Farming business model

THE BUSINESS RETURN EVOLUTION OF BIG FARMS IN SOUTHERN ROMANIA

Toma Adrian DINU[1], Elena STOIAN[1], Daniela CRETU[1], Marcela STEFAN[2]

[1] University of Agricultural Sciences and Veterinary Medicine of Bucharest
[2] University of Economic Studies, Bucharest

Corresponding author:
Toma Adrian DINU
tomadinu@yahoo.fr, +40745143091
USAMV Bucharest, Bd. Mărăști, Nr. 59, Sector 1, Bucharest, Romania

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Abstract

The purpose of the paper is to identify trends in the profitability and the impact of subsidies upon a group of large farms. The paper analyses the main financial results of 32 big farms covering 83,300 ha located on the most fertile farmland in southern Romania. Each indicator is tracked from 2010 till 2017 and then summed up to the level of the 32 farms; the analysis is made on the aggregated level. Thus, we analyze assets, capital, debts, income, turnover, expenses, net profit, subsidies, number of employees and we computed profitability and productivity. During the eight years under review, farms are capitalizing, investing in assets, they are growing and diversifying, reducing their need for loans and their indebtedness ratio. The need for capital increases, while the assignability and attractiveness fall. The number of employees increases and their productivity drops. Subsidies go up and even profit margins are small, profitability and productivity rise and thus, farms efficiency are growing.

Keywords: farm, assets, income, subsidies, productivity, Romania

Introduction

Tracking the agricultural farm activities, provides data that is further used arguing and guiding agricultural policies. According to the National Institute for Statistics, in 2016 Romania had 13.93 million ha of utilized agricultural area used by 4.30 million agricultural farms. Out of these, 4,681 are agricultural companies, with area over 100 ha. These large and very large farms operate 3.063 million ha of utilized agricultural area, so 21.99% of the total, mostly arable land. Because of their weight in the total, the employed labor force and through their product output, the big and very big farms have a high importance in the Romanian economy. This paper is an analysis of the evolution of the main economic indicators from a group of 32 big and very big independent farms (with areas between 500 and 11,000 ha) located in Southern Romania, over a period of eight years, between 2010

and 2017, with the analysis focusing on the profitability of the whole group of farms. The total area covered by the 32 farms is 83,339 ha, in 2010 and decreases to 78,529 ha, in 2017. The literature has also provided several studies, for different sectors of the agriculture, of which we can mention the following. A general approach was made by Machek and Špička (2014); the authors' statement regards the measure of productive efficiency in agriculture, as a major sector which concerns a large share of the population. Some other authors (Simtion and Luca, 2013) mentioned that for farms, under market economy assumptions, the profitability is a compulsory condition for the requirements of an economic durable development. A different approach to profitability, based on two different farming systems, was made by the author (Żekało, 2018). Thus, it was mentioned that in the European organic farms, where the cereal yield is smaller than in the conventional farms, the selling prices are higher in the first type than in the second one. In another study, Başbuğ and Gül (2016), greenhouse cultivation was highly profitable and could lead to increased development of the region, including reducing migration from rural areas. The purpose of the present analysis is to investigate the general trend of the return indicators of big farms, as well as the importance of the received operating subsidies.

Material and methods

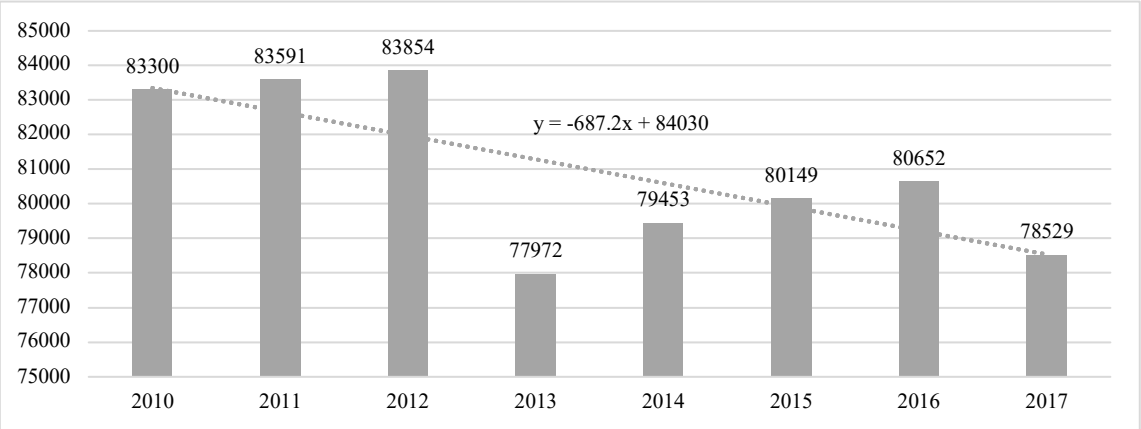
We collected data through the period 2010-2017, at the end of the financial year, reported on the 31st of December, for 64 big and very big farms, in southern Romania, as well as the amounts of direct subsidies, upon the services and areas for which they have asked and received subsidies. After validation, we selected 32 units, commercial entities, for which the full set of data was available, for the entire period. The yearly financial indicators were adjusted with the inflation index reported at 31st of December each year. All data (financial indicators, average number of employees, area for which subsidies were requested, subsidies granted) were summed for the whole group of farms and the analysis was made on the sums for each indicator, identifying the outliers for some of the indicators.

Results and discussion

Although during short periods (2010-2012, then 2013-2016) there were slight tendencies to concentrate farms, the utilized area by the 32 large farms declined to 94.3% on the reported period (Figure 1) because of massive losses of land, some thousands hectares (5,882 ha, in 2013 and 2,123 ha, in 2017). Over the eight analyzed years, we registered this tendency of reducing the average served area from 2,603 ha in 2010 to 2,454 ha per farm in 2017. However, some farms, especially the smallest in the group, have increased the

utilized area in the study period. The large losses, coming from the two biggest farms (both have lost about 2,000 ha!) led to a decrease in the average farm area, by 149 hectares. Possible explanations for the area losses could be companies' fragmentation, loss of contracts with the land owners, acquisition of land from land owners and possible problems with the subsidies payments agency.

Figure 1. Evolution of the areas for which subsidies were received, ha



Source: own computations

Going further with the financial indicators, as we already mentioned, these have been adjusted and summed up for the whole group of farms. In adjusted series, the assets of the analyzed companies have risen in the last eight years, 74.4% for the current assets and 76.4% for the fixed assets (Figure 2); thus, the total assets have increased by 75.2%. This fast assets growth indicates on the one hand, intensification of farm activity through modernization, farmers are turning towards new technology, which is implicitly more expensive. On the other hand, the accelerated assets growth may indicate the diversification in activity, which is also justified by a similar increase in income and expenditures (Figure 4 and Figure 5). Meanwhile, we can observe a reduction in the saleability of farms; this could be due to increased capital needs and relatively specialized assets and thus additional risks. We have also noticed a shrinkage of attainability for farms as businesses because of the need for extra capital. In terms of area, the assets growth is even larger, 187.2% for fixed assets and 185% for current assets, which validate the idea that farms have more intense and diversified activities, or that the activity of these farms is more expensive. Meantime, we also denote that the evolution of fixed assets was well approximated by a linear function. Altogether, current assets grew faster than fixed assets

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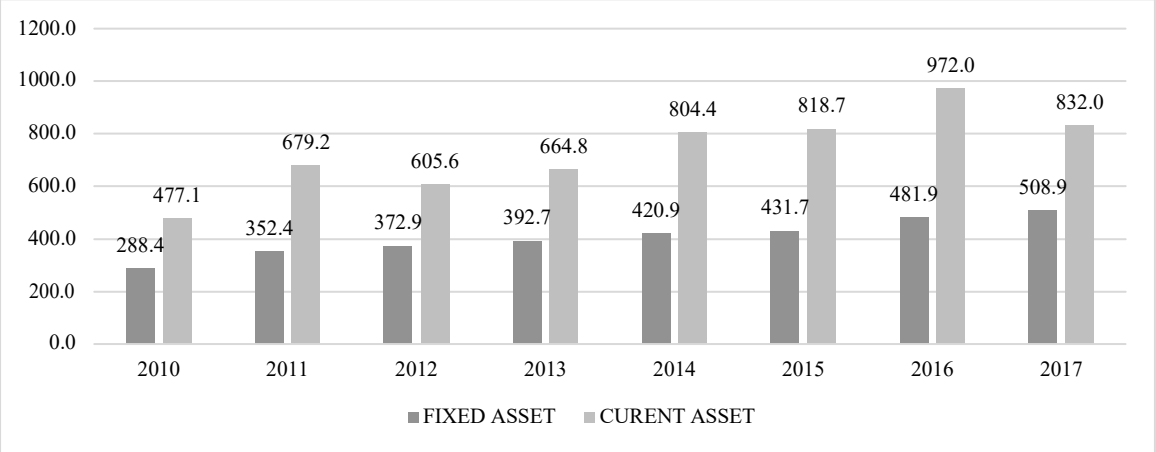
indicating a possible increase in the assets rotation speed, which can only be assumed and cannot be confirmed from our available data.

Figure 2. Current and fixed assets evolution, Mil. Lei



Source: own computations

LEI - the national currency in Romania

Next, we consider the capital in the group of farms (Figure 3); in our analysis it has had also an upward trend, but much more accelerated than assets as the increases are progressive and can be fitted with a quadratic function. Total capital in 2017 was 3.6 times higher than in 2010, once again a confirmation of the hypothesis of intensification and diversification of activity, which the farms are undergoing.

As a consequence of high capital growth, the capital per hectare increased almost four times, from 1,574 to 6,026 lei/ha. On the other hand, the farms have used their higher cash flow to supply their capital needs, statement proven by the debt increase in adjusted series (Figure 3), where indebtedness rate decreases at the end of the study period from 78.9% to 63.5%; this was because the rate of debt growth is much lower than that of capital.

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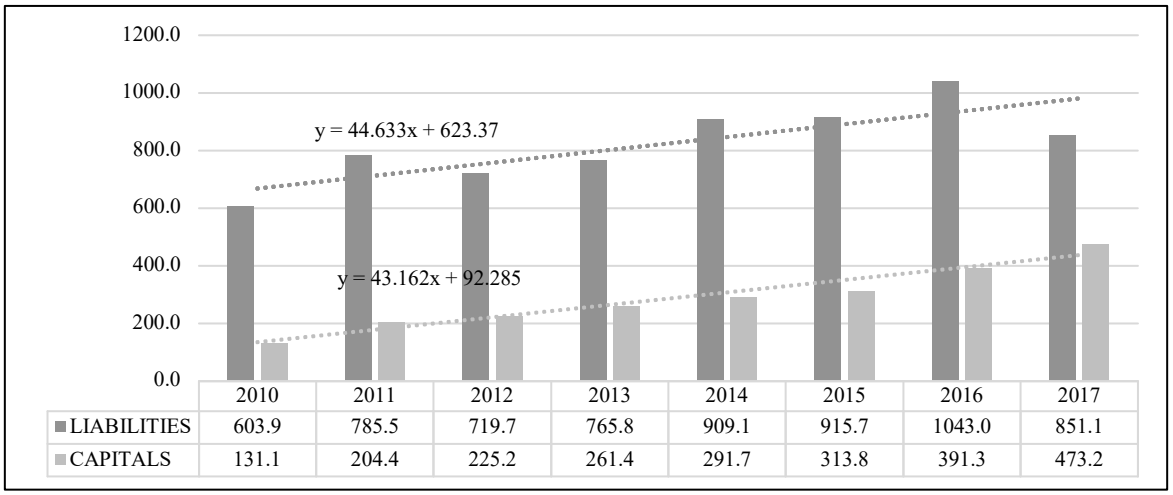
Figure 3. Evolution of debt and capital, Mil. Lei

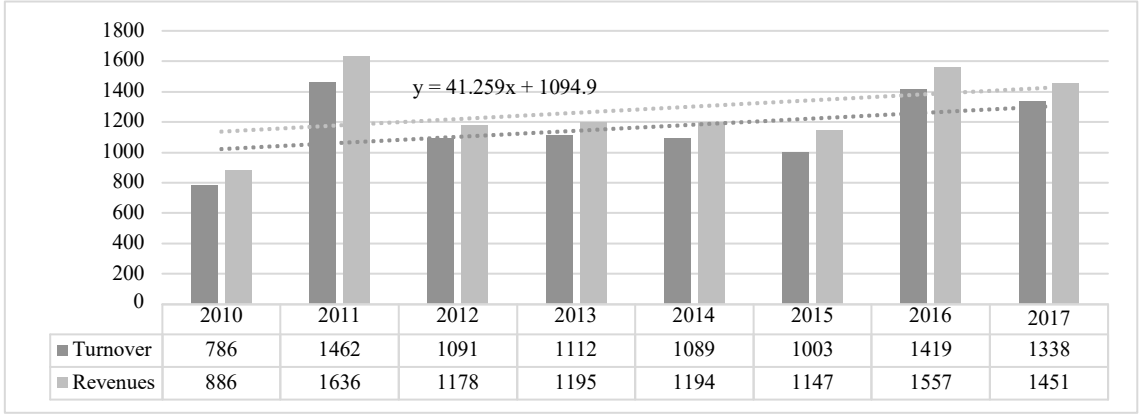


	2010	2011	2012	2013	2014	2015	2016	2017
LIABILITIES	603.9	785.5	719.7	765.8	909.1	915.7	1043.0	851.1
CAPITALS	131.1	204.4	225.2	261.4	291.7	313.8	391.3	473.2

Source: own computations

We can conclude thus, there is an obvious accumulation of capital and a decrease in liabilities, as farm activity is funded from cash reserves. At the same time, farm turnover and income rise as well (Figure 4), but the rhythm is slightly below the assets. Turnover rises by 70.3% (quite close to the assets rhythm) but revenue increases only by 63.8%. This can be explained through the reduction of debt and a rise in financial income, a consequence of better cash flow. Once again, the hypothesis of the intensification and probably the diversification of farm activity is confirmed, noting that the exploited areas are restricted. Expenses are also rising, having similar rhythm with turnover growth, 170%. In 2011 and 2016, which faced very high income, expenditures were also higher than the average.

Figure 4: Turnover (subsidies included) and income evolution, Mil. Lei



	2010	2011	2012	2013	2014	2015	2016	2017
Turnover	786	1462	1091	1112	1089	1003	1419	1338
Revenues	886	1636	1178	1195	1194	1147	1557	1451

Source: own computations

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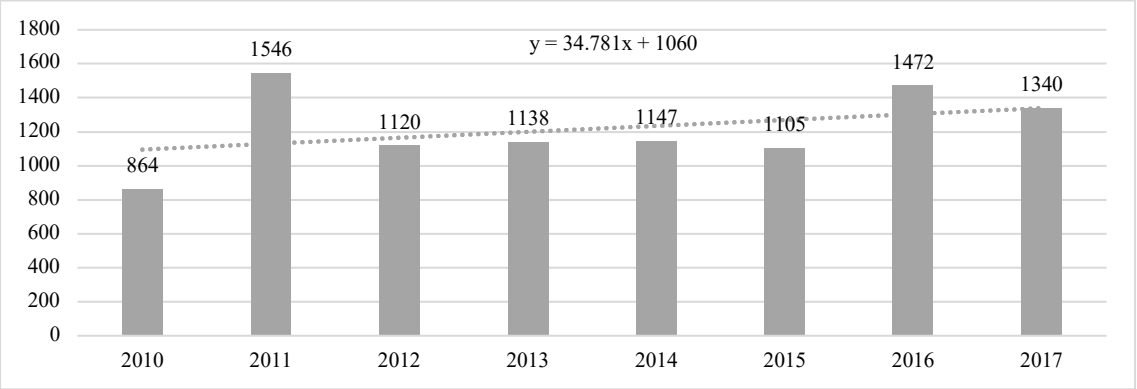
Romania's recent history, the studied period, was the best for the agricultural output; it confirms that with higher incomes, implicitly expenses increased. On the other hand, during these years, Romania exported an important quantity of cereals and oilseeds and some of the farms in the group are known as direct exporters.

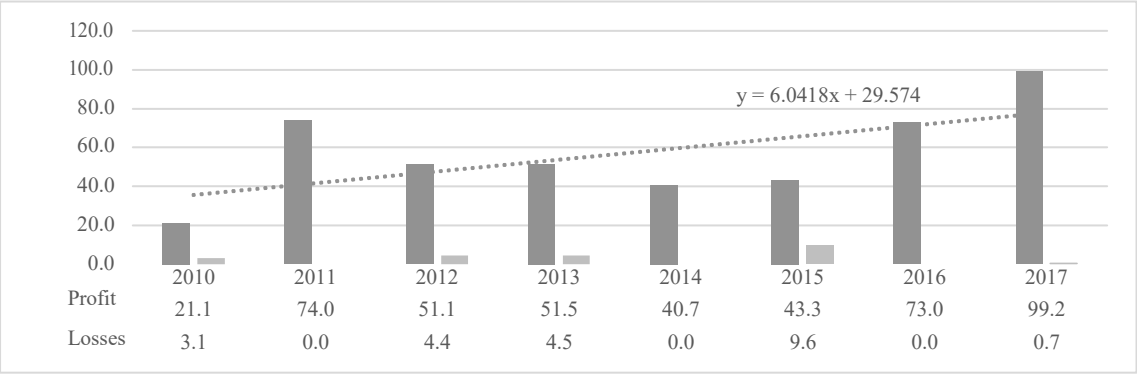
Figure 5. Expenditures dynamics, Mil. Lei



Source: own computations

The profit obtained by the group of farms has an oscillating evolution, depending on the climate and the market context. The year 2011 was one of the most profitable years for the farms, followed by three years of declining profit (2012-2014). From 2015 the profit rose. Throughout the period, the upward trend of profit is kept. Figure 6 also highlights the cumulative losses of the entire farm group and it is noticed that none of the farms had losses in 2011 and 2016. These profits have fueled the reduction of indebtedness and looking at the growing profit, thus we can again confirm the hypothesis of intensifying diversification of farm activity.

Figure 6. Profit and loss evolution, Mil. Lei



Source: own computations

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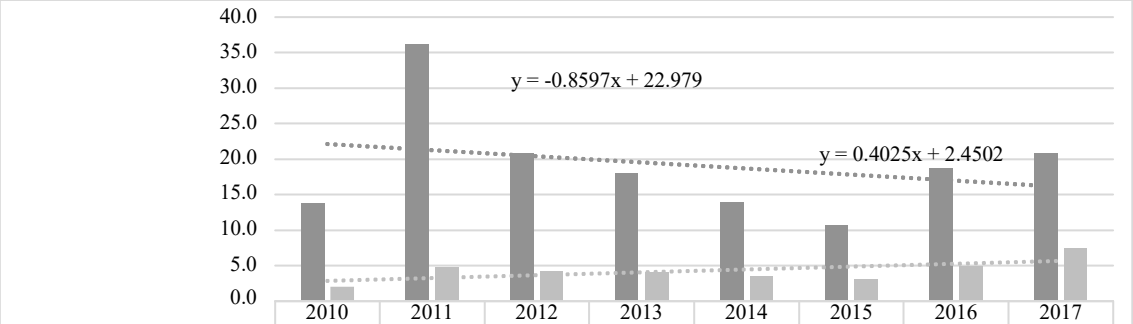
Figure 7. Profitability dynamics (%)

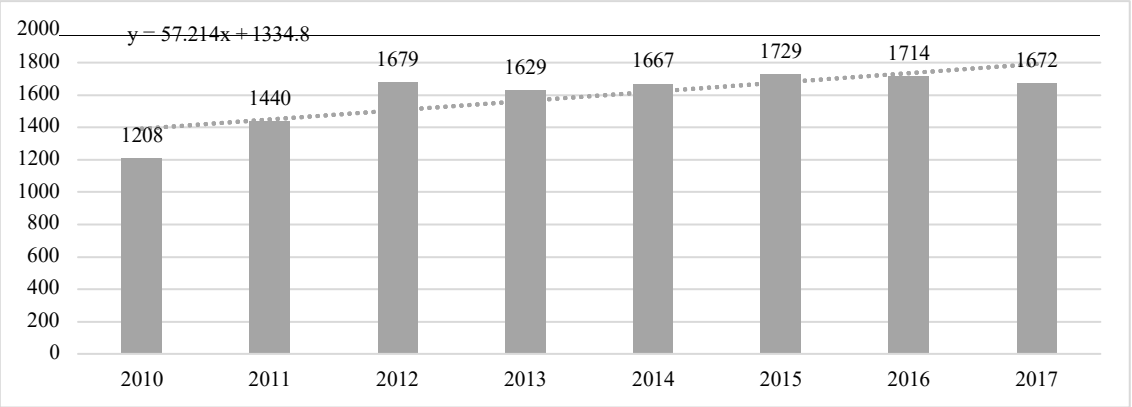


	2010	2011	2012	2013	2014	2015	2016	2017
Capital profitability	13.7	36.2	20.8	18.0	14.0	10.7	18.7	20.8
Expenses profitability	2.1	4.8	4.2	4.1	3.6	3.0	5.0	7.4

Source: own computations

Following the evolution of profitability (the figure above, Figure 7) we can notice the overall downward trend in capital profitability[1] ($\frac{!"\#\$\%\&}{'\#\&() + (,\%\&()} * 100$) the explanation being given by the progressive increase of capital in relation to the lower net profit growth. Meantime, the profitability of expenditure[2] ($\frac{!"\#\$\%\&}{'\#\&() 12,134\%\&5"16} * 100$) is on an upward trend, indicating, overall the increase in efficiency of large farms activities alongside intensification and diversification. The diversification hypothesis is also supported by the increase in the number of employees, from 1,208 in 2011 to 1,672 in 2017; this increase comes mostly from the first three years, the next five years remaining relatively the same.

Figure 8. Average number of employees



Source: own computations

[1] Capital Profitability was obtained as ratio between Profit and Total Capital
[2] Profitability of expenditure was computed as a ratio between Profit and the Total expenditures

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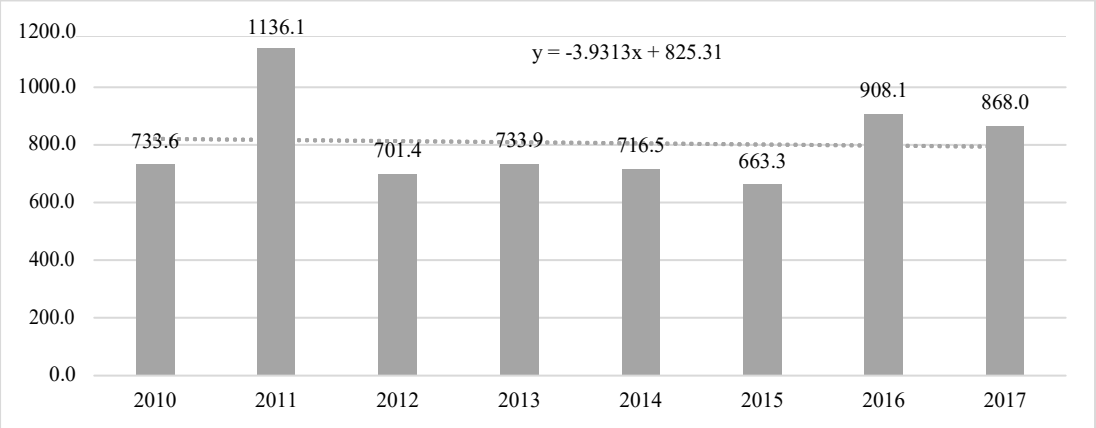
Even though the number of employees is increasing, their productivity, measured as income per employee per year, stays flat or even decreases slightly (without statistical signification) during the eight analyzed years, showing that farmers are making efforts, intensifying and diversifying farm activities to maintain employee productivity.

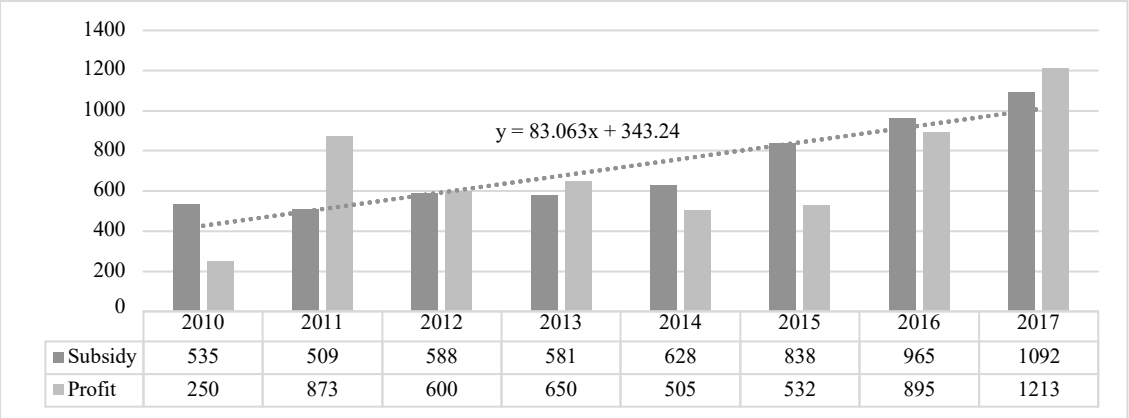
Figure 9. Employee's productivity, thou lei, revenue/employee/year



Source: own computations

If we measure employees' productivity by reporting net earnings per employee in the last three years, it rises on a strong trend from 19.4 thousand lei to 58.9 thousand lei. It must be said that, however, net profit and implicitly employee productivity remains strongly dependent on the climatic conditions in each specific year.

Figure 10. Profit and subsidies per hectare, Lei/ha



	2010	2011	2012	2013	2014	2015	2016	2017
Subsidy	535	509	588	581	628	838	965	1092
Profit	250	873	600	650	505	532	895	1213

Source: own computations

To assess the importance of subsidies for farms, we have put in the same graphic (Figure 10) the average value of subsidies and profits per hectare. There is an increasing trend for

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subsidies and net profit per hectare, although it is more pronounced for Profits than Subsidies. Moreover, in four years out of eight, the subsidy is higher than the profit per hectare and in two years they are almost equal. This finding shows how much Romanian farms are dependent upon subsidies and their possible reduction or capping would directly affect the profitability of the farms. We would like to emphasize once again that our study group contains, 32 large and very large farms, with areas served between 500 and 11000 ha, some of which are direct exporters of agricultural products, grains and oilseeds especially, located on the most fertile land, in southern Romania.

Conclusion

Large farms in southern Romania have undergone a capitalization process, have invested in fixed assets and have intensified and diversified their activity in parallel with reducing their need for loans and their indebtedness. Their need for capital is rising, but their business attractiveness and saleability is decreasing. The number of employees rose with the diversification of the activity, but the productivity of the employees is slightly downward. Operating subsidies are on the rise, resulting in that farms are more and more dependent upon them and any future slowdown in subsidies will directly affect profitability. The farm businesses are working with very low profit margins, a sign of high competition in the sector, but profitability and productivity are rising in the last few years, a sign of increasing farm efficiency and specializing in their management.

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