Farm Accountancy Data Network Indicators:

A first approach

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In order to observe the operations of agricultural holdings, it is established a system FADN (Farm Accounting Data Network). This system is applied from 1965., when the founding countries of the European Economic Community (Belgium, France, Netherlands, Luxembourg, Germany and Italy) have formed a network for collecting accounting data from agricultural holdings, in order to obtain information about the presence of farms engaged in certain types of agriculture in member countries and their economic parameters.

This system works on the principle of representative sample of about 80,000 agricultural holdings from the whole of the European Union, which represent about 5 million of commercial farms. Data collect and process the member countries, through regional and national agencies and other authorized institutions for collecting data, and then through the Ministry of Agriculture are sent to a central database at the European Union level. Based on detailed analysis of the data, there is a possibility of long-term planning of investments in agricultural production, the level of subsidization of agricultural production and adjusting the type and volume of production with market demand. In this way, the creators of the agricultural policy of the European Union gain insight into the prevalence and development of certain types of agricultural production in all member states. They are then able to create high-quality measures of the CAP and thus manage the development of agriculture in the individual countries and across the EU. Based on the common agricultural policy measures, each Member State shall adopt its agricultural policy measures, above all, the decision about the system and the level of subsidization of agricultural production, which contributes to the improvement of national agriculture.

Monitor the economic effects of agricultural production and its individual activities using indicators that are outdated and obsolete, does not support the decision of the agricultural policy. Consideration of these production activities with unadjusted indicators leads to an overestimation or underestimation of the results of the overall agricultural production. Problems that arise in order to obtain reliable estimates for certain inputs (eg, evaluating the performance of farmers and their spouses) are the limiting factors in assessing the total value of investment inputs. Partial indicators such as output per member household or per hectare) have an advantage in perceiving and evaluating the total agricultural output. The main indicator used for understanding the business of agricultural holdings EU is the Farm Net Value Added (FNVA).

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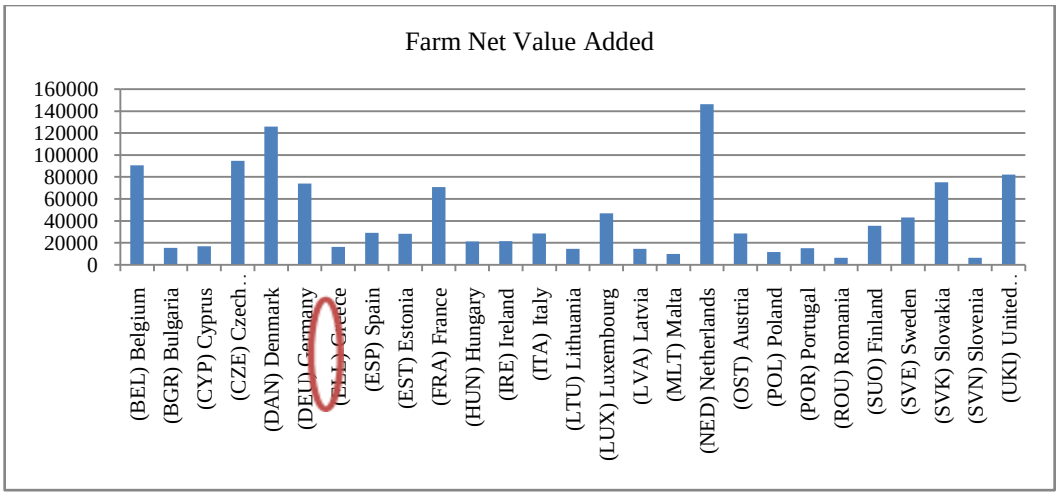
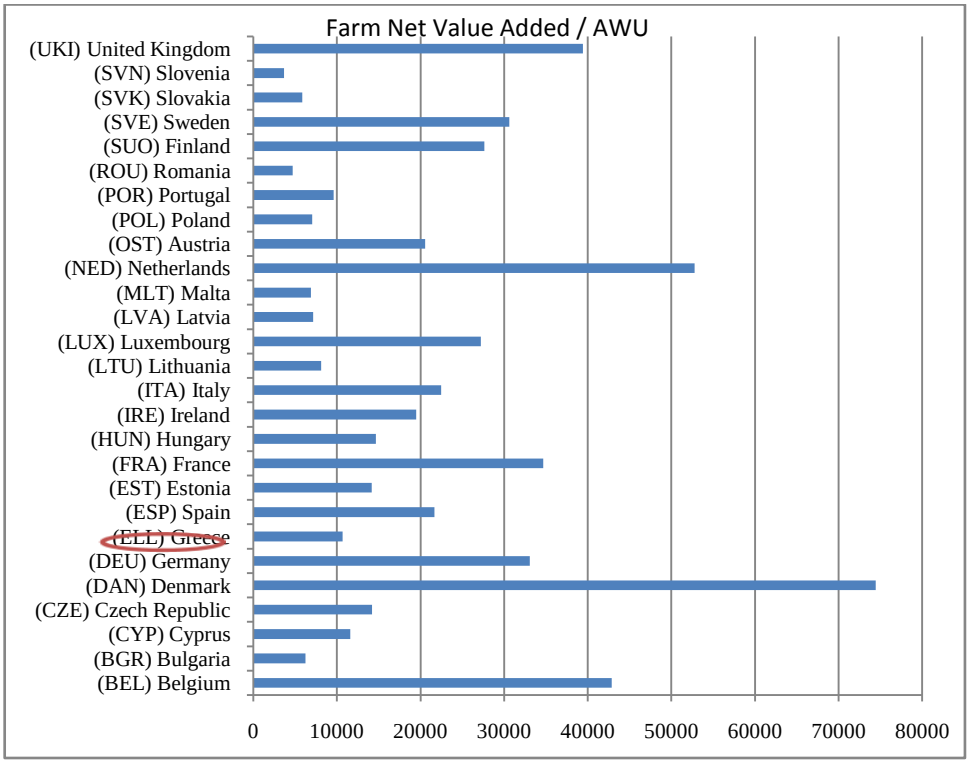
The opinion of the writer is not binding on the Greek Ministry of Rural Development & Food.



Graf.1: Net value added generated on the agricultural holdings in the EU, *FNVA (in €), 2010*[3]

The actual figures FNVA show significant disparities between Member States. According to data 2010., the maximum value FNVA per farm were recorded in the Netherlands and Denmark € 146,187.00 € 125,819.00, while the lowest value was in Romania € 6,369.00 and Slovenia € 6,515. The average value FNVA at the EU-27 in 2010. amounted to € 27,121.00. In addition to the net value added per farm, an important indicator used in the analysis of the results achieved on farms represents FNVA / AWU - Net value added generated per annual work unit.



[3] Source : http://ec.europa.eu/agriculture/rica/database

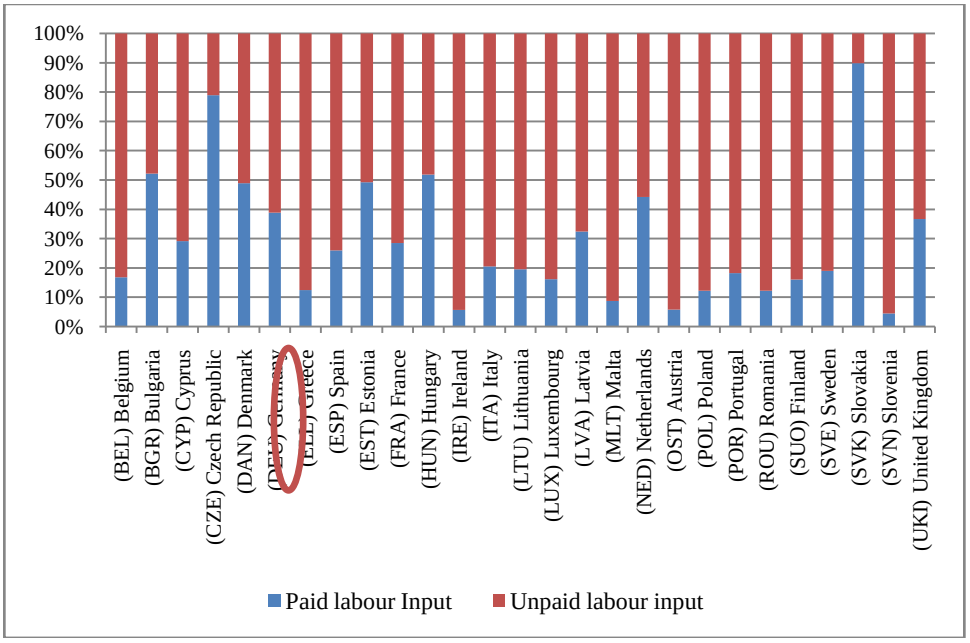
Graf.2: Net value added generated per annual work unit labor*, FNVA/AWU (in €),2010*[4]

Analyzing FNVA / AWU, farmers who receive the highest productivity per unit of work, develop their productive activities in the territory of Denmark € 74,445.00, € 52,776.00 Netherlands, Belgium € 42,882.00, € 39,442.00 Great Britain. The minimum values of the indicators were observed in Slovenia, € 3,685.00, € 4,692.00 Romania, Slovakia, € 5,842.00. The main denominator in expression of net value added to the AWU represents annual work units. Analysis of movement of said indicator is not easy to execute, given the categories of labor costs, whose information should be provided, taking into account the existence of labor invested by members of agricultural households, which in most cases is treated as unpaid labor.

Net value added expressed per farm or per AWU is an indicator used in the analysis of the results achieved in EU farms. The concept of net value added is a fundamental starting point for indicators of income generated from farms, which are in addition to the system FADN (Farm Accounting Data Network), also used in some analysis of Eurostat.

Using the net added value represent an important indicator for analyzing the structure of income, based on the type of farms and their size. This is achieved insight on the participation of these values in relation to farm size, type of production which is represented on a particular farm.

This indicator is a reward for the use of the main factors in the process of production (land, capital, labor), regardless of the ownership of the above mentioned factors of production (in the case that it is their own land or rented, or if it is a subject of manpower (paid) and unpaid work, household members).



Graf. 3: Paid and unpaid labor in EU countries

Since the work is one of the factors which can influence reflects the return on the value FNVA, this indicator should be viewed with some reserve. One of the arguments that do not support this indicator is

[4] Source: http://ec.europa.eu/agriculture/rica/database

the fact that it does not correspond to the concept of business income (real business profits), even the notion of personal income (personal income). *FNVA is the residue that remains after the satisfaction of all fixed costs, which are not owned of farm.* [5]. This indicator can be an adequate indicator of business income, in case the whole area of agricultural land or its majority is in owned of agricultural households, and if they do not hire additional labor.

Recording the difference between the earned value FNVA by EU Member States is not sufficient for the purpose of the overall analysis of this indicator. Also, it is necessary to identify the limiting factors that affect the actual quality of the analysis of income earned on the farm. Depending on the country and type of farms and their size which dominate in certain countries, the structure and share of debt, rented land and paid labor force are different, which actualy affect the final result, that is obtained when calculating FNVA.

Another limiting factor that exists when analyzing FNVA per farm comes due to different valuation of certain expenses. Households that use different amounts of purchased inputs (which also represent the substitution of certain inputs used on the farm and that are necessary for the performance of production activities), can cause identical value of total production, but different values FNVA.

Using the functional approach to review the operations of farms in the agricultural sector, there have been great efforts to distribute the value added, ie, to carry out its distribution on individual value added, referring to land, capital and labor.[6]

Another indicator which is used by reviewing and analyzing income earned on farm income is the FFI / Family Farm Income. FFI / FWU represent indicator of income per annual work unit of household members who are engaged in agricultural production, which work is treated as unpaid labor. In addition to the provisions relating to the concept of FFI, there are some limiting factors in relation to the number of labor units on farm as the denominator. Even FFI / FWU is not a reliable indicator of total income of farmers and their households due to the inclusion of revenue from other sources.

Difficulties in obtaining reliable information regarding the duration of invested labor of household members, complicating the objectivity of farmers. In addition to the problems in defining the concept of work invested, and paid and unpaid work by self-employed members of the household, adopted the rule that a person who spends all his working hours per year on the farm is one AWU (even if his actual working time spent in the implementation of production activities beyond the normal working hours in the region that is observed, and if it is the same type of agricultural production).

In this regard, it is necessary to make certain scale on the basis of which will be made equivalence invested working time by members of agricultural households (taking into account the different structure of farms by type and size, and takes into consideration the different age structure of household members).

Putting these indicators in relation to certain types of agricultural production, which are represented on the holdings of the EU member states, can be concluded that the basic criteria, such as type of agricultural production farms, belonging to a particular region and their

[5] Compensation for land lease, interest and fees to be borrowed for the paid work force. The above mentioned items are deducted from the net value added.

[6] It is necessary to consider the participation of the main input factors in achieving value added in the agriculture sector.

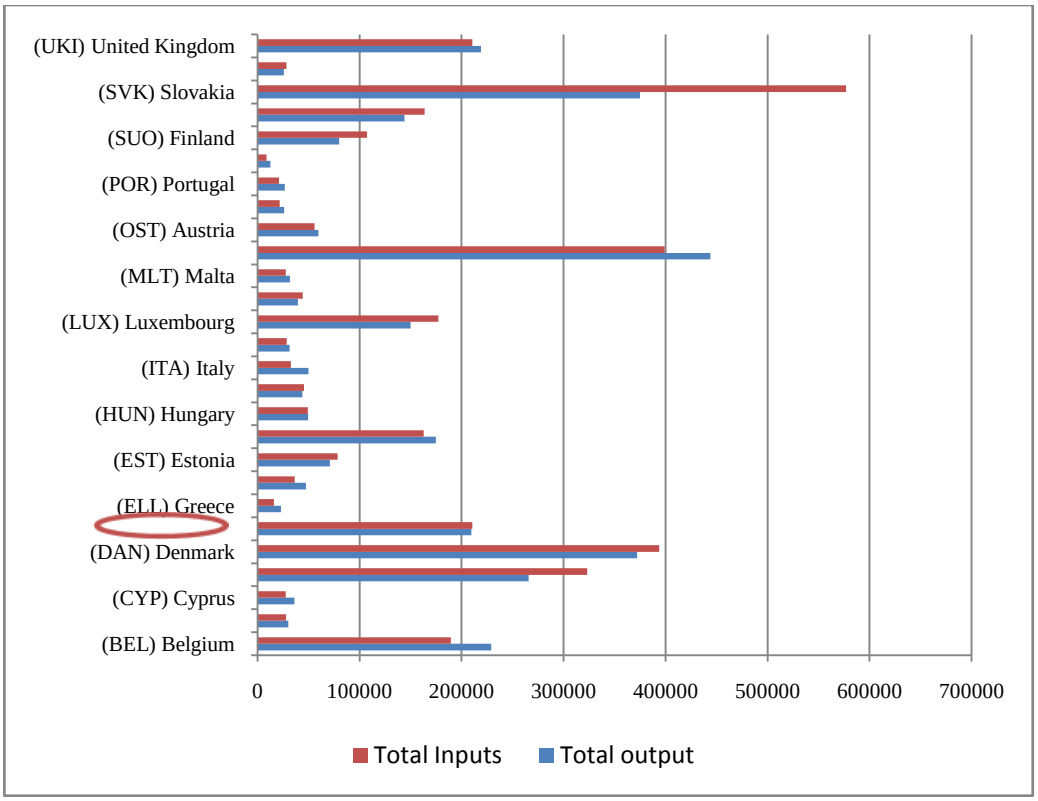
economic size (which is done according to the categorization of farms at the EU level), are important factors that affect the appearance of a difference in terms of generating income.

Income can be roughly ranked according to the type of agricultural production regions, then in terms of economic size of farms. Farms that have a greater economic and natural resources, generate higher revenues per AWU.

In view that agriculture involves a series of process very different activities, each of which has its own characteristics (land area, labor, manufacturing techniques and technology), it's important to make continous analysis of production activities.

In addition, the above mentioned activities have a different structure in terms of achieving overall revenue and expenditure (depending on whether it is a crop, fruit, vegetable and livestock production), and certainly the character of production within the activity itself. The starting point is the analysis of the participation and contribution of plant and animal production in total agricultural output belongs.

By analyzing the total output achieved in the agricultural sector in the EU, it can be concluded that the value of output achieved in crop production in the EU-27 is average € 32,408.00 and has a greater share compared to the value of output arising from livestock production 25596.00 €. In terms of value of output that is realized from the sale of livestock and livestock products, the largest share of their value have made farmers in Denmark, € 224,544.00, than in Netherlands € 182,839.00, Belgium € 128,091.00, and Slovakia € 111,009.00. The analysis of the value of output generated in the plant production of EU member states, leads to similar data as in the value of output generated in animal production. Netherlands with € 209,755.00, Slovakia € 206,328.00, € 143,361.00 Czech Republic, Denmark € 121,189.00 are countries that have achieved the highest value of output and plant production. In comparison of various indicators such as the total value of agricultural output and the value of investment inputs, it can be concluded that the value of output for most European countries is higher than the value of invested assets. The largest negative difference between the value of output and inputs were recorded in Slovakia, Czech Republic, Luxembourg, Finland, where their average value is € 201,827.00, € 57,341.00, € 27,245.00, € 27,302.00, respectively.



Graf.4: Value of realized output and input in the EU Member States, (in €),2010[7]

Disparities that are evident in the realization of income on farms are wide, and their causes are complex. They are the result of combined or adverse effects of many factors, which are typical for the agricultural sector: economic potential, type of agricultural production skills of farmers, etc. Also, they are the result of external factors, such as socio-economic environment. Differences between regions of EU member states are prominent, and comes to the conclusion that the positive effects of the Common Agricultural Policy of the income are not distributed evenly.

The European Commission in its document emphasized the importance of adaptation and harmonization of the methodology in terms of collecting additional data from agricultural holdings, which allows perceive the income derived from the agricultural sector at the micro level.

The total revenue generated on farms is not sufficient information resource for decision-making and the creation of agricultural policy. Also, there is need to have informations abut allocation and participation of certain types of manufacturing in total revenue, particularly for farms which have multiple types of production.

Measuring the efficiency and productivity of the production activities on the farm requires a careful interpretation. Recommended indicator that refers to the entire production of the farm is the ratio or proportion of total production (total output) and inputs involved in production any action - intermediate consumption and labor costs.

[7] Source: http://ec.europa.eu/agriculture/rica/database

However, the relationship between these parameters, such as the size and scope of operations, is largely influenced by the rate which the valuation is made of unpaid work on the farm. Other partial indicators are presented in the evaluation of total production per hectare and per AWU.