The objective for this project has been to review the importance of complementary activities and in more detail study these activities in FADN.

Furthermore the objective has been to find methods to improve the quality of the FADN-data regarding activities close to agriculture and to find ways to calculate the total incomes of the households connected to FADN-farms.

To achieve the objectives:

– an evaluation of the feasibility of asking additional questions to the farmers participating in FADN regarding complementary activities has been made. To analyse this new information data from the FADN-survey has been merged with already collected information from the rural development part of FSS.

– the methodological possibilities of merging FADN and IoT has been evaluated. The objective of the merge is to create new knowledge about the quality of complementary activities in FADN as well as knowledge about the incomes from other sources on the FADN-sample households.

1.3 Description of data sources

In this section the sources of data that have been used in the project are described. There are primarily three types of datasources:

1) FADN (Farm Accountancy Data Network)
   a) EU-Farm Return
   b) Additional data collected on a yearly basis within the Swedish Farm Economic Survey (JEU) i.e. the Swedish FADN. This additional data mainly regards forestry and other entrepreneurial income.
2) Income and Taxation register (IoT)
3) Survey on the structure of agricultural holdings (FSS) (rural development part)

1.3.1 FADN and the Swedish Farm Economic Survey

The name used for the Swedish FADN is the Swedish Farm Economic Survey (JEU). The main objective for the survey is to deliver data for the EU Farm Return in accordance with the FADN- regulations. As a member state of the EU Sweden is obliged to deliver data to the FADN. Annually a database containing data on 1000 farms is delivered to DG Agri at the EU commission. However for taxation purposes, there are information about more than agriculture in the accounts of the farms and for some national purposes additional data are included in the JEU.

JEU is an annual book-keeping survey. The aim of the survey is to illustrate the development of receipts and costs in agriculture. The base of the calculations is nominal result in agriculture at current cost. The current cost for an asset is the replacement value reduced by depreciation.

In data management Statistics Sweden (SCB) co-operates with an accounting organisation with local agents all over the country. The data is subject to intensive control processing both at the national level and at DG Agri.

The information collected covers physical and structural data (crop area, livestock number, workforce etc) and economical and financial data (assets, liabilities, crop values, subsidies, sales, purchases etc).

Incomes from complementary activities can be identified in the accounts of the farms, but the costs cannot in many cases be separated from the costs for agriculture. A split up of the costs must therefore be based on estimates.

For the EU Farm Return it is stipulated that complementary activities based on the production means of the farms should be included. As a rule of thumb complementary activities will be included in EU FADN…

- if the output from the complementary activities represent less than 50 percent of the total output
- or if the output is lower than about 60 000 Euro.

These complementary activities may be found in table K codes 173-182 and some of the costs (forestry) in table F code 77. The value of assets is separated for forestry in table G code 100.

Incomes from forestry and farm tourism shall only be specified if appropriate. In the EU FADN Sweden includes farm tourism if it is found on the farm. Forestry is always excluded from the EU FADN. In JEU a separate profit and loss account as well as a balance sheet is calculated on forestry (these data is not reported to EU FADN). The completeness of data on other complementary activities is therefore insufficient.

The concept of household is not used in FADN. Instead the holding is the unit in data collection and presentation in FADN, but a few variables can be traced back to individual persons.

The sampling frame for FADN is the Swedish Farm Register. Only farms larger then 8 ESU according to EU-typology are included in the register. The number of holdings in different type groups, size classes and regions are shown in Appendix I, table 1. The sample is stratified in order to give good estimates of total production (SGM) and to have the sample size proportional to the total SGM in the strata.

1.3.2 Income and Taxation register (IoT)

The Income statistics IoT contains information on income, deductions, taxes, wealth and social reimbursements for the entire Swedish population.

Information is taken from the National Tax Board's tax return information, which consists of information on tax assessments and income statements, as well as information from Statistics Sweden's Register of the Total Population of Sweden (RTB).

The IoT covers income from:

a) employment (Salary, Deductions for commuting expenses between home and workplace, Deductions for expenses during business trips, Deductions for costs associated with two dwellings, Deductions for other costs, General national pensions and occupational pensions, Reimbursements that are not included in the wage base, Profits from hobbies),
b) Income from business (including agriculture) and
c) Income from capital (includes interest on bank accounts and other claims, interest on debt, rental income from dwelling units and gains or losses from the sale of shares and real estates).

Earned income is the sum of income from employment and business, compensation in conjunction with ill health, parental allowances and daily allowances for education and employment in the military.

The negative transfers consist of national and municipal income taxes on income from employment, business and capital, wealth taxes, real estate taxes, general pension contributions and social security charges.

In the investigation "Income of Agricultural Households" some adjustments in the IoT principles are made to achieve more relevant results for the agricultural households. A part of the business income is allowed to be transferred to capital income, but in Income of Agricultural Households

these amounts are brought back to business income. In addition to this also other similar adjustments are carried out.

The concept of household, which is used when IoT is the base for extractions for the investigation "Income of agricultural households" is the following:

a) Married/cohabiting with minor children on one and the same real estate,
b) single women,
c) single men.

A household may include two generations (parents and children). Sometimes there are more than one dwelling on a real estate, why an age limit at 30 years have been introduced for children. Unmarried couples (living together) with joint children are counted as cohabiting. Unmarried couples without joint children are counted as single.

The field of observation for IoT used in this project are the field of observation used for FADN.

1.3.3 FSS (Rural development part)

A section on rural development was included in the Farm structural survey, FSS 2003. In section M, other gainful activities directly related to the holding should be noted.

The farmers where asked to mark if they had in activity in:

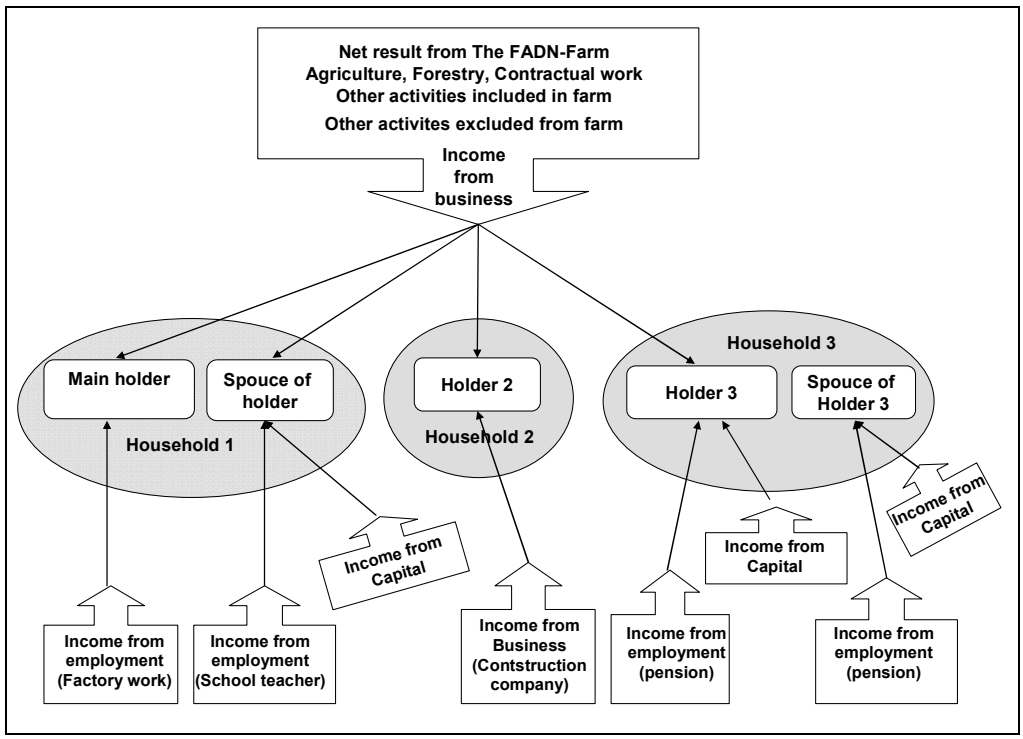
- Tourism, accommodation and other leisure activities
- Handicraft
- Processing of farm products
- Wood processing (e.g. sawing etc.)
- Aqua culture
- Renewable energy production
- Contractual work (using equipment of the holding)
- Other

1.4 Problem statement

As described in section 1.2, Objectives, a joint use of data from FADN and IoT is expected to make possible quality improvements in FADN. However there are several difficulties involved in this joint use.

An overview of objects and variables in FADN and IoT is given in Figure 1.1.

Figure 1.1
Overview of objects and variables in FADN and IoT



1.4.1 Definition of variables.

FADN covers agriculture, forestry and other complementary activities. Income from business in IoT covers all types of business activities, not all included in FADN. In the example given in Figure 1.1, holder 2 has income from business both from the construction company and from the FADN-farm. In IoT it is not possible to separate the two. Information on income from employment, income from capital and transfers is only available in IoT.

FADN data is measured and calculated at current costs. IoT data is in accordance with the taxation laws. A basic principle in the taxation legislation is that historical costs are used in the profit and loss account. Therefore the most obvious difference between FADN and IoT data is the calculations of depreciation. Consequently the net-result from the agricultural activities on the FADN-farms are not directly comparable with the income from business that the holders receive from the FADN-farms.

1.4.2 Definition of object

As described in part 1.3 above, the object in FADN is the holding. There might be several holders on one holding. The number of holders and the hours worked for each holder is noted in FADN. However information that makes it possible to find the holder in other data sources is only available for the main holder.

The holders split the net result from the agricultural activities between them to cover labour and capital costs. However it is not known from the FADN-material how they split the result. From FADN it is possible to know how many hours the holders have worked on the farm but it is not

possible to know how much capital each person have invested in the farm. It is of course also possible that the holders choose to split the results between them based on other considerations than invested capital and labour.

In IoT the object is the single physical person. The different persons have been joined together in households (see 1.3.2). From the Farm Register all persons noted as holders are collected. With the help of the Register of Total Population of Sweden (RTB) households are formed around the holders. If two holders are in the same household the household will only be counted once. Finally incomes for all persons in the household will be summarised and an average per household will be calculated.

In FADN the farmer notes the labour for spouse/cohabitant. In the Farm register sometimes spouse/cohabitant is registered as an additional holder and sometimes not. The definition of the household includes spouses and also cohabitants if the later couple have minor children.

Information about the holders are taken from two different sources i.e. FADN and the Farm Register, based on FSS. It is possible that the farmers have given different information in the two surveys.

1.4.3 Other aspects

Agricultural activities can be run under different legal entities. As IoT only covers physical persons all holdings in FADN run by juridical person are excluded from the merging of FADN and IoT.

The reference period for FADN, IoT, and the Farm Register, FSS Rural development part are the year 2003. However the reference period for the additional questions in JEU are the year 2004.

1.5 Methods used

A combination of methods has been used to achieve the objective to improve the quality of FADN data.

The data from JEU as well as additional data collected within JEU have been studied. A merge between the information given in JEU and the information given in the rural development part of FSS has also been made.

1) Within JEU the following analyses have been made.
   - Available data on forestry and other complementary activities in JEU 2003 has been analysed.
   - Co-ordinated with JEU 2004 additional data has been collected on complementary activities on the FADN holdings
   - The feasibility of collecting additional data on complementary activities in FADN has been studied.
2) Merge between JEU and the rural development part of FSS
   - The FADN-population has been merged with the rural development part of FSS and estimates have been made concerning the presence of other gainful activities.

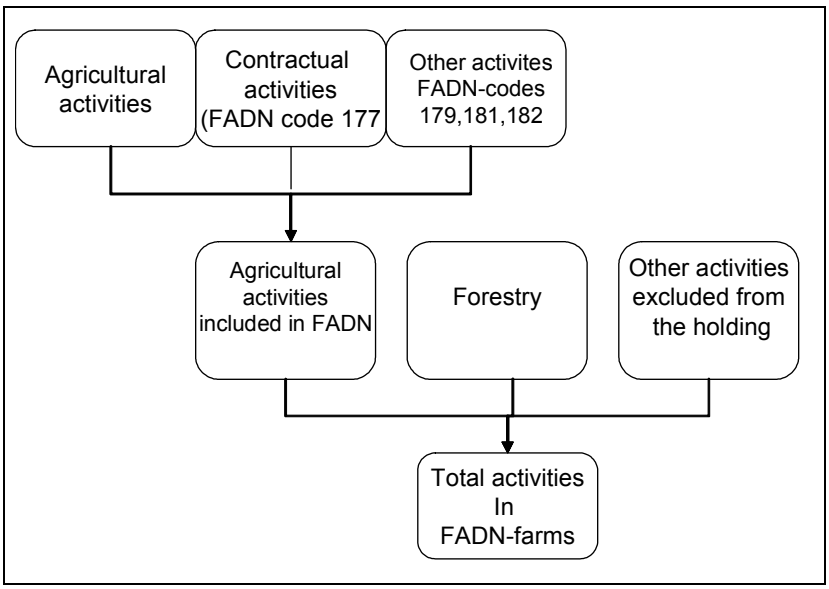
- The additional data collected in JEU 2004 have been compared with the results from the rural development part of the survey of the structure of agriculture.

3) In order to analyse the information from IoT for the FADN-sample, the FADN-sample and IoT have been merged. The following analyses have been made:
   - IoT incomes of the FADN households have been monitored. The different income sources from IoT (business, employment etc) have been analysed.
   - Estimates based on the FADN sample has been compared to IoT data for the FADN population.
     a) The economical result from the JEU for the main holder has been compared with the income from business for the same holder in IoT
     b) The total economical result from the accounts in the JEU has been compared with income from business for all holders and their household on the FADN-sample.

2 Complementary activities in JEU

There are different types of complementary activities classified on the FADN-Farms in JEU. A description of different types are shown in the figure 2.1.

Figure 2.1
Different kinds of activities in the FADN-samples



In the cases where the complementary activities are directly related to the holding, agricultural activities, contractual activities and other activities are included in the FADN-Farm return. The receipts could be separated from each other but the costs are inseparable.

In cases when complementary activities take a big share of the resources of agriculture, they could be separated and the incomes as well as the costs are excluded from the holding. (See the box "Other activities excluded from the holding" in Figure 2.1) The quality of data for "Other activities excluded from the farm" is presumed to be low.

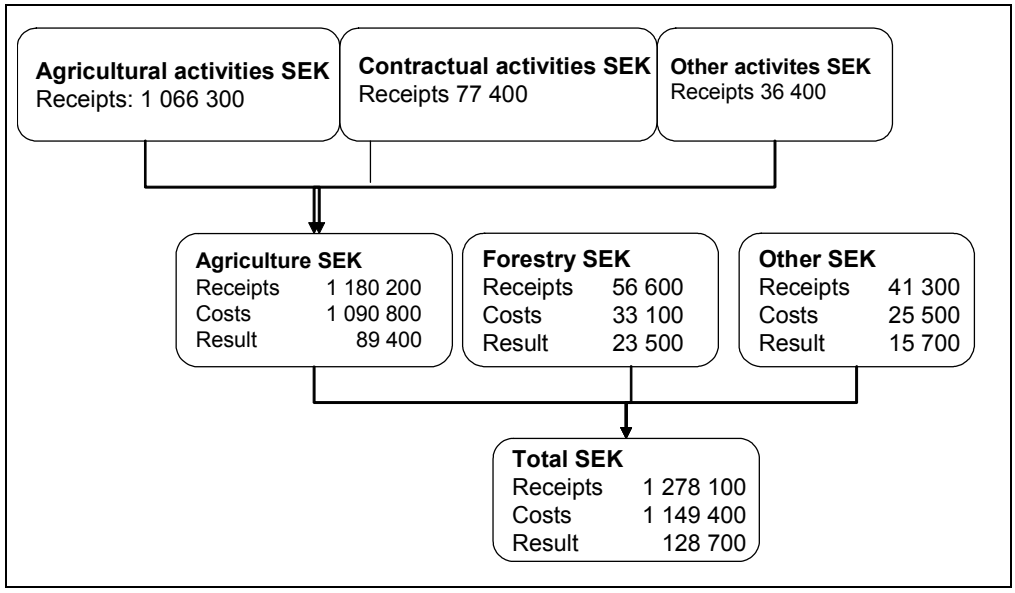
"Other activities excluded from the farm" as well as forestry are not included in the FADN-farm return. However forestry is presented for national purposes.

Information about all activities presented above are given in the accounts for the FADN-farms. That indicates that the farmer himself/herself consider them all parts of the total activity on his/her holding.

An overview of the receipts and costs for the FADN-population is given in Figure 2.2. The number of hours worked is specified in Figure 2.3. Out of the total receipts the share of receipts from strictly agricultural activities are about 90 per cent. Out of complementary activities different kind of contractual work are more usual than all other complementary activities combined.

A division of the receipts for typegroups and size groups can be found in table 3 in appendix I. For all typegroups the importance of receipts from complementary activities is growing when the size of the farm is decreasing. It could have been expected that the importance of complementary activities would have been higher for typegroups that are not labour intense for example cereals, but that is not the case. The type group cereal shows the same patterns as for example dairying. For complementary activities the costs are not possible to separate in the accounts.

Figure 2.2
Estimates for receipts and costs per holding for the FADN-population (based on the FADN-sample) in the year 2003



The receipts, costs and results have been studied for agriculture, forestry and other activities excluded from the farm for the year 2003. The total receipts for forestry are about SEK 60 000, while the receipts from other activities not included in the farm amount to about SEK 40 000. It should be noted that other activities excluded from the farm are unusual, but when they occur on a farm they, by definitions, amount to a high sum. Although the receipts from forestry are small compared to agriculture the result from forestry are not insignificant. The result amount to about SEK 20 000 compared to about SEK 90 000 from agriculture.

Forestry and Agriculture are run on the same farms in Sweden. About 75 per cent of the Agricultural holdings in the Farm register also have forest land. About 10 per cent of the agricultural holdings have more then 100 hectares of forest land. The share of the agricultural holdings that have forest land is highest in the north of Sweden and lowest on the plains in the south.

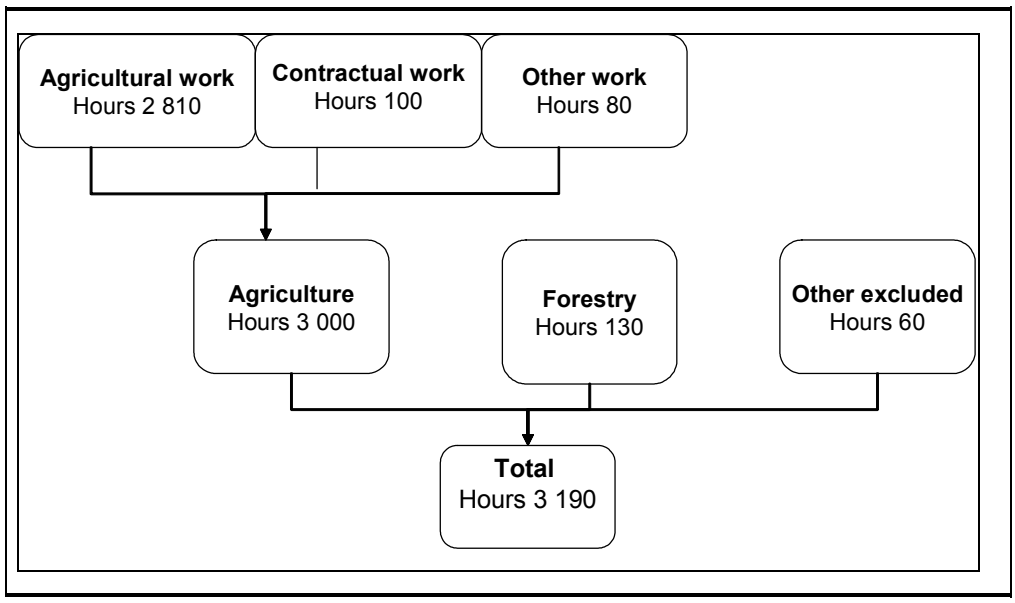
Tables 4-6 in Appendix I show that forestry is most important in region 2 and 3 in Sweden. Forestry is also important for farmers in the type group drystock. For the type group cereal, forestry is not so important. Instead other business activities are more influential, especially for farmers on small holdings.

In figure 2.3 data about labour for different activities are presented. Hours worked in contractual activities and other complementary activities are possible to detect in JEU. In total about 3 000 hours are spent working with these activities. Almost 90 per cent of the time is spent on strictly agricultural work.

Since contractual work is the most common complementary activity, it is presented separately. The hours worked in forestry and "Other activities excluded from the farm" are also shown. It should be noted that the standard error for other excluded activities are high since they only exists on a small number of farms. However on the farms where they do exist the values are high. The quality of the collected data is probably also low since it is not used or checked for any Swedish purposes. It is only collected with the purpose of improving the quality of the information in FADN.

The share of the total working hours in forestry is lower than the share of the total receipts from forestry. One possible explanation is that forestry is commonly sold as standing timber.

Figure 2.3
Estimates for hours worked per holding for the FADN-population based on the FADN-samples in the year 2003



3 Additional data on complementary activities

3.1 Complementary activities in the employment survey

Some additional information regarding rural development are collected in FSS Council regulation EEC 571/88. In the survey other gainful activities on the holding directly related to the holding are noted. Data from the rural development part of the survey have been for the first time within this TAPAS- project merged with the FADN-population according to EU-typology.

The estimate of the total number of farmers for each stratum in the Swedish FADN population who have any complementary activity is presented in table 2 in appendix I. The table shows that about 17 per cent or about 5 000 of the farmers in the FADN-population has indicated that they are involved in complementary activities. The table shows that the type groups cereals, general cropping and drystock have the highest share of farmers that work with complementary activities. The type group with the lowest share is pig production.

In figure 3.1 estimates of the total number of different activities carried out by farmers in the FADN-population are presented. The total number of activities below are 6 263. If a farmer has more than one activity he/she is included in several rows in the figure below. About 1 000 farmers are engaged in more than one activity. The figure shows that contractual work is the most common type of complementary activity. About 10 per cent of the farmers in the FADN-population are engaged in contract work.

Figure 3.1
Estimates of number of farms with different complementary activity in FADN as indicated in FSS in 2003

Type of activity	Number of farms	Per cent of farmers
Tourism etc	1023	3
Handicraft	179	1
Processing of farm products	471	2
Wood processing	351	1
Aqua culture	66	0
Energy production	220	1
Contractual work	3 009	10
Other	944	3
Total number of activities	6 263	..
Total number of farms with at least one activity	5 167	17

3.2 Additional data collection on complementary activities in JEU

Within this TAPAS-project additional information about other activities was collected in JEU. Information was also collected on "Other activities excluded from the farm"

Since contractual work already is specified no additional questions were asked about contractual work. In the Swedish sample of 1 000 farms, 450 farmers indicated that they worked at least 10 hours in contractual work. About 50 per cent of the farmers indicated that they worked less than 50 hours per year with contractual work so apart from it being common to indicate contractual work the number of hours worked are for most farmers low.

On the form where data on labour are collected, additional questions about other complementary activities were asked.

The farmer should answer the questions:

1) Please specify other activities included in agriculture.
2) Please specify other activities excluded in agriculture.

Out of the sample of 1 000 farms, 160 indicated that they had worked with other activities included in agriculture. About 110 farmers out of the 160 answered the question. The farmers who answered the question usually worked more hours than the ones that did not answer the question.

Out of the 110 who answered the question…

a) 53 farmers had noted contractual work
b) 21 farmers had noted tourism
c) 26 farmers had noted activities connected to forestry
d) 10 farmers had noted other activities.

The most common answer was some kind of contractual work. The type of work shifted, but examples are maintenance of buildings, maintenance of roads, and book-keeping. Usually the contractual work indicated here only involved the person and no machinery or equipment.

Out of the sample of 1000 farms, 39 indicated other activities excluded in agriculture. 21 farmers out of the 39 answered the question. The type of activities were equal to the activities indicated in other activities included in the farm. From the hours worked and the answers given it was possible to deduct that the activities were comprehensive.

3.3 Merge between JEU and the rural development part of FSS

A merge was made between the JEU register and the FSS in order to study the coherency regarding complementary activities in the two surveys.

The number of farmers who answered the question was too few to make it possible to make any statistical estimates. However the activities for each of the farmers who answered the question was coded and compared with the code that the same farmer had indicated in the rural development part of FSS for the year 2003. It is important to note that the question was asked

for the year 2004 so one part of the difference in answers can be explained by the fact that the reference-period differs. It should also be noted that even if most of the FADN-population participated in the rural development part of FSS not all did. The following could be noted from studying the two sources of data.

e) About 20 percent of the participants in JEU had also indicated that they had other gainful activities in the rural development part of FSS.

f) Contractual work was by far the most commonly noted activity in the rural development part of FSS.

g) It was more usual that a farmer in the JEU had indicated that he/she had conducted contractual work or other activities than that the same farmer had indicated other gainful activities in FSS. This was especially the case when the number of hours worked for the activity in the JEU was low.

h) The farmers who had indicated hours in the JEU, but had not answered the additional question usually had not indicated any other gainful activities in FSS.

i) The answers in this TAPAS-study were coded in the same way as codes as the ones used in the rural development part of FSS. When the codes were compared it could be noted that the farmers had answered consistently in the both surveys.

4 Merge between FADN and IoT

In Chapter 4 results from the merge between FADN and IoT for the FADN-population are presented. First however follows a presentation of the income situation for all Swedish farmers.

4.1 The income situation 2003 for all Swedish farmers

Annually the IoT based investigation "Income of agricultural households" presents the income situation for Swedish farmers. The average household incomes are calculated for all farmers in the Farm Register and for a large number of sub groups.

In 2003 the average income for all agricultural households was from business SEK 67 000 and from employment SEK 258 100. Positive transfers were on average SEK 11 900, negative transfers SEK110 300 and Income after transfers SEK 226 800 (Figure 4.1).

Figure 4.1
Incomes and transfers per household for all agricultural households 2001-2003. SEK

Type of income or transfer	Year		
	2003	2002	2001
Business	67 000	72 100	72 100
Employment	258 100	246 100	235 200
Capital	200	0	3 200
Tax free positive transfers	11 900	11 900	11 400
Negative transfers	-110 300	-104 600	-105 900
Income after transfers	226 800	225 400	216 000

SCB 2005; JO 42 SM 0501, SCB 2004; JO 42 SM 0401

Income from employment is important for the agricultural households on all seizes of arable land of the holding (Figure 4.2). However when the size of the farm measured in arable land increases the importance of income from business increases and so does also Tax free positive transfers.

It can also be noted that income from business is increasing less than the decrease in income from employment when one goes from the smallest farms to somewhat bigger farms. This leads to an average in Income after transfers for households on holdings in size groups 5,0-10,0 hectares that is higher than the average for the following four seize groups. Only the households in size groups with more than 50,0 hectares reach a higher Income after transfers than the households on the smallest holdings.

Important factors that have not been considered in the table are differences in average number of household members and other differences in composition of the households.

Figure 4.2
Incomes and transfers per household for all households 2003 distributed by size groups. SEK

Arable land, hectares	Business	Employ-ment	Capital	Tax free Positive transfers	Negative transfers taxes	Income after transfers
2,1- 5,0	11 800	324 800	-4 200	10 700	114 600	228 500
5,0- 10,0	14 700	312 100	-3 100	10 600	111 800	222 500
10,1- 20,0	27 700	284 700	-200	10 500	106 700	216 100
20,1- 30,0	54 500	251 900	1 400	11 100	103 800	215 100
30,1- 50,0	97 300	213 900	3 800	12 200	103 800	223 300
50,1-100,0	151 400	183 100	3 200	14 500	111 600	240 600
100,1-200,0	194 000	170 000	3 500	16 100	125 400	258 300
200,1-	233 900	167 200	3 200	18 400	143 700	278 900
All households	67 000	258 100	200	11 900	110 300	226 800

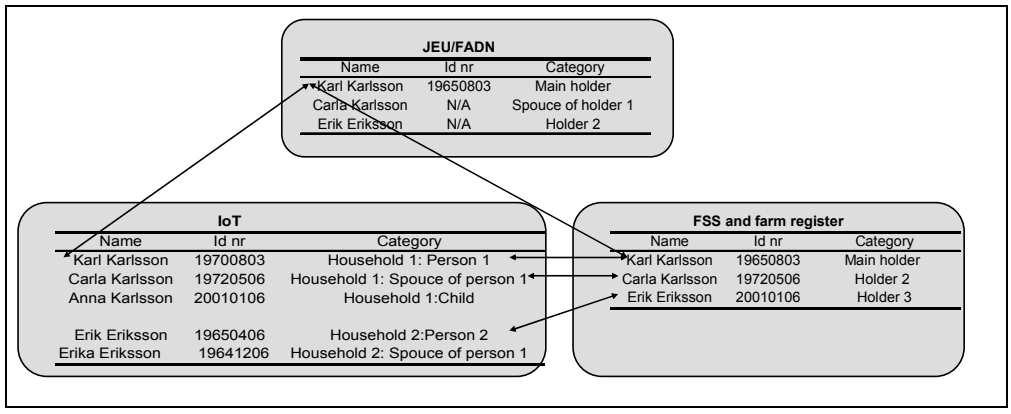
SCB 2005; JO 42 SM 0501, SCB 2004; JO 42 SM 0401

4.2 Structure of households and holders

Income from business for the FADN-sample is calculated for the household/s for all holders on the farm as well as for the main holder. Since JEU does not provide information that makes it possible to identify any other holder than the main holder, the FADN-sample farms has been merged with the farm register. The number of holders indicated in the farm Register has been used for the specific FADN-farms in order to summarise the incomes from all the holders on the FADN-farms. In figure 4.3 the possibilities to merge persons between the three registers are shown

Figure 4.3

Possibilities to merge registers by the key of id nr.



The merge could only be done with the help of Id nr. The main holder could be identified in all three registers. In the example his name is Karl Karlsson. His spouse Carla Karlsson does not have an id in FADN but she could be found both in IoT and the farm register. In the Farm register she is considered as another holder. Erik Eriksson the second holder in FADN could not be identified. However if he is listed in the Farm register he could be identified both in the Farm register and in IoT.

Even if it is not possible to merge the same holder in FADN-and the Farm register (except for the main holder), the number of holders has been analysed in FADN and the Farm Register. The results are shown in Figure 4.4.

From figure 4.4 it can be noted that for 750 farms or 75 per cent of the FADN-sample there is only one holder in both the registers. In 133 cases there is only one holder in FADN and more than one holder in the Farm Register. For 46 holders there is one holder in the farm register and two holders in FADN.

Figure 4.4
Number of holders from the Farm Register compared with number of holders from FADN for the farms in the FADN-sample 2003

Number of holders from FADN	Number of holders from Farm Register					
	1	2	3	4	5	Total
1 holder	750	123	10	0	0	883
2 holders	46	41	21	5	2	115
3 holders	2	0	1	1	0	4
Total	798	164	32	6	2	1 002

In the Farm Register a spouse/cohabitant might have been recorded as a second holder. To test this the spouse of the holder in FADN was included as another holder. The result is shown in Figure 4.5. The results from figure 4.5 indicate that in some cases the spouse/ cohabitant has been noted as a holder in the Farm register and in some cases not.

Figure 4.5
Number of holders from the Farm Register compared with number of holders spouses included from FADN for the farms in the FADN-sample 2003

Number of holders spouse/s included from FADN	Number of holders from Farm Register					
	1	2	3	4	5	Total
1 holder spouse included	412	35	5	0	0	452
2 holders spouse/s included	373	115	19	4	0	511
3 holders spouse/s included	12	14	7	2	2	37
4 holders spouse/s included	1	0	1	0	0	2
Total	798	164	32	6	2	1 002

In Figure 4.6 the number of holders from the farm register is compared with the number of households from IoT. It is possible that several holders are included in the same household. For example a parent and a son/ daughter living on the same estate. Or a holder and a spouse that in the Farm Register has been noted as a second holder.

For 765 farms in the FADN-sample one holder in the Farm Register forms one household from IoT. For 98 farms two holders form one household. 75 farms are missing i.e. it has not been possible to find them in IoT. The reason in most cases are that they are limited companies and therefore not included in IoT

Figure 4.6
Number of holders in the Farm Register compared with number of households in IoT for the farms in the FADN-sample 2003

Number of households from IoT	Number of holders from Farm Register					
	1	2	3	4	5	Total
1 houshold	765	98	3	0	0	866
2 housholds	0	46	8	0	0	54
3 housholds	0	0	7	0	0	7
Missing	33	20	14	6	2	75
Total	798	164	32	6	2	1 002

Finally the number of holders in the FADN-sample has been compared to the number of household in IoT. In 808 cases there is a perfect match. In 29 cases there are one holder in FADN and two or three households from IoT. This is explained by the fact that there are more holders noted in the Farm Register then in FADN.

Figure 4.7
Number of holders from the FADN-register compared with number of households from IoT for the farms in the FADN-sample 2003

Number of households in IoT	Number of holders in FADN			
	1	2	3	Total
1 household	808	57	1	866
2 households	28	26	0	54
3 households	1	6	0	7
Missing	46	26	3	75
Total	883	115	4	1 002

A conclusion from the analyse above is that most farms consists of one holder and one household. This fact will probably make the merge more successful since an increased number of holders make the possibility of off-farm business income in the household bigger.

4.3 Income situation in 2003 for the FADN population at household level

The income situation on household level for the FADN-population as well as the estimate for the FADN-population made from the FADN-sample is given in tables 8 and 9. This means that estimates are calculated for the around 1000 farms participating in FADN and compared to figures for the entire FADN-population. Ie.

- 1 data set for the farms in the FADN sample (1000 farms) compared to
- 1 data set for all farms in the FADN-population (39 271 farms)

In the tables the income and transfers are given. A summary is given in Figure 4.8.

The Swedish FADN population includes farms exceeding 8 ESU. Out of the "Income of agricultural households" data on the FADN population has

been extracted and presented at household level (holder, spouse and children under 16 years).

For the total FADN population income from employment (SEK 196 200) is the most important income source. Many of the farms are relatively small which permits the holder to work outside the farm. Employment incomes from spouses are also included.

Figure 4.8
Incomes and transfers per household per household for the total FADN-population and estimates for the FADN-sample, 2003, SEK

	Business	Employ-ment	Capital	Tax free positive transfers	Negative transfers	Income after transfers
FADN-population	126 900	196 200	4 200	13 100	108 500	231 500
FADN-estimates for the FADN-population	134 000	197 700	3 700	13 000	111 000	237 800

Table 8 and 9 Appendix I

For households in the upper size classes the business income exceeds income from employment. This is not valid for pig farms where the employment incomes dominates even in the biggest farms. This can probably be explained by the weak profitability during the year in pig production.

Income from capital is relatively small (SEK 3 700 for all farms) and has only a minor importance for the total income

The household income after transfers is on average SEK 231 500 per household. Most groups have an income well above SEK 200 000, but pig farms ad small dairy farms are below this amount.

4.4 Income situation in 2003 for the holder in the FADN population

From the ”Income of agricultural households in 2003” an extraction has also been made on the main holders exclusively. The idea behind this is to illustrate the holders dependence on occupation outside the farm and the contribution from the spouses the total income of the household.

The income situation for the main holder for the FADN-population as well as the estimate for the FADN-population made from the FADN-sample is given in tables 10 and 11. In the tables the income and transfers are also given A summary is given in Figure 4.9.

Figure 4.9
Incomes and transfers per main holder for the total FADN-population from the FSS and estimates for the FADN-sample, 2003 , SEK

	Business	Employ-ment	Capital	Positive transfers	Negative transfers	Income after transfers
FADN-population	103 100	77 900	2 100	1 100	63 500	120 900
FADN-estimates for the FADN-population	105 100	66 100	2 800	700	60 100	114 700

Table 10 and 1 Appendix I

As an average for all farms in FADN population the holder stands for SEK 77 900 of the employment income, compared to the average household income SEK 196 200, or approximately 40 per cent.

In small farms in the type groups Cereals and General cropping the holders income from employment stands for more than half of the households employment income. Holders on Dairy farms and Pig farms stand for a relatively small part of the total employment income of the household. These two production lines are require a large labour input, which can explain the holders relatively small employment incomes.

Income from business activities (agriculture etc) is on average SEK 103 100 for the holder, compared to SEK 126 900 for the household, or 81 per cent. The same situation can be found in all groups with the holder standing for the main part of the business income.

The holders part of the household income after transfers the holder stands for SEK 120 900 out of SEK 231 500 for the households, which means just above 50 per cent. The holders on pig farms and small dairy farms earn a relatively small part of the household income, in some groups less than a third of the household income.

4.5 Income situation for the FADN population compared to estimates for the FADN sample

In point 4.2 – 4.3 the analyses are based on data for all farms in the FADN population (farms exceeding 8 ESU). The FADN database includes data for 1 000 farms, why a merge between FADN and IoT must be limited to those 1 000 farms.

Due to a high non-response rate (around 50) in the recruitment of new farms there is a need to evaluate if the FADN sample representative. Different studies of the impact of the non response in FADN have been carried out by Statistics Sweden. Background variables have been studied for the non-responding farms and the participating farms. Those studies have not indicated any obvious risk of biased estimates.

The merge between FADN and IoT offers an interesting possibility to analyse the risk of biased FADN estimates. In Table 8-11 in the appendix as well as in Figure 4.8 and 4.9 above the results from the investigation of all farms in the FADN population is compared to estimates based on the

FADN sample (1 000 farms). Also the relative standard deviations are given for the estimates (in the tables 8-11).

An analysis of the deviations between data sets show that the estimates based on sample is fairly close to totals for the population. Due to the big standard deviations there are only a few significant differences. One of those differences can be found for big pig farms (-100 ESU). Usually the recruitment of the biggest farms is most difficult. The results indicate that there seems to be no systematic bias in the FADN-sample concerning the income variables studied from IoT.

4.6 The completeness in FADN-estimates on complementary activities

A comparison between the FADN-estimates and the business income in IoT is an essential part of this project, as it indicates the possibilities to integrate FADN and data sources like IoT covering all income sources.

The results from a merge between the two registers must be analysed taking into account the following:

- Business income of holders on farms with more than one holder can be split up between the holders in somewhat different ways in FADN and IoT.
- The FADN calculations follow the principles of current cost accounting while IoT follows the principles of the taxation legislation (historical costs).
- IoT results are influenced by deductions smoothing of incomes between years in line with the taxation rules.
- The completes of complementary activities is expected to be better in IoT than in FADN, at least this is true regarding "off farm business income".

In the project the FADN estimates for FADN-results have been correlated with the business income of IoT. Income from business for the FADN-sample is calculated for the household/s for all holders on the farm as well as for the main holder.

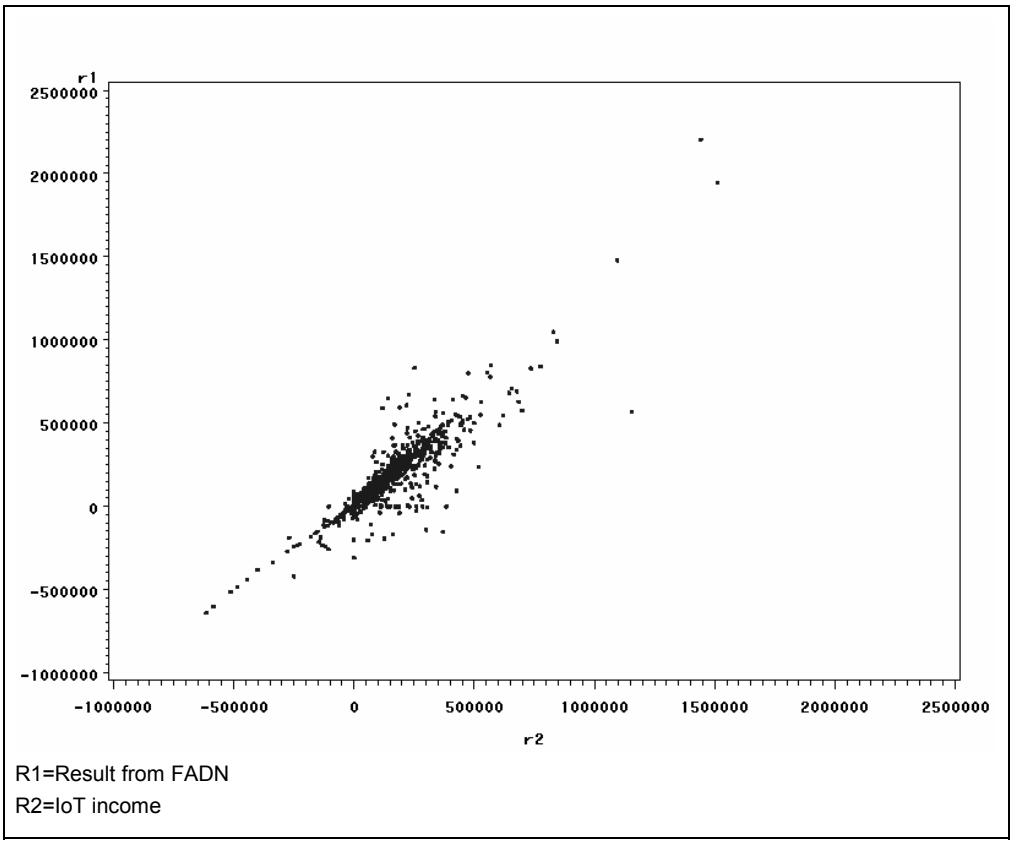
To avoid some of the problems mentioned above the following adjustments have been carried out.

- To make the FADN results more comparable to IoT, some variables in the register have been used, which represent the result at historical costs. The depreciations for tax-purposes have been used. All receipts and costs from the accounts have also been included.
- The IoT result has been adjusted to remove some of the most significant impacts from the taxation rules.
- On household level the income from business for all the holders and their households have been merged and compared to the total FADN-result. When correlations have been made for the main holder. The FADN-result have been split up between the holders assuming that they split the result according to hours worked. It should be noted that in about 75 per cent of the cases there are only one holder and no split is necessary.

The results from the merge are shown in Table 12 in appendix 1. The table shows that the FADN figures exceed IoT figures with 10-20 percent for most of the groups. For some groups the percentage is bigger and for some groups it is lower or even negative i.e. the IoT figures exceed the FADN figures. An explanation for this might be that it is possible to make corrections in the taxation forms if there are incomes or costs in the accounting for the holding that should not be taxable or deductible in business. It might also happen that there are incomes or costs that ought to have been booked but has been forgotten.

Example: Interest on the dwellings might have been taken up in the accounting but belongs in taxation to Income from capital. A correction in the taxation form will then increase the income from business and decrease income from capital. If a forgotten cost is added in the taxation form it will decrease the income from business and an added income will increase income from business. There are also some income equalizations that can be made in the taxation form that might have increase/decreased income from business in IoT but not in FADN. The frequency for such corrections is not known but at least the income equalizations are probably of significant magnitude.

Figure 4.10
Correlation between FADN-result and IoT business income for the FADN-sample for the main holder

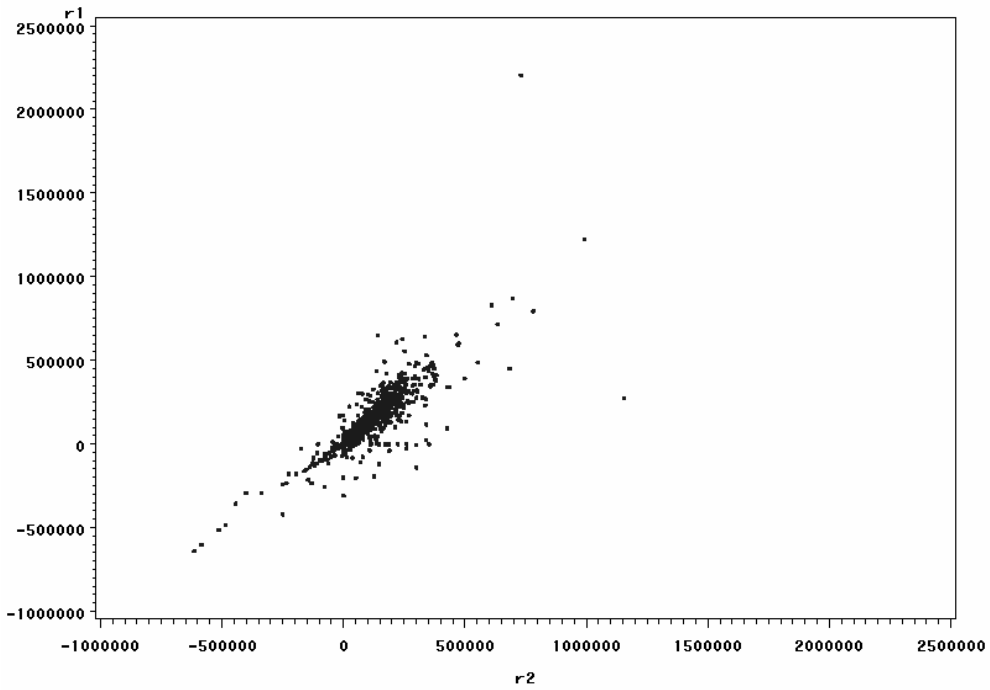


The correlation between the FADN result and the IoT income was also made. The plots for the correlation are shown in Figure 4.10, and 4.11. The correlation coefficient is a measure of how strong the linear statistical relations between two variables are. The range of the measure is between -

1 to 1. If the correlation coefficient is -1 then there is a perfectly negative linear statistical relation and if it is 1 there is a perfectly positive linear statistical relation. If the coefficient is 0 then there is no linear statistical relation at all.

In table 12 the correlation coefficient shows that there is a strong connection between the two sources.

Figure 4.11
Correlation between FADN-result and IoT business income for the houshold



R1=Result from FADN
R2=IoT income

5 Conclusions

5.1 Conclusions complementary activities

In this project the frequency of complementary business activities on Swedish farms has been investigated. In the report several studies are presented and they all show similar results. About 15 per cent to 25 per cent of the Swedish farmers have some sort of complementary business activity. The most common activity, besides forestry, is contractual work.

About 75 per cent of the Swedish farmers have forest land. In the Swedish FADN the receipts from forestry are no more than 10 per cent of the total receipts in any of the presented type groups. The receipts from forestry are most important in region 2 and 3. The receipts from other business activeties are highest in the type groups cereals and dry stock, however, generally low.

Complementary activities that are of small extent for each farm shall be included in agriculture in FADN, but are presented separately in the Swedish FADN. However these activities seem to have a fairly limited importance for the receipts.

As a conclusion it is also important to bear in mind that business related income is only one part of the total incomes for the agricultural households. Income from employment is the most important one.

5.2 Results from the work

Additional data in Swedish Farm Economic Survey 2004
When explaining in word what they were doing farmers who had put hours and also receipts on other activities in the farm where actually doing contractual work. A larger part of the receipts should therefore be put in code in code 175 contractual work in FADN.

Comparison of data between JEU-2004 and the rural development part of the structural survey 2003
A result from the study is that if a farmer has indicated in the structural survey that he/she has other gainful activities the farmer will also do so in the Swedish Farm Economic Survey. There were more farmers that had answered that they had complementary activities in JEU compared to the structural survey. The assumption that some farmers do not fill out the rural development part of the structural survey has been noted before when the answers from the structural survey have been analysed.

Merge between the FADN-population and the rural development part of the structural survey
A conclusion form the merge is that it adds information FADN-register and that it might be useful to add the information about other gainful activities to the FADN-register.

Study of the feasibility of collecting complementary data in FADN
Additional information was collected about the complementary activities were gained by the questions. However, several of the farmers did not answer the questions. If complementary activities are of special interest it is probably more beneficial to make a separate questionnaire of the FADN-farms were complementary activities can be more comprehensively addressed.

Analysis of the importance of different income-sources for the FADN-population
The conclusion from the merge between the FADN and IoT incomes are that the incomes and transfers are not systematically different between the FADN-estimates of the FADN-population and the FADN-population. The correlation between the FADN-result and the business income from IoT is high. For the average figures The FADN figures exceed IoT figures with 10-20 percent for most of the groups. For some groups the percentage is bigger and for some groups it is lower or even negative i.e. the IoT figures exceed the FADN figures.

The overall conclusion from the merge between FADN and IoT is that business activities on the farms in the FADN-population are fairly well covered in the Swedish FADN. IoT might be used to add information about income from business and capital for the FADN-sample.

5.3 Improvements of FADN

The possibilities to improve FADN in Sweden as a result from the TAPAS-project are described in this section.

The TAPAS-project shows that for Sweden:

- the analysis of the data given in the Swedish FADN as it is shown in chapter 2 gives insights into the importance of complementary activities in Sweden. The type of analysis shown in chapter 2 should be made on a yearly basis
- it is not recommended to add questions about complementary activities in the FADN-questionnaire. The answers given in the questionnaire was similar to the ones given in the rural development part of the farm-structural survey. The possibility to merge FADN with the farm structural survey should instead be further investigated.
- if there would be a profound interest in complementary activities additional questionnaires should be used.
- the possibilities to merge FADN- IoT – Farm register are good and should be used further.
- there are few other business activities except the ones included in the Swedish FADN. This means that income from business as presented in the investigation “Income of Agricultural Households” gives a good account of the incomes from agriculture.
- complementary activities are of minor importance to the economy of the households connected to the holdings in the FADN-population. Instead income from employment is the most important one.

For other member states who has the possibilities to use registers the findings in this TAPAS-project should be interesting and usefull. For FADN-purposes it should be noted that the interpretation of what complementary activities that are included in FADN varies. In Sweden for example forestry is not included and the limit is decided to 60 000 euro. The FADN-codes for complementary activities must therefore be used with care when comparing the importance of complementary activities between member states.

Tables

List of tables

Table 1
The Swedish FADN-population 2003

Type of farming	OTE	ESU size class	Number of selected holdings	Number of holdings in the FADN population
Cereals	13	100-	7	297
		40-100	25	1 459
		16-40	40	3 339
		8-16	34	3 477
General cropping	14, 60	100-	24	594
		40-100	45	1 503
		16-40	50	2 453
		8-16	44	3 309
Dairying	41	8-16	31	434
	41	100-	65	2 427
	41 Region 710	40-100	65	2 867
		16-40	40	833
	41 Region 720	40-100	59	2 851
		16-40	47	1 319
	41 Region 730	40-100	40	1 271
		16-40	35	618
Drystock	42-44	100-	4	52
		40-100	24	210
		16-40	40	949
		8-16	40	1 676
Pigs	501	100-	14	215
		40-100	40	231
		16-40	40	165
		8-16	10	45
Mixed	7+8	100-	20	544
		40-100	45	1 263
		16-40	40	2 317
		8-16	32	2 553
Total				

Table 2
Percentage of farmers in the FADN-population, who in the rural development part of FSS 2003 indicated any complementary activities

Type of farming	OTE	ESU size class	Number of farmers with any comp-lementary activity	Number of farmers in the popu-lation	Percentage of farmers with any comple-mentary activity
Cereals	13	100-	58	281	21
		40-100	345	1 221	28
		16-40	645	3 011	21
		8-16	410	3 081	13
General cropping	14, 60	100-	160	704	23
		40-100	326	1 453	22
		16-40	328	1 881	17
		8-16	255	1 978	13
Dairying	41	8-16	10	248	4
	41	100-	317	2 283	14
	41 Region 710	40-100	236	1 930	12
		16-40	37	537	7
	41 Region 720	40-100	298	2 048	15
		16-40	90	821	11
	41 Region 730	40-100	137	876	16
		16-40	52	448	12
Drystock	42-44	100-	6	38	16
		40-100	41	185	22
		16-40	246	1 001	25
		8-16	411	2 128	19
Pigs	501	100-	27	241	11
		40-100	16	191	9
		16-40	10	151	7
		8-16	3	42	8
Mixed	7+8	100-	79	473	17
		40-100	158	837	19
		16-40	261	1 214	22
		8-16	203	1 250	16
Total FADN-pop			**5 167**	**30 552**	**17**
Other groups	1 - 8	over 8	99	821	12
	1 - 8	under 8	3 972	36 517	11
Total			**9 237**	**67 890**	**14**

Table 3
Total receipts in strictly agriculture, contractual activities and other activities in FADN 2003. Average per holding

ESU size class Type of farming region	Contractual work			Complementary activities			Strictly agricultural		
	Receipts SEK	Confidence interval Per cent		Receipts SEK	Confidence interval Per cent		Receipts SEK	Confidence interval Per cent	
Total	77 474	±	14	36 422	±	25	1 066 277	±	5
Cereals, 13									
100-	122 881	±	81	..	±	..	3 495 029	±	40
40-100	91 613	±	56	28 274	±	80	1 317 694	±	14
16-40	78 261	±	48	33 845	±	93	627 019	±	25
8-16	83 552	±	54	27 410	±	51	130 984	±	46
General cropping 14,60									
100-	106 517	±	93	26 278	±	79	4 189 323	±	15
40-100	61 373	±	43	75 772	±	78	1 348 122	±	14
16-40	114 390	±	42	36 904	±	86	436 403	±	26
8-16	84 333	±	68	..	±	..	..	±	..
Dairying, 41									
100-	81 476	±	37	21 624	±	43	3 822 042	±	13
Region 710 40-100	66 267	±	36	58 616	±	50	1 004 855	±	10
Region 720 40-100	51 405	±	41	19 089	±	39	1 130 554	±	7
Region 730 40-100	43 555	±	63	10 506	±	62	1 095 961	±	11
Region 710 16-40	66 917	±	60	..	±	..	314 928	±	41
Region 720 16-40	46 611	±	58	..	±	..	370 254	±	30
Region 730 16-40	21 613	±	82	4 352	±	70	505 907	±	12
8-16	..	±	..	..	±	..	109 248	±	88
Drystock									
100-	..	±	..	..	±	..	..	±	..
40-100	76 324	±	78	..	±	..	1 589 122	±	28
16-40	69 291	±	55	23 367	±	93	677 534	±	23
8-16	101 128	±	66	30 758	±	80	262 947	±	41
Pigs, 501									
100-	171 145	±	95	..	±	..	3 030 552	±	28
40-100	132 825	±	78	..	±	..	1 071 672	±	22
16-40	68 505	±	71	..	±	..	440 165	±	49
8-16	..	±	..	..	±	..	..	±	..
Mixed (7+8)									
100-	99 486	±	68	11 885	±	72	4 349 318	±	33
40-100	57 753	±	48	17 047	±	54	1 534 099	±	15
16-40	53 553	±	55	21 216	±	62	776 080	±	19
8-16	62 409	±	59	18 154	±	61	284 713	±	34

Table 4
Total Receipts in agriculture forestry and other activities in FADN 2003. Average per holding

	Activities in agriculture			Activities in Forestry			Other Activities (excluded)		
	Receipts SEK	Confidence interval Per cent		Receipts SEK	Confidence interval Per cent		Receipts SEK	Confidence interval Per cent	
Total	**1 180 173**	**±**	**5**	**56 623**	**±**	**17**	**41 266**	**±**	**48**
Cereals, 13									
100-	3 638 530	±	38	..	±	..	..		..
40-100	1 437 582	±	13	..	±	..	..		..
16-40	739 125	±	19	29 851	±	44	..		..
8-16	241 946	±	15	26 323	±	65	..		..
General cropping 14,60									
100-	4 322 117	±	15	57 309	±	80	..		..
40-100	1 485 267	±	12	16 425	±	70	..		..
16-40	587 697	±	14	..	±	..	..		..
8-16	206 406	±	21	..	±	..	..		..
Dairying, 41									
100-	3 925 143	±	13	106 821	±	51	..		..
Region 710 40-100	1 129 738	±	9	46 765	±	53	..		..
Region 720 40-100	1 201 048	±	7	51 090	±	43	..		..
Region 730 40-100	1 150 022	±	11	80 132	±	63	..		..
Region 710 16-40	443 266	±	17	31 874	±	63	..		..
Region 720 16-40	484 747	±	14	..	±	..	..		..
Region 730 16-40	531 872	±	12	74 861	±	57	..		..
8-16	188 911	±	20	19 286	±	59	..		..
Drystock									
100-	..	±	..	..	±	..	..		..
40-100	1 688 914	±	24	..	±	..	..		..
16-40	770 193	±	18	78 024	±	46	..		..
8-16	394 833	±	18	88 974	±	42	..		..
Pigs, 501									
100-	3 345 651	±	23	43 663	±	99	..		..
40-100	1 241 127	±	15	21 865	±	72	..		..
16-40	546 436	±	34	..	±	..	..		..
8-16	..	±	..	..	±	..	..		..
Mixed (7+8)									
100-	4 460 688	±	33	144 484	±	68	..		..
40-100	1 608 899	±	14	42 966	±	63	..		..
16-40	850 849	±	16	83 427	±	84	..		..
8-16	365 276	±	24	73 464	±	50	..		..

Table 5
Total costs in agriculture, forestry and other activities in FADN 2003. Average per holding

	Activitiies in agriculture			Activities in Forestry			Other Activities (excluded)		
	Costs SEK	Confidence interval Per cent		Costs SEK	Confidence interval Per cent		Costs SEK	Confidence interval Per cent	
Total	**1 090 756**	**±**	**5**	**33 123**	**±**	**14**	**25 536**	**±**	**51**
Cereals, 13									
100-	3 699 505	±	41	..	±	..	..		..
40-100	1 202 435	±	18	39 896	±	75	..		..
16-40	666 461	±	19	18 069	±	39	..		..
8-16	288 406	±	13	16 896	±	61	..		..
									..
General cropping 14,60									
100-	3 972 311	±	17	71 039	±	61	..		..
40-100	1 310 397	±	14	13 858	±	52	..		..
16-40	547 445	±	15	11 131	±	57	..		..
8-16	273 049	±	18	13 211	±	83	..		..
Dairying, 41									
100-	3 507 254	±	15	83 715	±	30	..		..
Region 710 40-100	957 699	±	12	28 237	±	32	..		..
Region 720 40-100	987 862	±	7	33 210	±	26	..		..
Region 730 40-100	860 988	±	12	20 648	±	40	..		..
Region 710 16-40	388 580	±	14	7 406	±	62	..		..
Region 720 16-40	416 792	±	14	..	±	..	..		..
Region 730 16-40	423 092	±	15	17 750	±	44	..		..
8-16	195 979	±	13	10 649	±	77	..		..
Drystock									
100-	..	±	..	..	±	..	..		..
40-100	1 495 638	±	31	..	±	..	..		..
16-40	702 475	±	18	47 093	±	36	..		..
8-16	403 238	±	13	32 144	±	41	..		..
Pigs, 501									
100-	3 496 675	±	23	25 676	±	62	..		..
40-100	1 449 644	±	13	23 352	±	44	..		..
16-40	723 929	±	28	..	±	..	..		..
8-16	..	±	..	..	±	..	..		..
Mixed (7+8)									
100-	4 474 371	±	32	81 146	±	58	..		..
40-100	1 683 295	±	14	32 282	±	43	..		..
16-40	869 759	±	18	34 647	±	38	..		..
8-16	409 605	±	19	17 596	±	48	..		..

Table 6
Total results in agriculture, forestry and other activities in FADN 2003. Average per holding

	Activitiies in agriculture			Activities in Forestry			Other Activities (excluded)		
	Receipts SEK	Confidence interval Per cent		Receipts SEK	Confidence interval Per cent		Receipts SEK	Confidence interval Per cent	
Total	**89 418**	**±**	**20**	**23 500**	**±**	**30**	**15 729**	**±**	**46**
Cereals, 13									
100-	..	±	..	..	±	..	..		..
40-100	235 147	±	36	..	±	..	..		..
16-40	72 664	±	1	..	±	..	..		..
8-16	-46 460	±	-89	..	±	..	..		..
									..
General cropping 14,60									
100-	349 806	±	56	..	±	..	..		..
40-100	174 869	±	45	..	±	..	..		..
16-40	..	±	..	..	±	..	..		..
8-16	-66 643	±	-55	..	±	..	..		..
Dairying, 41									
100-	417 889	±	28	..	±	..	..		..
Region 710 40-100	172 039	±	30	..	±	..	..		..
Region 720 40-100	213 186	±	22	17 880	±	98	..		..
Region 730 40-100	289 034	±	39	59 484	±	78	..		..
Region 710 16-40	..	±	..	24 467	±	74	..		..
Region 720 16-40	67 955	±	63	65 991	±	97	..		..
Region 730 16-40	108 779	±	36	57 110	±	73	..		..
8-16	..	±	..	8 637	±	83	..		..
Drystock									
100-	..	±	..	..	±	..	..		..
40-100	..	±	..	..	±	..	..		..
16-40	..	±	..	..	±	..	..		..
8-16	..	±	..	56 830	±	54	..		..
Pigs, 501									
100-	..	±	..	..	±	..	..		..
40-100	-208 516	±	-50	..	±	..	..		..
16-40	-177 494	±	-27	..	±	..	..		..
8-16	..	±	..	..	±	..	..		..
Mixed (7+8)									
100-	..	±	..	..	±	..	..		..
40-100	..	±	..	..	±	..	..		..
16-40	..	±	..	..	±	..	..		..
8-16	..	±	..	55 868	±	55	..		..

Table 7
Total labour in strictly agriculture, contractual activities, other activities and forestry in FADN 2003. Average per holding

	Contractual activities labour			Complementary activities labour			Strictly agricultural labour			Forestry labour		
	Hours	Confidence interval		Hours SEK	Confidence interval Per cent		Hours SEK	Confidence interval Per cent		Hours SEK	Confidence interval Per cent	
Total	**104**	**±**	**16**	**81**	**±**	**25**	**2 815**	**±**	**3**	**132**	**±**	**14**
Cereals, 13												
100-	167	±	93	..	±	..	4 112	±	29	..	±	..
40-100	179	±	49	178	±	76	2 105	±	19	143	±	78
16-40	148	±	63	..	±	..	1 486	±	20	102	±	47
8-16	56	±	66	..	±	..	933	±	20	135	±	67
General cropping 14,60												
100-	397	±	61	105	±	64	5 622	±	17	49	±	94
40-100	138	±	51	116	±	66	2 223	±	15	20	±	70
16-40	146	±	59	129	±	69	1 397	±	19	57	±	58
8-16	17	±	88	..	±	..	1 007	±	29	135	±	94
Dairying, 41												
100-	127	±	37	125	±	71	7 386	±	9	125	±	38
Region 710 40-100	39	±	41	..	±	..	3 999	±	7	132	±	41
Region 720 40-100	62	±	48	7	±	71	4 094	±	7	181	±	29
Region 730 40-100	..	±	..	..	±	..	3 777	±	10	106	±	53
Region 710 16-40	..	±	..	..	±	..	3 093	±	11	166	±	68
Region 720 16-40	..	±	..	..	±	..	3 108	±	15	262	±	39
Region 730 16-40	..	±	..	..	±	..	3 074	±	10	204	±	63
8-16	..	±	..	..	±	..	2 754	±	14	163	±	70
Drystock												
100-	220	±	0	..	±	..	..	±	..	..	±	..
40-100	220	±	91	..	±	..	3 696	±	28	..	±	..
16-40	188	±	72	..	±	..	2 449	±	13	141	±	39
8-16	78	±	67	125	±	90	1 795	±	12	221	±	33
Pigs, 501												
100-	48	±	58	..	±	..	4 918	±	15	41	±	98
40-100	66	±	65	..	±	..	3 004	±	13	129	±	50
16-40	24	±	79	..	±	..	1 830	±	22	..	±	..
8-16	..	±	..	..	±	..	..	±	..	..	±	..
Mixed (7+8)												
100-	475	±	79	..	±	..	7 019	±	38	142	±	96
40-100	73	±	41	76	±	84	3 394	±	11	73	±	55
16-40	116	±	65	86	±	80	2 453	±	15	185	±	39
8-16	..	±	..	146	±	97	1 820	±	17	132	±	56

Table 8
Incomes per household for the total FADN-population and estimates for the FADN-sample, 2003. Average per household

	Income from Business				Income from employment				Income from capital			
	IoT SEK	FADN SEK	Confidence intervall		IoT SEK	FADN SEK	Confidence intervall		IoT SEK	FADN SEK	Confidence intervall	
Total	**126 887**	**133 939**	**±**	**7**	**196 233**	**197 676**	**±**	**6**	**3 698**	**4 208**	**±**	**92**
Cereals, 13												
100-	..	..	±	..	..	..	±	..	..	..	±	..
40-100	183 774	230 328	±	24	198 677	113 966	±	33	10 203	..	±	..
16-40	109 377	120 110	±	23	239 423	244 018	±	17	6 019	..	±	..
8-16	49 518	51 707	±	55	271 896	277 240	±	16	3 513	..	±	..
General cropping 14,60												
100-	281 870	233 397	±	39	172 720	193 092	±	17	554	..	±	..
40-100	195 291	176 555	±	21	192 863	195 472	±	24	5 035	..	±	..
16-40	98 163	75 319	±	64	232 561	221 582	±	24	5 796	..	±	..
8-16	39 086	..	±	..	271 215	264 747	±	28	2 324	..	±	..
Dairying, 41												
100-	211 640	266 582	±	20	126 178	126 741	±	22	-406	..	±	..
Region 710 40-100	181 261	168 084	±	13	123 409	146 555	±	17	3 151	..	±	..
Region 720 40-100	196 455	192 556	±	12	127 279	130 774	±	21	4 374	..	±	..
Region 730 40-100	234 821	217 013	±	22	132 819	159 776	±	43	-2 064	..	±	..
Region 710 16-40	83 915	104 389	±	31	120 815	178 260	±	41	6 021	5 869	±	93
Region 720 16-40	97 950	122 150	±	36	142 198	137 382	±	32	6 950	..	±	..
Region 730 16-40	137 972	146 698	±	18	141 530	127 523	±	35	2 370	..	±	..
8-16	43 108	..	±	..	154 738	205 017	±	37	5 226	..	±	..
Drystock 42-44												
100-	224 172	..	±	..	93 985	..	±	..	-650	..	±	..
40-100	187 053	197 564	±	75	151 869	169 298	±	60	-3 649	..	±	..
16-40	129 481	138 894	±	27	197 940	147 480	±	32	3 473	..	±	..
8-16	86 977	116 464	±	27	234 606	212 899	±	21	-84	..	±	..
Pigs 501												
100-	101 033	165 953	±	35	160 142	182 351	±	35	-5 215	..	±	..
40-100	78 092	68 709	±	95	172 478	185 095	±	27	-5 315	..	±	..
16-40	60 130	62 153	±	86	187 886	217 611	±	22	3 814	..	±	..
8-16	..	..	±	..	..	..	±	..	..	..	±	..
Mixed 7+8												
100-	172 122	195 232	±	70	163 521	159 576	±	36	9 310	..	±	..
40-100	160 202	158 720	±	37	163 496	173 900	±	26	4 926	-19 193	±	71
16-40	104 442	96 184	±	58	192 342	225 876	±	26	6 514	..	±	..
8-16	58 916	86 065	±	45	225 288	252 316	±	27	3 858	..	±	..

Table 9
Transfers and incomes after transfers per household for the total FADN-population and estimates for the FADN-sample, 2003. Average per household

	Positive transfers			Negative transfers			Income after transfers		
	IoT SEK	FADN SEK	Confidence intervall	IoT SEK	FADN SEK	Confidence intervall	IoT SEK	FADN SEK	Confidence intervall
Total	**13 150**	**13 002**	**± 12**	**108 467**	**110 991**	**± 4**	**231 500**	**237 835**	**± 4**
Cereals, 13									
100-	..	..	± ..	..	..	± ..	..	..	± ..
40-100	14 313	8 622	± 63	134 379	114 626	± 21	272 589	241 074	± 18
16-40	11 494	9 344	± 50	119 074	120 887	± 12	247 240	257 956	± 11
8-16	10 169	..	± ..	110 392	109 710	± 15	224 704	224 430	± 14
General cropping 14,60									
100-	18 005	35 023	± 37	154 632	136 996	± 10	318 516	311 727	± 19
40-100	15 477	12 809	± 61	131 457	127 720	± 16	277 209	262 594	± 12
16-40	11 094	8 340	± 53	113 111	109 676	± 18	234 503	214 960	± 24
8-16	9 005	6 860	± 76	106 983	106 378	± 26	214 649	201 139	± 24
Dairying,41									
100-	17 608	13 411	± 31	112 997	132 716	± 13	242 023	275 980	± 14
Region 710 40-100	13 909	15 229	± 29	94 809	97 721	± 9	226 922	234 440	± 7
Region 720 40-100	16 033	16 964	± 25	104 083	103 979	± 10	240 058	241 559	± 9
Region 730, 40-100	16 232	18 517	± 47	119 246	119 759	± 19	262 562	277 352	± 16
Region 710 16-40	6 311	4 786	± 78	65 314	90 070	± 26	151 748	203 233	± 22
Region 720 16-40	9 972	17 909	± 56	76 405	76 777	± 25	180 664	206 540	± 21
Region 730 16-40	10 956	13 986	± 70	89 539	88 515	± 22	203 289	201 692	± 20
8-16	4 472	7 879	± 83	64 106	71 205	± 32	143 437	154 989	± 36
Drystock 42-44									
100-	18 518	..	± ..	111 953	..	± ..	224 071	..	± ..
40-100	10 987	..	± ..	113 556	130 428	± 34	232 703	226 417	± 50
16-40	14 874	16 016	± 45	109 944	90 373	± 22	235 823	220 081	± 21
8-16	14 849	12 748	± 36	105 131	116 107	± 17	231 219	245 815	± 15
Pigs 501									
100-	19 146	12 759	± 36	106 222	113 831	± 16	168 884	244 947	± 16
40-100	21 270	20 872	± 37	86 641	90 576	± 21	179 884	176 972	± 32
16-40	13 870	10 023	± 75	83 160	101 553	± 26	182 540	203 122	± 26
8-16	..	..	±	..	..	± ..	..	..	± ..
Mixed 7+8									
100-	20 416	20 237	± 32	126 087	118 633	± 45	239 282	271 909	± 37
40-100	13 949	21 252	± 36	109 051	106 342	± 20	233 522	228 338	± 22
16-40	14 119	16 054	± 47	101 106	116 150	± 19	216 310	227 607	± 21
8-16	11 511	14 706	± 57	96 060	116 722	± 19	203 513	248 908	± 18

Table 10
Incomes per main holder for the total FADN-population and estimates for the FADN-sample, 2003. Average per holder

	Income from Business			Income from employment			Income from capital		
	IoT SEK	FADN SEK	Confidence intervall	IoT SEK	FADN SEK	Confidence intervall	IoT SEK	FADN SEK	Confidence intervall
Total	103 148	105 114	± 8	77 942	66 140	± 12	2 167	..	± ..
Cereals, 13									
100-	..	..	± ..	..	..	± ..	..	..	± ..
40-100	158 149	187 706	± 23	60 969	16 882	± 88	8 396	..	± ..
16-40	95 891	110 555	± 24	108 479	87 764	± 33	4 351	..	± ..
8-16	42 487	39 260	± 63	148 068	145 767	± 30	2 329	..	± ..
General cropping 14,60									
100-	231 694	162 941	± 56	34 820	14 894	± 99	-2 987	..	± ..
40-100	163 995	138 377	± 24	51 112	67 519	± 64	1 088	..	± ..
16-40	83 589	64 678	± 72	112 653	101 241	± 36	3 199	..	± ..
8-16	33 591	44 059	± 89	151 326	137 760	± 39	2 041	..	± ..
Dairying, 41									
100-	157 557	167 126	± 30	24 776	15 214	± 55	-1 396	..	± ..
Region 710 40-100	143 099	123 535	± 17	23 379	14 531	± 58	1 548	..	± ..
Region 720 40-100	156 646	148 668	± 11	22 647	8 147	± 58	2 533	..	± ..
Region 730, 40-100	174 850	173 541	± 21	28 443	19 255	± 99	-1 714	..	± ..
Region 710 16-40	71 206	78 763	± 33	40 346	39 834	± 62	5 694	..	± ..
Region 720 16-40	83 131	99 839	± 40	42 679	26 550	± 67	3 345	4 210	± 76
Region 730 16-40	114 054	115 981	± 22	42 875	43 790	± 54	1 913	..	± ..
8-16	36 763	..	± ..	72 414	74 788	± 54	4 566	..	± ..
Drystock 42-44									
100-	184 695	..	± ..	25 104	..	± ..	-4 571	..	± ..
40-100	154 443	131 124	± 95	41 552	..	± ..	-4 861	-22 023	± 93
16-40	109 064	122 152	± 28	73 985	48 863	± 52	1 697	..	± ..
8-16	71 104	100 414	± 27	103 993	72 899	± 35	-191	..	± ..
Pigs 501									
100-	62 183	101 919	± 37	31 127	15 112	± 94	-4 485	..	± ..
40-100	57 968	..	± ..	32 662	28 125	± 82	-2 974	..	± ..
16-40	49 335	..	± ..	76 503	93 633	± 44	2 906	..	± ..
8-16	..	..	± ..	..	..	± ..	..	..	± ..
Mixed 7+8									
100-	130 130	152 021	± 80	38 896	19 459	± 73	3 532	..	± ..
40-100	128 065	107 831	± 45	37 316	17 937	± 93	2 650	-16 685	± 60
16-40	86 533	82 246	± 60	67 525	72 076	± 58	4 180	..	± ..
8-16	48 378	76 232	± 49	107 612	102 219	± 39	2 535	..	± ..

Table 11
Transfers and incomes after transfers per main holder for the total FADN-population and estimates for the FADN-sample, 2003. Average per holder

	Positive transfers				Negative transfers				Income after transfers			
	IoT SEK	FADN SEK	Confidence intervall		IoT SEK	FADN SEK	Confidence intervall		IoT SEK	FADN SEK	Confidence intervall	
Total	1 146	732	±	52	63 502	60 128	±	6	120 901	114 684	±	6
Cereals,13												
100-	..	..	±	..	..	..	±	..	..	..	±	..
40-100	781	..	±	..	81 216	66 849	±	21	147 079	136 658	±	23
16-40	867	..	±	..	72 645	68 435	±	15	136 943	134 364	±	16
8-16	1 177	..	±	..	68 563	64 656	±	25	125 499	115 281	±	26
General cropping 14,60												
100-	678	..	±	..	92 685	63 949	±	31	171 521	109 721	±	72
40-100	679	..	±	..	75 425	77 577	±	28	141 449	131 914	±	20
16-40	940	..	±	..	70 230	67 426	±	24	130 151	114 517	±	43
8-16	1 573	..	±	..	66 780	63 757	±	24	121 752	117 827	±	26
Dairying, 41												
100-	973	..	±	..	64 279	64 676	±	25	117 632	118 378	±	33
Region 710 40-100	943	1 445	±	92	53 119	44 545	±	15	115 849	96 440	±	15
Region 720 40-100	966	938	±	84	59 463	50 814	±	11	123 330	107 348	±	11
Region 730, 40-100	1 719	..	±	..	67 314	63 478	±	20	135 984	132 736	±	18
Region 710 16-40	896	..	±	..	37 326	36 787	±	26	80 815	84 631	±	25
Region 720 16-40	1 266	..	±	..	40 838	38 990	±	34	89 583	95 578	±	30
Region 730 16-40	1 971	..	±	..	51 209	51 999	±	20	109 604	108 101	±	18
8-16	666	..	±	..	36 888	32 496	±	36	77 522	57 511	±	40
Drystock 42-44												
100-	615	..	±	..	78 092	..	±	..	127 751	..	±	..
40-100	656	..	±	..	69 141	91 602	±	47	122 649	132 272	±	74
16-40	1 791	..	±	..	63 545	56 788	±	21	122 991	121 037	±	22
8-16	2 095	..	±	..	59 483	63 085	±	21	117 518	127 390	±	22
Pigs 501												
100-	1 008	..	±	..	50 632	38 263	±	29	39 201	70 436	±	39
40-100	813	..	±	..	37 747	34 793	±	34	50 722	..	±	..
16-40	2 388	..	±	..	45 797	57 438	±	37	85 336	93 416	±	38
8-16	..	..	±	..	..	..	±	..	..	..	±	..
Mixed 7-8												
100-	654	..	±	..	69 616	61 459	±	72	103 595	125 071	±	73
40-100	924	..	±	..	58 608	42 048	±	33	110 347	69 469	±	58
16-40	898	..	±	..	55 883	61 852	±	25	103 252	96 807	±	36
8-16	991	..	±	..	55 547	65 222	±	20	103 970	125 745	±	21

Table 12
Correlations between FADN-result and IoT income for the FADN-sample in 2003

	Household		Main holder	
	Share of FADN result/ IoT-income *100	Correlation	Share of FADN result/ IoT-income *100	Correlation
Total		**0,88**		**0,81**
Cereals, 13				
100-	..	..	..	..
40-100	..	..	..	..
16-40	110	0,83	119	0,81
8-16	100	0,85	97	0,79
General cropping 14,60				
100-	72	0,63	88	0,63
40-100	136	0,96	155	0,94
16-40	111	0,85	116	0,86
8-16	116	0,86	130	0,94
Dairying, 41				
100-	101	0,91	127	0,87
Region 710 40-100	115	0,87	120	0,69
Region 720 40-100	119	0,95	141	0,81
Region 730 40-100	94	0,87	99	0,94
Region 710 16-40	114	0,77	122	0,64
Region 720 16-40	125	0,76	134	0,74
Region 730 16-40	127	0,90	127	0,73
8-16	90	0,91	88	0,91
Drystock 42-44				
100-	111	0,59	108	0,56
40-100	..	..	..	..
16-40	114	0,98	143	0,93
8-16	128	0,91	124	0,93
Pigs, 501				
100-	99	0,71	95	0,67
40-100	116	0,75	139	0,81
16-40	93	0,93	119	0,91
8-16	..	..	..	..
Mixed (7-8)				
100-	75	0,98	80	0,96
40-100	114	0,95	115	0,81
16-40	112	0,94	142	0,92
8-16	119	0,88	120	0,81

List of figures

Figure 4.10
Incomes and transfers per main holder for the total FADN-population from the FSS and estimates for the FADN-sample, 2003 , SEK

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