

ANALYSIS ON THE EVOLUTION OF SURFACES UNDER VINE IN ROMANIA (2003-2013)

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Abstract

The paper aimed to make an analysis on the evolution of the areas under vines in Romania for the period 2003-2013 related with the factors that contributed to this evolution. The research method is related with dynamic analyze of time data series, using absolute and relative indicators. The discussions are focused on evolution of total vineyards, underlining the evolution tendencies of grafted vines areas. In Romania, the areas decreased with 23,5 % during the period 2003-2013. The share of grafted vines in the total areas increased from 49,62 % in 2003 to 50,03 % in 2013, but in absolute term the areas with grafted vines decreased with 26.042 ha in the selected period.

Key words: analysis, Romania, vineyards

INTRODUCTION

The wine sector is considered to be an economic and strategic sector with major importance [4] in the countries with important areas under vines. Romania is considered a tradition wine producing country being member of the International Office of Wine and Vine since 1928. The evolution of the surfaces under vines in Romania followed the EU trends where the production surplus conducted to difficulties in sales on internal and international markets, which also led to measures for ban on planting. As new member state of the EU, Romania benefited of the CMO for wine reform adopted by the EU in 2008. [3] The wine sector in Romania will face new challenges from 2016 when EU restrictions on planting vines will be removed, allowing competitive producers to increase the areas under vines and develop their grapes and wine production. Elimination of restriction in the EU countries will probably change the decreasing trend of world's total vineyard surface area, estimated in 2014 at 7519 million ha. [2] For this paper authors chose to make the analysis of dynamics time series, which is considered to be an efficient method for the macro-economic studies [1].

MATERIALS AND METHODS

For this paper, we processed time series from national statistic related with the inputs from the wine sector, in order to obtain indicators that helped us in elaborating of a point of view concerning evolution of areas under vines in Romania. The indicators were calculated in absolute, relative and average terms. It was calculated: the absolute change of the areas under vines in Romania for the period 2003-2013, using fixed basis index and variable basis index the dynamic index of the areas under vines; the growth rate of this areas, calculated with fixed basis index and the growth rate calculated with the variable basis index.

RESULTS AND DISCUSSIONS

In 2003, Romania had 233,316 ha cultivated with vines. In the last ten years the total surfaces under vines decreased to 178,378 ha in 2013 (Table1). The reduction of total areas under vines in Romania was partially offset by the national measures focused on increasing grape production yields, adopting new technologies for harvest, better quality of wine products and wine promotion on national and international markets. In

Romania, the area cultivated with vines is divided between areas cultivated with grafted vines in bearing and hybrid vines in bearing. The share of grafted vines in the total areas increased from 49.62 % in 2003 to 50.03 % in 2013, but in absolute term the areas with grafted vines decreased with 26.042 ha from 2003 to 2013. The promulgation of the Land Law (Law 18/1991) leads to increase of areas under vine in the private sector. In 2004, Romania cultivated 131,325 ha with grafted vines, representing the largest grafted vines bearing area from the analysed period. In this interval of time the largest area with hybrid bearing vines was cultivated in 2003. Until 2014, Romania had to cut down 30,000 ha of hybrid varieties, forbidden for cultivation in the European Union.

Table 1. Evolution of areas under vines in Romania (in absolute terms)

Year	Total Vineyards (ha)	Grafted vineyards (ha)	Hybrid Vineyards (ha)
2003	233,316	115,777	117,539
2004	205,381	131,325	74,056
2005	190,606	98,559	92,047
2006	190,542	96,710	93,832
2007	187,629	92,356	95,273
2008	183,971	92,707	91,264
2009	184,439	93,926	90,513
2010	176,991	90,049	86,942
2011	176,616	88,047	88,569
2012	178,654	89,735	88,919
2013	178,378	89,735	88,643

Source: Tempo Online – National Institute of Statistic -Romania

The national measures for conversion of vineyards had the greatest impact on the wine sector within this period of time. Accessing of this measure, producers in Romania have managed to restructure and modernize important surfaces.

Compared with 2003, the absolute change of grafted vines area had positive value only in 2004. The absolute change of the vines area, calculated with fixed base indicates that in 2011 was recorded the smallest area with total vineyards from Romania in this interval of time (Table 2). In the last years Romania

didn't recorded important changes for the total areas under vines.

Table 2. Evolution of areas under vines in Romania (absolute change calculated with fixed basis – year 2003)

Year	Total vineyards (ha) (+/-)	Grafted Vineyards (ha) (+/-)	Hybrid Vineyards (ha) (+/-)
2003	233,316	115,777	117,539
2004	-27,935	+15,548	-43,483
2005	-42,710	-17,218	-25,492
2006	-42,774	-19,067	-23,707
2007	-45,687	-23,421	-22,266
2008	-49,345	-23,070	-26,275
2009	-48,877	-21,851	-27,026
2010	-56,325	-25,728	-30,597
2011	-56,700	-27,730	-28,970
2012	-54,662	-26,042	-28,620
2013	-54,938	-26,042	-28,896

Source: Own calculation based on Tempo Online series- National Institute of Statistic – Romania

If we calculate the evolution of the absolute change of the areas under vines in Romania (Table 3), using base chained method we can conclude that in 2004 was recorded the highest negative value for total vineyards, comparative with 2003, while in 2012 was recorded the first positive trend, compared to 2011.

Table 3. Evolution of areas under vines in Romania (absolute change calculated with the base chained)

Year	Total vineyards (ha) (+/-)	Grafted Vineyards (ha) (+/-)	Hybrid Vineyards (ha) (+/-)
2003	233,316	115,777	117,539
2004	-27,935	+15,548	-43,483
2005	-14,775	-32,766	+17,991
2006	-64	-1,849	+1,785
2007	-2,913	-4,354	+1,441
2008	-3,658	+351	-4,009
2009	+468	+1,219	-751
2010	-7,448	-3,877	-3,571
2011	-375	-2,002	+1,627
2012	+2,038	+1,688	+350
2013	-276	0	-276

Source: Own calculation based on Tempo Online series- National Institute of Statistic - Romania

The grafted bearing areas had the biggest positive change in 2004 comparative with 2003, followed by the highest negative change in 2005 compared to 2004. Calculating the dynamic index for the areas under vines (Table 4), using the fixed base, we can notice that in 2011 the total areas under vines represented only 75.7 % from the 2003 total vine areas.

Table 4. Dynamic index calculated with fixed base for the areas under vines in Romania

Year	Total vineyards (%)	Grafted Vineyards (%)	Hybrid Vineyards (%)
2003	100	100	100
2004	88.03	113.43	63.01
2005	81.69	85.13	78.31
2006	81.67	83.53	79.83
2007	80.42	79.77	81.06
2008	78.85	80.07	77.65
2009	79.05	81.13	95
2010	75.86	77.78	96.05
2011	75.70	76.05	97.85
2012	76.57	77.51	100.4
2013	76.45	77.51	100.08

Source: Own calculation based on Tempo Online series- National Institute of Statistic - Romania

In 2004, the areas with grafted vines were higher with 13.43 % compared with 2003, while in 2011 represented only 77.51 % from the total grafted areas from 2003.

Table 5. Dynamic index calculated with the base chained for the areas under vine in Romania

Year	Total vineyards (%)	Grafted Vineyards (%)	Hybrid Vineyards (%)
2003	100	100	100
2004	88.03	113.43	63.01
2005	92.81	75.05	124.29
2006	99.97	98.12	101.94
2007	98.47	95.50	101.54
2008	98.05	100.38	95.79
2009	100.25	101.31	99.18
2010	95.96	95.87	96.05
2011	99.79	97.78	101.87
2012	101.15	101.92	100.40
2013	99.85	100.00	99.69

Source: Own calculation based on Tempo Online series- National Institute of Statistic - Romania

The dynamic index calculated with the base chained (Table 5) had the lowest value in 2004 (88.03 %) for the total areas under vines and the highest value in 2012 (101.15%).

The rate of increase, calculate with fixed base (year 2003) had only negative values for the total areas under vine. This indicator was positive only in 2004 for grafted areas under vine (13.43 %). The highest negative rate, corresponding with a negative growth was recorded in 2004 for hybrid vines areas (-36.99%).

Table 6. Rate of increase calculated with fixed base for the areas under vines in Romania

Year	Total vineyards (%)	Grafted Vineyards (%)	Hybrid Vineyards (%)
2003	100	100	100
2004	-11.97	13.43	-36.99
2005	-18.31	-14.87	-21.69
2006	-18.33	-16.47	-20.17
2007	-19.58	-20.23	-18.94
2008	-21.15	-19.93	-22.35
2009	-20.95	-18.87	-22.99
2010	-24.14	-22.22	-26.03
2011	-24.30	-23.95	-24.65
2012	-23.43	-22.49	-24.35
2013	-23.55	-22.49	-24.58

Source: Tempo Online – National Institute of Statistic - Romania

Table 7. Rate of increase calculated with the base chained for the areas under vine in Romania

Year	Total vineyards (%)	Grafted Vineyards (%)	Hybrid Vineyards (%)
2003	100	100	100
2004	-11.97	13.43	-36.99
2005	-7.19	-24.95	24.29
2006	-0.03	-1.88	1.94
2007	-1.53	-4.50	1.54
2008	-1.95	0.38	-4.21
2009	0.25	1.31	-0.82
2010	-4.04	-4.13	-3.95
2011	-0.21	-2.22	1.87
2012	1.15	1.92	0.40
2013	-0.15	0.00	-0.31

Source: Tempo Online – National Institute of Statistic - Romania

The rate of increase calculated with the base chained was positive in 2012 for the total

vineyards. (Table 7).

The average area under vines in Romania for this period was 189,683 ha. In the case of grafted vines areas the average surface in Romania for the period 2003-2011 was 98,084 ha, while for the hybrid vines areas, the average value was 91,599 ha.

CONCLUSIONS

Romania has important surfaces under vines, which requires a special attention due to sector contribution to the GDP and its social importance for the rural areas population located in the wine traditional regions. In a period when vine cultivators faced important economic difficulties, Romania continued to hold large areas of wine, ranking 11 in terms of area cultivated with vines at world level, respective 5th place in the European Union. The areas under vine from Romania suffered important changes due to new Romanian and EU regulations. Also the orientation for quality, of Romanian producers influenced the structure of the vines surfaces in the last decade.

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