INTEGRATING THE ROMANIAN VITICULTURE AND WINEGROWING SECTOR ON THE UNIQUE EUROPEAN MARKET BY INCREASING COMPETITIVENESS

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Abstract: *The geographical location of the country and the natural resources endow national viticulture with a competitive feature not yet complementary to the European viticulture. However, if we are to consider the current status and distribution of the national viticulture patrimony, it is clear that what we are up against is an failure to come up to the competitive standards set on and by the European market.*

Key words: *economic efficiency, viticulture and winegrowing industry, adaptability*

The objectives targeted by negotiations in viticulture and in the winegrowing sectors are presented in the table bellow:

ROMANIA' S DEMAND	**THE UE STAND**
1) A 4 year transition period; deadline: 31.12.2010; objective: to record vineyards in a communitarian book of viticulture plantations	A period of transition was not granted – it has been estimated that Romania had enough time to achieve the task before being aligned to the book of viticulture plantations.
2) An 8 year transition period; deadline: 31.12.2014; objective: removing hybrid vines from vine plantations.	Reformulated demand (see table bellow)
3) Objective: to include Romanian vine plantations in the communitarian sorts.	- Transylvania's Plateau: **zone B** - The Hills of Muntenia, Oltenia, Moldovia, Crişana, Banat and Maramureş, Ştefăneşti Argeş, Sâmbureşti, Drăgăşani and Craiova's Hills: **zone C Ist** - The Hills of Muntenia, Oltenia, Buzău, Dealu Mare, Severin, Drânca's Valleys, The Mounds of Dobrogea, Danube's Terraces, the South of the country: **zona C IInd**

DEMANDS FINACIALLY GRANTED		
Name	**Romania's demand**	**The EU Offer**
Vine	**30.000 ha**	**30.000 ha**
Permission to replant hybrid sorts defended by the EU (replacement is to be done within 8 years from alignment) Other replanting rights.		The possibility of receiving grant aids: 75% max. of the investment value. 1,5% of 188.700 ha (2830 ha)

1. Economic efficiency in viticulture and winegrowing industry

Taken by its etymological meaning only, efficiency shows the quality of an economic activity to produce a positive effect. Likewise, a qualitative estimation in the view of the results obtained seems to be imposed by any human activity, and especially by the economic ones, due to the fact that a great amount of work and society resources is allotted to them.

The economic agents who succeed in obtaining extremely low cost productions are more competitive on the market because they are liable to gain a higher income, and higher profits respectively. The price is the key element that measures economic efficiency and *therefore determines the resource allotment.*

In our country, setting a price value for wines is, most often than not, directly connected to and depending on the level of costs. Because of this reason, the case study bellow is focussed on evaluating the final commercial wine cost: the production, distribution and delivery costs.

1.1. Cost and price of raw stocks in winegrowing plantations across Romania.

The main restrictive aspect of this sector is the low productivity of plantations because of the old age of the vines. Despite the fact that plantation technologies are used by the book, farmers manage yet to compensate for the expenses made to obtain production. In the table 1 bellow there can be seen an average calculus of the necessary expenses for a hectare of vine (wines grapes) with an estimated production of 8000 kilos and 7000kilos on average.

Table 1 – Cost and price of grapes for table wines

INDICES	**$ USD**	**$ USD**
Average production - kg/ha	*8000*	*7000*
Value of production -$ USD	1961	1961
Profit or loss/ha - $ USD	-119	-119
Total expenses - $ USD	2080	1717
Irregular expenses	1292	1036
Expenses on materials	676	475
Young planting vines	*49*	
Chemical and organic fertilizers	*97*	*80*
Pesticides	*335*	*200*
Other materials	*195*	*195*
Expenses on automated activities	494	494
Supply expenses	68	68
Insurances	55	
Regular expenses	787	681
Expenses on permanent labour force	600	600
General expenses	73	73
Interests	106	
Amortization	8	8
Production costs $/kg	0.260	0.245
Internal market price	0.245	0.245

Source: own calculi in accordance with technological expense estimates

Under such circumstances, the grant-aided commercial production of the grape producers is a short-term solution; the long-term feasible solution is provided by the replacement of the vineyards; maximum outputs that can be achieved in a young vineyard and with the same input expenditure, are directly responsible for an efficient economic production.

1.2. Wine costs

The wine production and supply on the market needs a certain labour force employment and production means. Wine needs special handling and treatments meant to conserve or even improve its quality, or to preserve its species variety and the features determined by this one. Once the maturation phase of wine is over, there follows bottling, which is optional for table wines, but compulsory for fine wines (except for the exported ones), and most of the production is commercialized and only a very small part of the wine production is kept in bottles and left to grow old.

As compared to the above estimated costs, a DOC wine production implies additional costs for:

- vineyard certification and authorization;
- commercial right certification;
- labelling system of DOC wines certification;
- labelling and bottling additional expenses.

The case study on the wine cost was carried out in two winemaking industrial units, with different production levels. These are located in the counties of Constanta and Prahova: the former industrial unit (A1) produces more than 110 thousands of hl annually, of which 70% are fine wines, and the latter (A2) produces 22 thousands of hl, of which more than 74% are fine wines. The period of time when the production costs were analysed was 2004-2006; in order to carry out the qualitative analysis method, constituent elements were taken apart and evaluated, not only simultaneously in time but also between industrial units.

The level of the production cost has a rising dynamics, regardless of the sorts of wine produced (fine wines or table wines) and this is directly connected with and influenced by the price increase in fuels and energy.

Set in contrast, there are significant discrepancies between the production costs of the two units. The comparative analysis method applied to different production factors and their influence on the cost value reveals that a higher production volume in A1 ensures a top resource distribution, which also shows in lower production costs.

As far as fine wines are concerned, cost variations range from 8 to 25%; the value of the production cost of table wines is 18-25% higher in A2.

Qualitative inconsistencies between table wines and fine wines can be made out in the cost distribution. On the one hand, in A1 differences are visible in the high percentage held by the consumption of raw stocks and materials: 7,9% fine wines an 34,4% table wines; lower costs in raw stocks point to their inferior quality and result in a higher consumption of materials to fix problems.

During the bottling process, the wine is transferred the preservation-maturation tanks (cisterns, wines casks, barrels) into 0,75 litre glass bottles for fine wines or 1/1,5 litre glass bottles for table wines. This operation ensures a civilized commerce done in proper hygienic- sanitary conditions, but entails high costs spent on packaging (bottles, imported cork stoppers, thermocontractible films, brands) which almost doubles the wine production cost of the wine. Moreover, there are always transportation and delivery costs, rental costs, or salaries to be paid to the economic agents engaged in the wine commercialization.

As in can be seen from the configuration of the ultimate marketable cost of wine (in 2004 and 2006 respectively) a significant percentage is allotted to raw stocks (between 28 and 32%); the other costs being further added to post-harvesting activities.

The setting of the ultimate marketable costs in contrast reveals that raw stocks hold a significant percentage in both cases and that, A2 marks considerable differences between the industrialization costs. Therefore, it can be noted that in 2004:

- The total cost of 87,8$/hl in **A1** is configured as follows: 28,4% - raw stocks; 5,7% - industrialization costs; 7,44% tax liabilities (charged by the state); 36,2% - packaging costs; and 10% of the total cost are paid by dealers.

- The total cost of 94,6$/hl in **A2** is configured as follows: 29,4% - raw stocks; 11% - industrialization costs; 8,14% tax liabilities; 39,3% packaging costs; and 10% of the cost are paid by dealers.

The value of the final product that the consumer finds on the market covers as much as 10% of the value of the raw stocks.

1.3. Price calculus. Compensation amounts on the viticulture-winegrowing branch.

The market price paid by the consumer results from the industrialization process costs and the gross profit margin expected by the wine producer, tax liabilities and distribution costs (wholesale and retail) and the traders' added taxes, the consumers' purchasing power, and the evolution of the exchange rate. As it can be seen in the data presented in tables 2 and 3, the price of the wine established by the producer is formed in keeping with the costs and the expected gross margin.

Table 2 – Establishing Prices for Fine Wines A1

No			***2003***		***2004***		***2005***	
			$/hl	$/a bottle	***$/hl***	$/a bottle	***$/hl***	$/a bottle
1		Raw stocks costs	28.432	0.213	28.543	0.214	28.951	0.217
2		Industrialization costs	*5.68*	0.426	*5.79*	0.04	*6.08*	0.046
3	(1+2)	**Production costs $/hl**	**34.12**	**0.256**	**34.33**	**0.257**	**35.04**	**0.263**
4		Packaging costs	36.21	0.272	37.33	0.280	39.29	0.295
5	(3+4)	Bottled wine costs	70.33	0.53	71.66	0.54	74.33	0.56
6		Tax liabilities	7.44	0.056	6.97	0.052	0.00	0.000
7	(5+6)	**Total expenses supported by the wine producer**	**77.77**	**0.583**	**71.66**	**0.537**	**74.33**	**0.557**
8		Price set by the producer	160	1.200	181	1.358	199	1.493
9	(8-7)	Economic excess obtained by the producer	82.23	0.617	109.34	0.820	124.67	0.935
10		Dealers costs	10	0.075	12	0.090	15	0.113
11		Market price	275	2.063	287.5	2.156	325	2.438
12	(11-10-8)	Economic excess got by the dealer	105	0.788	94.5	0.709	111	0.833

Source: own calculi

Table 3 - Establishing Prices for Fine Wines A2

No.			***2003***		***2004***		***2005***	
			$/hl	$/a bottle	***$/hl***	$/a bottle	***$/hl***	$/a bottle
1		Raw stocks costs	29.353	0.220	29.353	0.220	32.210	0.242
2		Industrialization costs	***10.96***	0.082	***11.01***	0.083	***11.52***	0.086
3	(1+2)	**Production costs $/hl**	**40.31**	**0.302**	**40.36**	**0.303**	**43.73**	**0.328**
4		Packaging costs	36.12	0.271	37.14	0.279	39.63	0.297
5	(3+4)	Bottled wine costs	76.43	0.573	77.50	0.581	83.36	0.625
6		Tax liabilities	8.14	0.061	6.42	0.048	0.00	0.000
7	(5+6)	**Total expenses**	84.57	0.63	83.92	0.63	83.36	0.63

		supported by the wine producer						
8		Price set by the producer	190	1.425	215	1.613	236	1.770
9	(8-7)	Economic excess obtained by the producer	105.43	0.79	131.08	0.98	152.64	1.14
10		Dealers costs	10	0.075	13	0.098	15	0.113
11		Market price	300	2.250	325	2.438	350	2.625
12	(11-10-8)	Economic excess got by the dealer	100	0.750	97	0.728	99	0.743

Source: own calculi

For the sales agents in the winegrowing industry (raw stocks producers, wine producers and dealers) the repayment degree of the factors in the field f winegrowing is characterized by changes for the raw stocks producer (the only one who undergoes through a loss); the economic excess is distributed between the two links of the branch, the wine producer and the dealer. There is an obvious economic efficiency of the upright integrated production.

1.4. Concept and analysis method of the external wine trade competitiveness

Competitiveness is the skill of a sales agent to efficiently produce, that is to gain profit and to combat market competition. This skill can be measured by a range of criteria that describe the circumstances favorable to market consumers. These criteria are: cost and sales price, product quality, market adaptability in keeping with the ever changing demands, innovations, and management of a market segment.

Speciality literature presents several methods to estimate effectiveness, such as:

- *The Index of the Comparative Advantage Pointed Out (CAP (Rom. ACR))*, that compares the proportion of exports and imports operated within a certain industry to the proportion of the total number of managed exports and imports. The negative values of the index point out comparative disadvantages.
- The"*Shift and Share"* analysis is based on the distribution of increasing exports in line with two elements. The former is an increase in the importing demand of the partner-country and the latter is an increase in efficiency on that market.
- *The market share.* The share held by exports in the country under discussion in the total amount of imports in the partner-country. The enlargement of the market share implies an efficiency increase in the exporting country.
- The calculus of product competitiveness in keeping with the *Unitary Value.* The unitary value is defined as the value of exports, and of imports respectively in a certain industry, divided by the physical production. The industries which are considered to be competitive in prices are those which have export prices which are lower than or equal to the average import prices of the same market.
- UVI_i =Imp. val_i /Imp.$quant._i$

  UVE_i =Exp. val_i /Exp.$quant._i$

Positive values point to a competitive commercial advantage while negative values point to a competitive commercial disadvantage.

The data used in the calculus of the model are taken from the FAO database. The results of the calculi are presented in the table bellow.

The calculi comprise a period of 13 years (1994-2006) and the results listed in table 4 confirm deterioration in efficiency (but not its absence) on the global market or a varying competitive disadvantage in rapport with the European Union market.

Table 4 – The Commercial Advantage of Romanian Wines on the world and E.U. Market

World Market	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
AER	5.604	4.997	2.469	1.896	1.889	1.983	1.913	1.875	2.490	2.747	1.355	1.582	1.440	1.545
IPI	0.000	0.224	0.326	0.383	0.205	0.105	0.214	0.073	0.032	0.114	0.135	0.044	0.036	0.048
ACR =AER-IPI	5.604	4.774	2.143	1.513	1.685	1.878	1.699	1.802	2.458	2.633	1.221	1.538	1.404	1.498
E.U. Market	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
AER	0.129	0.124	0.060	0.047	0.044	0.045	0.044	0.046	0.067	0.086	0.046	0.049	0.044	0.050
IPI	0.000	0.164	0.240	0.278	0.143	0.074	0.155	0.051	0.023	0.085	0.097	0.032	0.026	0.035
ACR=AER-IPI	0.129	-0.039	-0.180	-0.231	-0.100	-0.030	-0.111	-0.005	0.044	0.001	-0.051	0.017	0.018	0.014

Own calculi; data collected from the FAO database

- The values of the AER index which are higher than 1 point to a comparative advantage in the world market exports which are now decreasing; the AER values that go bellow 1 suggest that Romanian wines don't have a similar advantage on the E.U. market exports.
- The „0'' value for IPI in 1990 show that the Romanian market is, practically, still closed for foreign wines. However, during all this time, the import penetration index has been sub unitary on both markets.
- ACR also measures the competitive advantage; the positive values show a high competitive commercial advantage on the global market, while the negative values point to a competitive commercial disadvantage on the European Market.

1.5. Tendencies in the branch – adaptability to the unique European Market demands

The analysis of the evolution of the viticulture-winegrowing branch, based on component distribution, viticulture and wine production, internal and external market, product policy, structurally-functionally interrelated, enables us to identify some trends. The tendencies were estimated as % differences between the 2002-2006 average and the 1997-2001 average.

The parameters taken into discussion were: surface area, average grape production, output value of the wine production per ha (indices of the grapes' conversion into wine were used) both for noble and hybrid vines; likewise, the total consumption of wines and the proportion of exports were also taken into discussion.

The first table shows what would happen to Romania's viticulture should everything remain unchanged.

Distinguished tendencies for the 2002-2006 period as compared to the 1997-2001 period:

1. Grafted vines:

- The areas covered by noble vines have decreased by 18,84 thousand ha, which is a 12,77% decrease;
- Productivity has marked a regress of 539,7 kilos/ha that is a 10,15% decrease.

2. Hybrid vines:

- The areas covered by hybrid vines have evolved in a positive direction, with a 17,3 thousand ha increase, that is 16,96%;
- The average production decreases by 607,8 kilos/ha, which is 13,08%;

In order to obtain wine from noble grapes, a 0,7 index was used, and a 0,5 one for hybrid vines.

In keeping with the distinguished tendencies, both in surface areas and in efficiency outputs, the likely grapes production was estimated for the two vine sorts; the use of some indices specific to the transformation process of grapes into wine has enabled an assessment of the possible production for the estimated period.

e.g. noble vines:

109,82 thousand ha x 4295,06 kg/ha = 471683,49 tones

471683,49 tones x 0,7 (transformation index of grapes into wine) = 330 178,44 thousand liters

Table 5 – Case-Scenario on the evolution of the viticulture-winegrowing branch

	Average 95/99	Average 00/04	2000-2004 1995-1999	2005	Average 2005/2009	Average 2010/2014	Average 2015/2019
SURFACE (thousand ha)							
Grafted and indigenous	**147.50**	**128.66**	**-12.77%**	**109.82**	**95.76**	**83.51**	**72.82**
Hybrid vines	102	119.3	16.96%	119.3	119.3	119.3	119.3
AVERAGE PRODUCTION (kilos/ha)							
Grafted and indigenous vines	**5317.27**	**4777.6**	**-10.15%**	**4295.06**	**3861.26**	**3471.27**	**3120.68**
Hybrid vines	**4648.39**	**4040.6**	**-13.08%**	**3511.28**	**3051.30**	**2651.58**	**2304.23**
POSSIBLE WINE PRODUCTION (thousand hl)							
Noble wine - thousand hl			**0.7**	**3301.79**	**2588.36**	**2029.09**	**1590.66**
hl/ha				30.065	27.0	24.3	21.8
Hybrid wine –thousand hl			**0.5**	**2094.48**	**1820.10**	**1581.67**	**1374.47**
hl/ha				17.6	15.3	13.3	11.5
TOTAL PRODUCTION				**5396.27**	**4408.47**	**3610.76**	**2965.13**

Source: own calculi

The inertial case-scenario is based on the following:

- The tendency in wine exports, with a 1% increase per period; the export was estimated as % of the total wine production;
- Global consumption decreases by 14,7 %;
- The volume of imports was not significant.

Table 6 – Inertial Case-Scenario

	Average 99/04	**Tendency**	**2005**	**Average 2005/2009**	**Average 2010/2014**	**Average 2015/2019**
TOTAL PRODUCTION			**5396.27**	**4408.47**	**3610.76**	**2965.13**
EXPORT -% of the total production		**+1%**	**8%**	**9%**	**10%**	**11%**
EXPORT -thousand hl			**431.70**	**396.76**	**361.08**	**326.16**
DECREASE IN THE GLOBAL CONSUMPTION	**5106**	**-14.7%**	**4355.42**	**3715.17**	**3169.04**	**2703.19**
Stock			**609.15**	**296.53**	**80.64**	**-64.23**

Source: own calculi

Of the above listed calculi, there follows that, if production and consumption pursue the distinguished decreasing tendencies for the 2015-2019 period, there will be an incapacity to cover the internal demand; naturally, this will be covered by the imports so that a 64 thousand hl quantity multiplied by 5 years multiplied by 40 Euro/hl value result in a cost of 12 800 thousand Euro.

Given the inertial case-scenario as well as the EU negotiations and Romania's engagement to wipe out hybrid vines, table 7 presents the likely evolution of the branch.

Table 7 – Wine market tendencies influenced by EU engagements

	2005	**Average 2005/2009**	**Average 2010/2014**	**Average 2015/2019**
Surface area with noble vines thousand ha	**109.82**	**95.76**	**83.51**	**72.82**
Surface area with hybrid vines (wiped out= 60 thousand ha)			-30 thousand ha	-30 thousand ha
Surface area with hybrid vines after removal	119.3	119.3	**89.3**	**59.3**
Hybrid wine	2094.48	1820.10	**1183.93**	**683.20**
Noble wine – thousand hl	3301.79	2588.36	2029.09	1590.66
TOTAL PRODUCTION	**5396.27**	**4408.47**	**3213.02**	**2273.86**
Export tendencies +1%/period	**8%**	**9%**	**10%**	**11%**
EXPORT –thousand hl	431.70	396.76	321.30	250.12
DECREASE IN CONSUMPTION -14.7%/period	**4355.42**	**3715.17**	**3169.04**	**2703.19**
Stock	609.15	296.53	**-277.32**	**-679.45**

Own calculi; data collected from the FAO database

- The surface area covered by noble vines marks a decreasing tendency, the same as the noble wine production;
- The 2008-2012 period estimates the removal of 30 thousand ha of hybrid vines Romania's engagement under the negotiations of Chapter 7; other 30 thousand ha are covered by hybrid vines outside the city in areas larger than 0,1 ha/family.
- Decrease in consumption (-14,7%)

If we are to consider the listed tendencies, there results that Romania will be faced up against an average loss of 277 thousand hl during 2010-2014; things are expected to get worse in the years to come. Unless global consumption marks a decrease directly connected with the wiped surface, Romania is bound to become a wine importing country.

What are the costs of the second alternative?

Vine removal (with a bonus): 30 000 ha x 1 000 euro/ha = 30 000 thousand euro

Wine imports (2008-2017) 4 783.85 thousand hl x 40 euro/hl =191 354 thousand euro

Total = 221 354 thousand euro

What can be done with this sum of money?

191 354 thousand Euro ca be used to plant 19 thousand ha of noble vines, which is a constant investment for 25 to 30 years. An average output calculus of only 50 hl of wine, and for 40 euro/hl, there results a value of more than 1 milliard Euro.

Based on the information provided by the book of vineyards and on market information, a nationwide campaign can be started off to revive viticulture, provided that there are clear objectives and a strong financial support.

1. Encouraging small producers to sign funding partnerships (possibly foreign) for winegrowing and distribution, with a simultaneous possibility to access European funds for reconversion and reorganization.
2. Implementing the management expertise and the production organization skills on a large scale, i.e. implementing modern management skills; the economic development is, not so much the result of a quantitative increase in the production factors but more a growth of their efficiency.
3. Granting aids to production organizations with a view to acquiring specific mechanisms that promote the product.

2. Conclusions

- Privileged by its geographic location, Romania is a country and with a rare viticulture potential: the surface most favourable to vine plantations holds 39,5% of the entire viticulture surface which is of 54,2%.
- The transition period, characterized by a hostile economic environment and a laissez-faire policy, has led to a continuous deterioration of the viticulture plantations.
- Although, to all appearances the distribution of plantation surfaces seems to be the chief problem that Romanian viticulture is confronted with, i.e. an increase in the percentages held by hybrid vines, it can be concluded that the main problem of the Romanian viticulture is the physical condition of the noble plantations, which are old and economically inefficient, and strongly predisposed to self-destruction.
- Small raw stocks producers lack organization and, most often then not disfavoured by bleak predictions. A good solution to their problems would be setting up funding (possibly foreign) cooperations that support the winegrowing production and distribution, and enable easy access to information and specially designed services to facilitate involvement in various communitarian programs.
- The economic efficiency of the vast viticulture plantations does not reside in their size if not in the quality of the production factors. A restrictive factor is the inability to invest in new plantations.
- The debated viticulture surface agreed upon gives Romania the chance to preserve its traditional status of a winegrowing country. This is a matter of national importance and it should be dealt with accordingly: if we consider the plantation restrictions enforced following the integration it needs must to set in motion a national campaign meant to revive plantations; a temporary financial effort will result in clear advantages on the long run.
- The loss of the external markets has entailed a continuous weakening of the external wine commerce. Unlike Bulgaria and its practices in the past decades which made it a steady and remarkable figure on the wine market of several member states, Romania did not make it an interest of national importance to expand on and conquer new markets. As compared to the quality of the EU wine market, Romanian wines have a competitive disadvantage; under such circumstances, the competitive advantage existent on other markets should be made the most of, simultaneously with a new promoting policy on the EU wine market
- The compensation resulted from export will encourage exporters to find new opening markets for table wines, other than the common market; an aggressive campaign is needed to promote fine wines; the success of some countries on the global market is always achieved at the expense of some other whenever the consumption rate is decreasing.
- The long term objective remains reviving viticulture; a nationwide plantation retrieval program can ensure not only the best distribution of valuable sorts that are demanded on the external market, but also a high quality homogenous offer. This is the only possible solution to catch up with the member states that have a long tradition in viticulture. Without a serious

improvement of the highlighted situation there is always a risk for Romania to become a major opening market for the EU wines, putting a good *majority* of the national producers at risk: “stagnation”, “economic regress” or “subsistence autarchic viticulture practices” are just few of the problems than can emerge therein. .

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