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ESTIMATION OF THE STANDARD GROSS MARGINS IN CYPRUS

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SUMMARY

In the European Union, there are many farms of different types that are difficult to analyze in terms of structural characteristics and economic results. Therefore, an appropriate Community classification of farms has been developed. This classification or typology is based on Commission Decision 85/377/EEC of 7 June 1985, which has been amended several times. The typology may be applied to data from the Farm Structure Survey (FSS) or Community statistical censuses as well as to data from the Farm Accountancy Data Network (FADN). It thus constitutes a link between these sources of information. The main element for the Community Typology is the Standard Gross Margins (SGMs). The aim of the present publication is twofold; to describe the SGMs estimation process and to quote the results of the first SGMs in Cyprus. The estimation of the SGMs was done by the Agricultural Research Institute, that is responsible for the implementation of the Farm Accountancy Data Network in Cyprus.

ΠΕΡΙΛΗΨΗ

Στην Ευρωπαϊκή Ένωση υπάρχουν πολλές γεωργικές εκμεταλλεύσεις διαφορετικών τύπων οι οποίες δημιουργούν μια πολύπλοκη κατάσταση όταν επιβάλλεται να γίνει η ανάλυση των διαρθρωτικών τους χαρακτηριστικών και των οικονομικών τους αποτελεσμάτων. Ως εκ τούτου, κατέστη αναγκαίο να αναπτυχθεί κατάλληλη Κοινοτική Τυπολογία. Αυτή η κατάταξη ή Τυπολογία βασίζεται στην απόφαση της Ευρωπαϊκής Ένωσης 85/377 της 7^{ης} Ιουνίου 1985 η οποία έκτοτε έχει τροποποιηθεί αρκετές φορές. Η Τυπολογία μπορεί να εφαρμόζεται στα δεδομένα από τη Διαρθρωτική Επισκόπηση Εκμεταλλεύσεων ή τις Κοινοτικές Απογραφές Στατιστικής, καθώς και στα δεδομένα του Δικτύου Γεωργικής Λογιστικής Πληροφόρησης (ΔΙΓΕΛΠ). Έτσι αποτελεί ένα σύνδεσμο μεταξύ αυτών των πηγών δεδομένων. Το βασικό συστατικό για τη δημιουργία της κοινοτικής Τυπολογίας αποτελούν τα Τυπικά Ακαθάριστα Κέρδη (ΤΑΚ). Σκοπός της παρούσας δημοσίευσης είναι να περιγράψει αφ' ενός τον τρόπο υπολογισμού των Τυπικών Ακαθάριστων Κερδών και να παραθέσει αφ' ετέρου, τα αποτελέσματα των πρώτων ΤΑΚ για την Κύπρο. Ο υπολογισμός των ΤΑΚ έγινε από το Ινστιτούτο Γεωργικών Ερευνών που έχει αναλάβει την ευθύνη της εφαρμογής του Δικτύου Γεωργικής Λογιστικής Πληροφόρησης.

INTRODUCTION

The SGMs represent the main component and constitute the cornerstone of the successful implementation of the Farm Accountancy Data Network. Given the complexity of agriculture even in a single country, EU member states agreed to include in the estimation of the SGMs certain components. In this respect SGMs are not an absolute economic term. However, they are used to record the participation of each separate crop or livestock product in the total farm output by attributing money values to each single product. The main goal of this process is to rank homoge-

neously farm units around Europe in certain types of farming. Classification of farm units into special types allows both the member states to implement their selection plan, as well as the FADN Committee to compare similar farm types in different member states. In this respect, the Commission obtains the necessary information to analyze, adapt, or reform its policy in a special agricultural sector.

Basic principles

The Community typology of agricultural holdings is a uniform classification of holdings in the European Union based on their

type of farming and economic size, two elements which in turn, are based on the standard gross margins of the various types of agricultural production. The typology is so arranged that homogeneous groups of holdings can be assembled in a greater or lesser degree of aggregation. The definitions are as follows:

- a) The standard gross margin (SGM) is the balance between the standard value of output and the standard value of certain direct costs, i.e. by convention the proportional (variable) costs which can easily be allocated to this output. The SGM is an economic criterion expressed in monetary terms, either per hectare of utilised agricultural area in the case of crop enterprises, or per head of livestock in the case of livestock farming. The Member States calculate regional SGM coefficients for each enterprise as average values over the reference period.
- b) The economic size of a holding is the value of its total standard gross margin. It is the sum of the individual standard gross margins of each farming category in the holding, expressed as a Community unit of measurement, the European Size Unit (ESU). Since Commission Decision 99/725/EC of 22 October 1999, there have been ten economic size classes.

The type of farming on a holding is the production system of a holding which is characterised by the relative contribution of different enterprises to the holding's total SGM. Depending on the amount of detail required, there are three nested levels of type of farming: 9 general types, 17 principal types and 50 particular types.

Determining regional coefficients of standard gross margin

The standardized classification of agricultural holdings in a regulated Community typology, concentrates on the type of farming and economic size and is based on an economic criterion, gross margin. For practical reasons, the classification cannot be based on the gross margins actually recorded for each individual holding. It was therefore decided right from the outset of the Community typology that a simplified version of gross margin should be used. According to a uniform definition, this simplified gross margin, or Standard Gross Margin, includes only those spe-

cific proportional costs which can be readily imputed to each product. The basic principles and rules to be used for calculating standard gross margins are in Annex 1 of Commission Decision 85/377/EEC of 7 June 1985 establishing a community typology for agricultural holdings, and are still in force.

Definitions and principles for calculating SGMs

The gross margin of an agricultural category (crop or livestock) is the monetary value of the gross agricultural output (or gross agricultural product) based on the farm-gate price after deduction of proportional specific costs which may readily be allocated. All the calculations exclude value added tax.

The SGM of a product is defined as the difference between the standard value of the gross agricultural product and proportional specific costs which may be readily allocated, minus any subsidies linked to inputs.

Gross agricultural product includes sales, benefits in kind and changes in stocks and relates to both the principal and any secondary products; it also includes any subsidies linked to products to areas and/or to livestock; it does not include operating subsidies which, by definition, cannot be imputed to a particular product;

Costs relating to the following are not deducted:

- labour,
- machinery (repairs, depreciation, etc.), fuel and lubricants,
- buildings,
- most contract work, in particular harvesting.

The SGM of an enterprise corresponds to the average situation on the agricultural holdings situated in a given geographical unit. The data used to compile these standard values cover a twelve-month production period (either a calendar year or an agricultural year). If the period of production for crops and livestock is other than twelve months, the figure is converted into values relating to a period of twelve consecutive months.

The standard gross margin is a unit value: for each type of crop production; it corresponds to one hectare or, for mushrooms, to one are (one are equals 100 m²), and for livestock production, it corresponds to one head of livestock (or 100 head in the case of poul-

try or one hive for bees). In order to mitigate the effects of short-term fluctuations, which may be considerable in animal production, the regional SGM coefficients are calculated as an average over a reference period covering either three or five successive calendar or agricultural years.

Special arrangements for crop products

The regional SGM coefficients for crop products are determined for area units, i.e. per hectare (per are in the case of mushrooms). The data needed for the calculation, i.e. the monetary value of the gross output as well as the specific variable costs, are also calculated per hectare.

Gross output is made up of the principal products such as cereals and beetroots plus secondary products such as straw of cereals, and subsidies directly linked to products or areas.

For crop products, the following specific costs are deducted from the value of gross output:

- a) seeds and seedlings (purchased or produced on the farm)
 - purchased fertilizers
 - crop protection products
- b) various specific proportional costs including:
 - the costs of water for irrigation purposes
 - heating costs
 - drying costs
 - specific marketing (e.g. grading, cleaning, packaging) and processing costs
 - specific insurance costs, and
 - other specific proportional costs which are equivalent provided that they are significant.

The specific costs are determined on the basis of the delivery-to-farm prices, excluding value added tax, minus subsidies linked to the components of these costs.

Comments

- Seeds and seedlings. Expenditure on seeds and seedlings includes expenditure on those produced on the holding (valued at farm-gate prices) and on those purchased on the market (delivered-to-farm prices).
- Fertilizers and crop protection products. Only the costs of fertilizers and crop protection products which are purchased, are deducted from gross output.
- Energy for heating, drying and lighting. Fuel and electricity used for drying, heat-

ing and lighting are deducted. The costs of contract work for drying should also be deducted.

Costs linked to the following are not deducted from the monetary value of gross output:

- labour
- machinery, such as repairs and depreciation, fuel and lubricants
- buildings
- soil improvers produced on the holding other than mineral fertilizers (e.g. farmyard manure and green fertilizer, lime, peat, etc.)
- contract work, except for costs connected with the renewal or removal of permanent crops and drying.

In the case of principal crops, gross output for twelve months generally corresponds to a single harvest.

For horticultural products, gross output for twelve months may cover several successive crops.

For permanent crops (fruit trees, vines, etc.), the total period over which the crop is cultivated is taken into account, to determine:

- a) average gross annual output
- b) the corresponding average proportional specific costs
- c) these specific costs must include the costs of the renewal and, where appropriate, removal of crops (including contract work for these two operations).

Special arrangements for animal products

Regional SGM coefficients for livestock products are calculated per head of livestock. The basic data used for the SGMs, i.e. gross output and proportional specific costs, are also calculated per head of livestock. For poultry (J/14 to J/16), SGMs are calculated per 100 head and for bees (J/18) per hive. Gross output comprises the principal products such as meat, milk and eggs, plus secondary products such as newborn calves and sheep's wool. For breeding animals, the value is that of cull animals corrected by an annual average cull rate. For farmed animals, the value is the sales value of the finished animal or, for enterprises where the livestock have not yet reached the final stage, that of annual average growth. Subsidies directly linked to products must also be included in gross output. Manure is not included as a secondary product from animal production.

For animal products, the following specific costs are deducted from the monetary value of gross output:

- replacement animals
- livestock feed:
- concentrated feeding stuffs (purchased or produced on the farm)
- coarse fodder
- various specific proportional costs, including:
- water
- veterinary fees and veterinary products
- natural service and artificial insemination
- performance testing and the like
- specific marketing (e.g. grading, cleaning, packaging) and processing costs
- specific insurance costs
- other proportional specific costs, which are equivalent, provided that they are significant.

Specific costs are based on delivered-to-farm prices, excluding value added tax, minus subsidies linked to the components of those costs.

Comments:

- under feeding stuffs for grazing livestock, a distinction is made between concentrated feeding stuffs and coarse fodder.
- consumption of concentrated feeding stuffs comprises feed produced on the farm (valued at farm-gate prices) and feed purchased (valued at delivered-to-farm prices).
- the consumption of coarse fodder includes both fodder produced on the farm (valued at specific production costs: seeds, fertilizer, crop protection products, etc.) and fodder purchased (valued at delivered-to-farm prices).

Costs for the following are not deducted from the monetary value of gross output:

- labour
- machinery, such as repairs and depreciation, fuel and lubricants
- buildings
- contract work (except for work related to the drying of fodder, which should be deducted).

For products where the period of production is less than twelve consecutive months (for example J/13 other pigs and J/14 broilers), the period is extended to twelve months. In cases where the production period for livestock and meat production is greater than one year, (for example, J15 laying hens) an SGM is calculated for a period of twelve months.

SGMs for animal products are determined for an animal of average age whose output is average and which represents the age class to be taken into account.

Methods of calculation

For the interim reference periods, Member States have a choice between:

- using the direct observation method and submission of corresponding data;
- using an updating method for bringing SGM values up to date. The information required for this would be collected and supplied by Member States.

The basic data needed for calculating the SGMs are collected systematically during the same reference period in all Member States at least once every 10 years (frequency as near as possible to the execution in the Community of detailed farm structure surveys).

This basic data are collected by Member States from farm accounts or specific surveys, or compiled on the basis of appropriate calculations (called hereafter direct observation).

In the case of updating, each SGM for a reference period is multiplied by a coefficient (for each product and for each region) equivalent to the change in value of the SGM between the most recent reference period for which data have been collected by direct observation and the new three-yearly reference period.

ESTIMATION OF SGMs IN CYPRUS

Methodology and results

Following its nomination as the body responsible to implement the FADN in Cyprus, ARI started working on the subject in 2001 when the FADN was run on a trial basis with a sample of 114 units. In 2002, SGMs indispensable for full implementation of the FADN were estimated.

Data were collected by the method of direct observation. Interviewers visited farmers in their communities and collected data through personal interviews. Various farmers' registrars maintained by the Department of Agriculture were used, while the leaders of communities suggested farmers willing to provide the ARI with the relevant information. The data collected refer to the period 1999-2001 (average 2000).

For FADN purposes Cyprus is considered one region with reference number 740. In this

respect, if a product is cultivated in various districts, data were collected from different areas. Over 2 500 observations covering all recorded crop and livestock activities have been collected. In order to determine single products to be included in the data range, official statistics, like Agricultural Statistics, were used. The resulted SGMs were compared with the relevant SGMs estimated by ARI in 1996.

Since Cypriot livestock owners use to produce fodder for their farms in case of forage deficit, it was supposed that the relevant SGM equals to 75% of the normal SGM. This rate was decided after consultations with Greek experts who visited the island (Table 1).

CONCLUSIONS

The importance of SGMs lies in that they form the basis for the classification of farm units in certain types (typology) as well as for the implementation of the Farm Accountancy Data Network. In this respect they should be accurate and timely. ARI has put much effort and paid particular attention to collect accurate and credible information. However, the situation in Cypriot agriculture is rapidly changing due to the accession challenge, the new CAP reform and globalization; factors that necessitate the revision of SGMs the soonest possible. In the meantime the current SGMs will be used to implement the FADN in 2004 and 2005.

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Table 1. SGMs in Cyprus pounds and Euros, per decare or per head of animal

Codes Survey 1999/2000	List of characteristics	Regional SGM (£CY/daa)*	Regional SGM (in Euros) 1 =0.5765 £CY (Average 2000)
D 01	Common wheat and spelt	0	0
D 02	Durum wheat	21.5	37
D 03	Rye	0	0
D 04	Barley	20	35
D 05	Oats	0	0
D 06	Grain maize	0	0
D 07	Rice	0	0
D 08	Other cereals	0	0
D 09	Pulses for the production of grain	218	378
D 09 c	of which peas dry for fodder	0	0
D 09 d	of which field beans for fodder	0	0
D 09 e	other dry pulses	0	0

D 10	Potatoes	309	536
D 11	Sugar beet	0	0
D 12	Fodder roots and brassicas	0	0
D 13	Industrial plants		
D 13a	Tobacco	437	758
D 13b	Hops	0	0
D 13c	Cotton	0	0
D 13d	Other industrial plants	0	0
D13d i a	of which rape	0	0
D13d i b	of which sunflower	0	0
D13d i c	of which soya	0	0
D13d i d	other	0	0
D 13d ii	Aromatic plants, medicinal and culinary plants	334	579
D 13d iii	other other industrial plants	0	0
D 14	Fresh vegetables, outdoor/protective cover	0	0
D 14a	Fresh vegetables, open field	441	765
D 14b	Fresh vegetables, market gardening	790	1 370
D 15	Vegetables, under glass/protective cover	1902	3 299
D 16	Flowers outdoor/protective cover	0	0
D 17	Flowers under glass/protective cover	5205	9 028
D 18	Forage plants		
D 18 a	Temporary grass	42	73
D 18 b	Other green forage	0	0
D18 b i	of which green maize	379	657
D18 b ii	of which leguminous plants	107	186
D18 b iii	of which others	0	0
D 19	Arable land seeds and seedlings	24	42
D 20	Other arable land crops - Irrigated wheat	50	87
D 21	Fallow land without any subsidies	0	0
D 22	Fallow land subject to set-aside incentive schemes with no economic use	0	0
E	Kitchen gardens	0	0
F 01	Permanent pasture and meadows, excluding rough grazing	0	0
F 02	Rough grazing	0	0
G 01	Fruit and berry plantations		
G 01 a	fresh fruit of temperature climate zones	594	1 030
G 01 b	fresh fruit of subtropical climate zones	444	770
G 01 c	Nuts	104	180
G 02	Citrus plantations	200	347
G 03	Olive plantations		
G 03 a	table olives	359	623
G 03 b	olives for oil	94	163
G 04	Vineyards		
G 04 a	quality wine	0	0
G 04 b	other wines	47	82
G 04 c	table grapes	179	310
G 04 d	raisins	78	135
G 05	Nurseries		
G 06	other permanent crops - Carobs	14	24
G 07	Permanent crops under glass	0	0
I 01	Successive secondary crops	0	0
I 01 a	non-fodder cereals		
I 01 b	non-fodder dried vegetables		
I 01 c	non-fodder oil-seed plants		
I 01 d	other successive secondary crops		
I 01 d i	non-fodder		
I 01 d ii	fodder		
I 02	Mushrooms	1167	2 024

J 01	Equidae	0	0
J 02	Bovine animals, under one year old	52	90
J 02 a	male	62	108
J 02 b	female	45	78
J 03	Male bovine animals 1-2 years old	102	177
J 04	Female bovine animals 1-2 years old	71	123
J 05	Male bovine animals 2 years old and over	229	397
J 06	Female bovine animals 2 years old and over	125	217
J 07	Dairy cows	567	984
J 08	Other cows	0	0
J 09	Sheep	73	127
J 09 a	Breeding females	0	0
J 09 b	other sheep	0	0
J 10	Goats	55	95
J 10 a	breeding females	0	0
J 10 b	Other goats	0	0
	Pigs		
J 11	Piglets < 20 kg	4	7
J 12	Breeding sows 50 kilograms and over	118	205
J 13	Other pigs	12	21
	Poultry**		
J 14	Broilers	51	88
J 15	Laying hens	197	342
J 16	Other poultry	0	0
J 16 a			
J 16 b			
J 17	Rabbits, breeding females	0	0
J 18	Beehives	0	0
	In case of fodder deficit***		
J 01	Equidae	0	0
J 02	Bovine animals, under one year old	39	68
J 02 a	male	47	81
J 02 b	female	34	58
J 03	Male bovine animals 1-2 years old	77	133
J 04	Female bovine animals 1-2 years old	53	92
J 05	Male bovine animals 2 years old and over	172	298
J 06	Female bovine animals 2 years old and over	94	163
J 07	Dairy cows	425	737
J 08	Other cows	0	0
J 09	Sheep		
J 09 a	Breeding females	55	95
J 09 b	other sheep	0	0
J 10	Goats		
J 10 a	breeding females	41	71
J 10 b	Other goats	0	0

*One da=1000 square meters.

**per 100 heads.

***75% of the normal SGM.



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