

Vineyards' restructuring and conversion through national support programmes - the case of Romania

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Abstract

Wine industry is considered to be a traditional industry, where the potential for growth is still important for the existing wine producers and new entrants, based on strategies for increasing international awareness, technological innovation and financing programmes. The paper aims to explore the evolution of the determinants of wine and vineyards industry from a macroeconomic perspective, in order to assess the efficiency of the National Support Programmes, financed under the European Union funds. The exploration intends to cover the tendency of the following indicators: areas under vines, areas under vines for wines, wine producers, wine consumers, wine imports and wine exports, in order to explore new opportunities for growth and develop future orientation. Moreover, the analysis intends to address the importance of National Support Programmes 2009-2013; 2014-2018; 2019-2023, whose evolution is currently considered a key research question in the field. Romania is an important European country from the point of view of wine industry, the various wines it produces are known for their quality. With an area of around 180,000 ha cultivated with vines which, in 2016, represented 1.42% of its agricultural area and 2.28% of arable area, Romania ranks the 5th position in the European Union, after Spain, Italy, France and Portugal. However, the countries that took advantage of the financial funds allocated to the National Support Programmes, were: Italy, Spain and France, which together spent more than 70% of the total amount for each of these programmes.

Keywords: hybrid vines; National Support Programme; vineyards; vines; wine; wine consumers; wine producers

Introduction

Wine industry is considered to be a traditional industry, where the potential for growth is still important for the existing wine producers and new entrants, based on strategies for increasing international awareness, technological innovation and financing programmes. Also, small and medium enterprises (SMEs) can play an important role to the development of this industry, mainly based on the “diffusion of wine innovation” (Menna and Walsh, 2019).

The paper aims to explore the evolution of the determinants of wine and vineyards industry from a macroeconomic perspective, in order to assess the efficiency of the National Support Programmes, financed by the European Union. The exploration intends to cover the tendency of the following indicators: areas under vines, areas under vines for wines, wine producers, wine consumers, wine imports and wine exports, in order to explore new opportunities for growth and develop future orientation. Moreover, the analysis intends to address the importance of National Support Programmes 2009-2013; 2014-2018; 2019-2023, whose evolution is currently considered a key research question in the field.

Several studies were conducted in the field of wine consumption and production, especially focused on the effects of the economic crisis that affected the evolution of this industry. One of the main effects presented by Andreyeva *et al.* (2010), Casini *et al.* (2014), Samoggia *et al.* (2014) is the decline in purchases in terms of “food quantity and quality” and an increase in “sales of low-cost products”. A research focused on the crisis’ impact on the Greek market revealed that consumers “preferred less expensive products characterised by prime prices” (Duquenne and Vlontzos, 2014). On the other hand, Asgeirsdottir *et al.* (2014) pointed out that in Iceland the economic crisis had a positive effect, “favouring health-promoting behaviours”. In the wine industry, two phenomena could be observed (Anderson and Nelgen, 2011; Hammorvoll *et al.*, 2014): “the increase of mass-produced wine” and “the specialisation towards narrow markets”. These aspects can be explained by the “polarisation of consumers towards opposite behaviours” (Contini *et al.*, 2015).

The main factors that have an influence on the wine demand are (Vlachos, 2017): “price in conjunction with disposable income”, “dietary habits of consumers”, “seasonality”, “tourism and local traditions/festivities”. Other studies focused on the “wine attributes” that influence consumer purchasing behaviour” (Goodman *et al.*, 2008), followed by price as a sign of quality (Jover *et al.*, 2004), especially for the consumers “who have a low involvement with wine” (Hollebeek *et al.*, 2007). On the other hand, the consumers that are loyal to the brand “stock up on their favourite brand during promotional sales and wait for another promotional sale of the brand” (Ritchie *et al.*, 2010).

Other authors underlined the importance of “continuous analyses and monitoring of land use” for vineyards (Fikfak *et al.*, 2017), due to the fact that “high erosion rates are being recorded” (Prosdocimi *et al.*, 2016). However, the influences on the quantity and the quality of grapes came from several factors (Rotaru *et al.*, 2010): “climate”, “soil”, “topography”, “micro-climate”, “human factors genetics”, “environmental and technological factors” etc.

The paper is organized as follows. The “Materials and Methods” section gives a background of the wine and vines industry, by presenting the evolution of the appropriate indicators at a worldwide level, followed by the same analysis at the level of the European Union’s countries and taking as example the case of Romania, one of the players with potential for development and growth in this field. The main focus in this section will be on: areas under vines; wine production and consumption. The “Results and discussions” relates the competitiveness growth linked to the National Support Programmes 2009-2013; 2014-2018; 2019-2023, from the perspective of new opportunities in the wines and vine industry. The “Conclusions” section discusses the findings and underlines the conclusions and limits of the research.

Materials and Methods

Areas under vines

The aim of the study is the exploration of wine and vineyards’ related indicators in order to assess the efficiency of National Support Programmes, financed by the European Unions’ funds.

At the worldwide level, the total area under vines had an oscillatory dynamic with a decreasing trend, from 7,594 million ha in 2007 to 7,454 million ha in 2016 (International Organisation of Vine and Wines, 2019). Europe represents the largest continent regarding the area under vines, representing a percentage between 48.88%- 55.01% from the total area under vines (Table 1).

Table 1. Areas under vines at the worldwide level - ha [2007-2018]

Year	Worldwide	Africa	America	Asia	Europe	Oceania
2007	7,594	0,381	0,993	1,838	4,178	0,204
2008	7,533	0,379	1,004	1,821	4,122	0,207
2009	7,49	0,368	1,017	1,867	4,024	0,213
2010	7,479	0,369	1,025	1,956	3,921	0,208
2011	7,462	0,375	1,035	2,02	3,824	0,207
2012	7,473	0,379	1,045	2,082	3,766	0,2
2013	7,506	0,378	1,06	2,149	3,723	0,195
2014	7,551	0,376	1,067	2,214	3,703	0,192
2015	7,507	0,378	1,063	2,21	3,67	0,186
2016	7,454	0,383	1,052	2,157	3,678	0,183

Source: International Organisation of Vine and Wines, 2019

At the worldwide level, Peru registered the highest growth of vineyards, from 25,000 ha in 2014 to 32,000 ha in 2018. Mexico registered a growth of 24% regarding the spread of vineyards, from 29,000 ha in 2014 to 37,000 ha in 2018.

On the other hand, the highest decrease in vineyards was represented by Iran with -29%, in 2018 (153,000 ha) compared to 2014 (216,000 ha). Ukraine also registered a decrease in vineyards area with -14% in 2018 (42,000 ha) compared to 2014 (49,000 ha) (Figure 1).

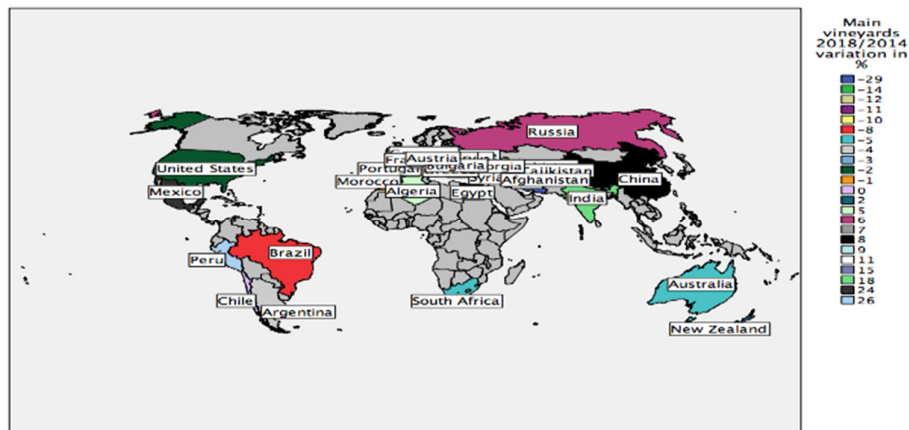


Figure 1. Main vineyards at the worldwide level 2018/2014 [%]

Source: Authors’ own processing with SPSS 20.00 software for Windows

Making the same analysis at the level of the European Union, regarding the area under vines, the decrease rate in vineyards is reduced significantly. Thus, the area under vines was reduced with 129,948 ha (3.88%) during the period 2010-2019 (Table 2).

Table 2. Areas under vines in European Union's countries - ha [2010-2019]

State	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bulgaria	75,591	68,847	60,328	60,299	59,701	59,988	60,418	60,583	61,251	60,862
Czechia	17,361	17,471	17,366	17,480	17,631	17,673	17,623	17,720	16,811	18,038
Germany	102,692	102,671	102,598	102,810	102,856	102,858	102,752	102,727	102,939	103,173
Greece	67,851	67,333	66,474	65,330	65,020	64,013	62,773	62,728	62,804	63,181
Spain	1,018,655	968,298	953,177	957,753	958,778	958,696	959,534	951,946	955,377	950,079
France	816,042	806,242	807,600	804,831	804,297	805,780	793,905	810,075	810,850	811,923
Croatia					26,761	21,310	20,855	20,339	20,482	20,081
Italy	673,325	663,905	654,823	646,485	641,744	636,274	645,800	652,217	657,708	666,421
Cyprus	10,109	9,066	8,605	8,417	7,871	7,806	7,908	7,873	7,711	7,673
Hungary	71,003	71,792	64,411	64,688	64,764	64,800	54,573	65,263	65,582	65,397
Austria	45,533	46,092	46,711	47,701	47,237	47,255	47,583	48,282	48,863	48,845
Portugal	236,720	236,816	233,943	226,865	221,449	201,445	193,219	191,633	190,322	192,743
Romania	181,562	181,770	183,170	182,715	182,849	182,375	182,361	182,488	182,616	183,033
Slovenia	16,177	16,041	16,172	16,110	15,997	15,669	15,604	15,593	15,646	15,500
Slovakia	19,634	18,971	18,705	18,512	18,046	18,437	17,598	16,610	15,415	15,358
Total	3,352,255	3,275,315	3,234,083	3,219,996	3,235,001	3,204,379	3,182,506	3,206,077	3,214,377	3,222,307

Source: DG Agri, <https://agridata.ec.europa.eu/extensions/DashboardWine/WineProduction.html>, accessed on 12.03.2020

The world production of grapes at the level of the year 2018 was 77.8 million of tones, with 57% production of wine grapes, 36% production of table grapes and 7% of dried grapes. (<http://www.oiv.int/public/medias/6782/oiv-2019-statistical-report-on-world-vitiviniculture.pdf>, accessed on 10.03.2020)

At the level of the European Union's states, analyzing the dynamics of areas under vines for wine, four of 14 countries registered a growth in 2019 compared to 2010: Austria (7.27%), Czech Republic (3.90%), Romania (0.81%) and Germany (0.47%) (Figure 2).

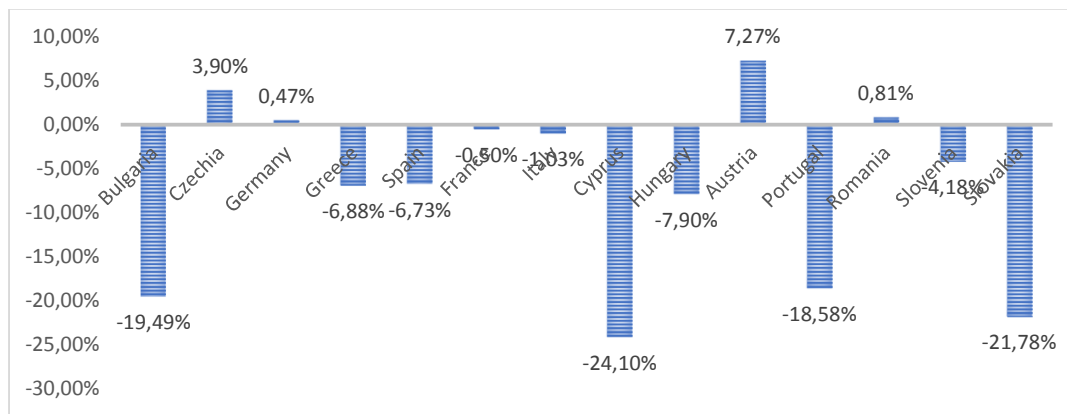


Figure 2. Dynamics of vineyards for wine at the level of European Union 2019/2010 [%]

Source: DG Agri, <https://agridata.ec.europa.eu/extensions/DashboardWine/WineProduction.html>, accessed on 12.03.2020

During the analysed period, the world's areas under vines underwent mutations, both in terms of the number of hectares and the assortment structure.

Thus, at the global level, the area under vines in operation is relatively constant. On the other hand, at the E.U. level, there are major differences in surface dynamics. In the first case, the explanation comes from the fact that, if in some parts of Europe, there is a decrease in the areas under vines, in other parts of the world, such as Asia (China, Thailand, Vietnam), there is a concern for growing grapes.

In the case of E.U. countries, the technological development, associated to an increase of the emancipation degree of the population, led to an increase in the consumption preferences for the highest

quality of wine. Consequently, there have been situations in which, considerable quantities of wine, of medium and below average quality, could not be capitalized, in the case of large wine producing countries. Thus, unsold stocks appeared, which had to be distilled, in order to protect the wine industry and empty the storage space for the new harvest.

Schemes have been set up to support wine producers, by ensuring payments for storage and distillation, together with the commitments of the states to take over stocks of distilled wine. The perpetuation of this situation has led to the creation of agricultural policies through which, Member States provide financing in the form of deforestation premiums for grape-producing vineyards, from which table wines are obtained.

At the same time, financial support was provided for viticulturally reconversion, in the sense of replanting significantly smaller areas of grape varieties under quality wines. Thus, according to the analysis made, the area under vines has decreased by about 130,000 ha at the E.U. level, since 2007.

From a financial point of view, despite the current conditions, the performance of the wine chain has increased, on the one hand, due to the higher price of quality wines and, on the other hand, due to the increase in technology and mechanization, especially in grape production.

Wine production and consumption

The global wine production at the level of the year 2018 was 292 million of hectoliters. Hungary registered the highest growth of wine production, from 2.4 million hl in 2014 to 3.6 million hl in 2018. Austria registered a growth of 40% regarding the production of wine, from 2 million hl in 2014 to 2.8 million hl in 2018. Romania registered a growth of 38% regarding the production of wine, from 3.7 million hl in 2014 to 5.1 million hl in 2018.

On the other hand, the highest decrease in wine production was represented by China with -33%, in 2018 (9.1 million hl) compared to 2014 (13.5 million hl). Greece also registered a decrease in wine production with -21% in 2018 (2.2 million hl) compared to 2014 (2.8 million hl) (Figure 3).

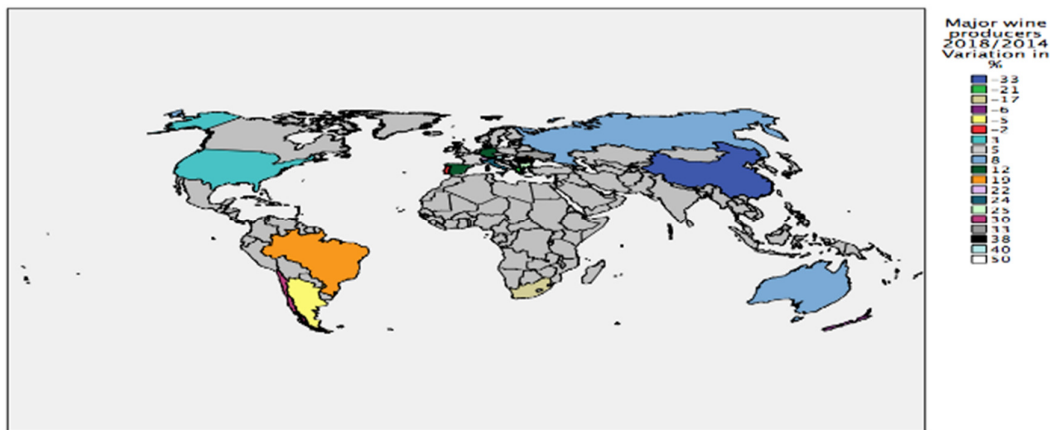


Figure 3. Main wine producers at the worldwide level 2018/2014 [%]

Source: Authors' own processing with SPSS 20.00 software for Windows

At the level of the European Union, there are several types of wines: wines with Controlled Designation of Origin, wines with Geographical Indication and Varietal wines. Making an analysis of the dynamics of the area under vines for wines with Controlled Designation for Origin, there can be underlined that this area was reduced with 1,279,017 ha (62.04%) in 2019, compared to 2010 (Table 3).

The areas under vines for wines with Controlled Designation of Origin underwent variations at the level of the European Union's countries in 2019 compared to 2020. Thus, two of the 14 European Union's states had a growth: Austria (7.27%), Czech Republic (4.18%) (Figure 4). Also, the proportion of the area under vines for wines with Controlled Designation of Origin in the total underwent variations in 2019 (Figure 5).

Table 3. Areas under vines for wines with Controlled Designation of Origin, in European Union's countries- ha [2010-2019]

State	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bulgaria	29,664	27,017	15,082	15,095	15,284	15,355	2,519	2,729	3,155	2,746
Czechia	17,169	17,313	17,240	17,359	17,515	17,557	17,500	17,603	15,442	17,887
Germany	102,660	102,626	102,553	102,766	102,807	102,819	102,696	65,670	65,881	69,212
Greece	13,114	13,086	12,047	11,355	11,230	12,227	12,318	12,311	12,330	12,527
Spain	861,948	821,396	813,470	827,489	828,756	340,184	384,059	386,565	323,942	322,237
France	526,700	519,642	520,385	516,383	514,432	514,003	508,742	514,505	595,193	84,338
Croatia	0	0	0	0	14,813	18,991	18,722	18,575	18,123	17,814
Italy	274,653	284,579	314,627	335,759	341,070	344,741	120,728	91,712	82,152	89,792
Cyprus	1,034	941	936	690	616	0	0	0	0	0
Hungary	33,596	31,878	51,199	46,430	46,652	53,480	43,436	50,934	306	302
Austria	45,533	46,092	46,711	47,701	47,237	47,255	47,583	48,282	48,863	48,845
Portugal	96,184	94,390	92,976	84,255	80,133	78,831	84,408	83,861	84,525	86,529
Romania	25,968	27,717	28,386	30,147	31,532	2,786	2,754	3,279	3,375	302
Slovenia	16,177	16,041	16,172	16,110	15,997	0	15,466	15,452	15,502	15,362
Slovakia	17,227	16,919	16,886	16,771	16,484	17,578	16,739	15,890	14,699	14,717
Total	2,061,627	2,019,637	2,048,670	2,068,310	2,084,558	1,565,807	1,377,670	1,327,368	1,283,488	782,610

Source: DG Agri, <https://agridata.ec.europa.eu/extensions/DashboardWine/WineProduction.html>, accessed on 12.03.2020

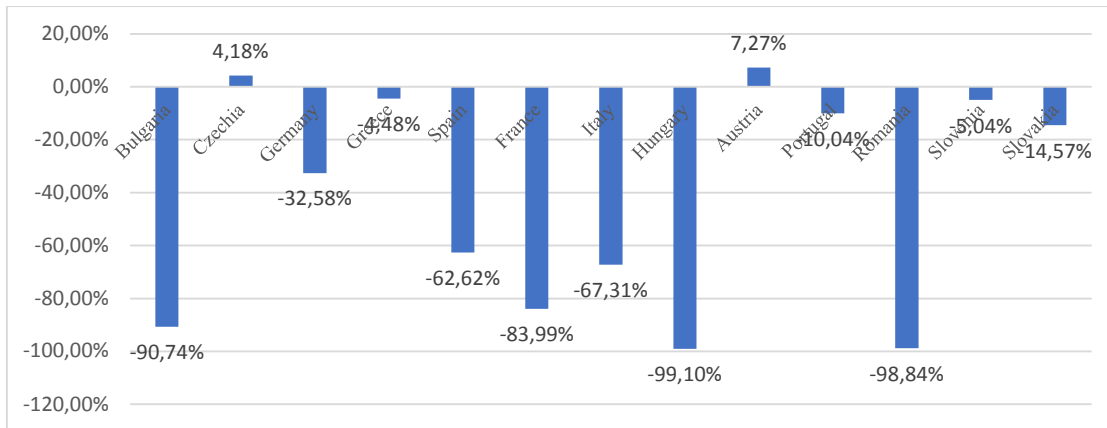


Figure 4. Main vineyards for wines with Controlled Designation of Origin in European Union 2019/2010 [%]

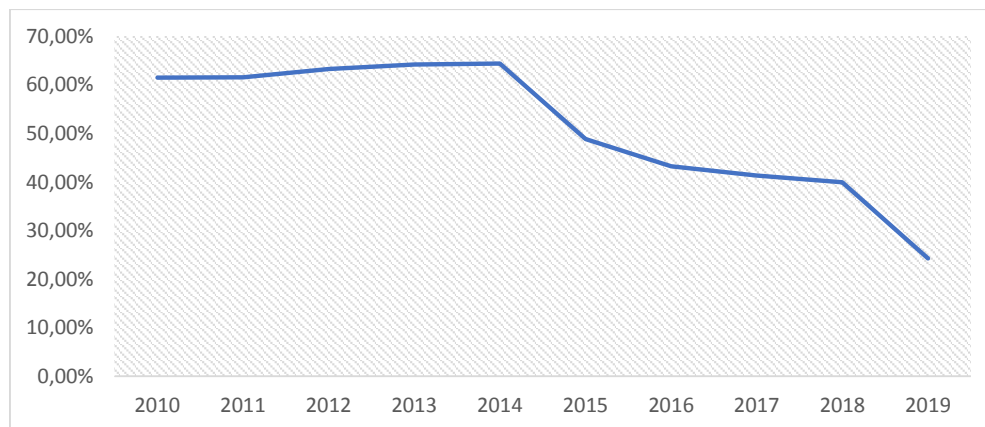


Figure 5. Dynamics of main vineyards for wines with Controlled Designation of Origin in European Union 2019 [%]. Source: DG Agri, <https://agridata.ec.europa.eu/extensions/DashboardWine/WineProduction.html>, accessed on 12.03.2020

In Romania, based on the degree of quality and ripeness of the grapes, the wines can be (<https://domeniulbogdan.ro/blog/cum-clasificam-vinurile-si-ce-soiuri-de-struguri-sunt-cele-mai-cautate/>):

- Table wines, with an alcoholic strength between 8.5 and 9.55. These wines are intended for current consumption.
- Wines of superior quality, which have on the label the following notations: VS, IG or VSIG- with reference to the geographical origin, as well as the mention of the grape variety from which they were produced. They have an alcoholic strength of at least 9.5%.
- Wines with controlled designation of origin represent the wines DOC of the first quality, with a strength of at least 11% and a sugar content of 190 grams per liter. At the same time, these can also be wines of controlled designation of origin by steps of quality (DOCC).

The global wine consumption at the level of the year 2018 was 246 million of hectoliters. Portugal registered the highest growth of wine consumption, from 4.3 million hl in 2014, to 5.5 million hl in 2018. Mexico registered a growth of 28.6% regarding the wine consumption, from 0.9 million hl in 2014 to 1.2 million hl in 2018.

On the other hand, the highest decrease in wine consumption was registered in Chile with -22.2%, in 2018 (2.3 million hl) compared to 2014 (3.0 million hl). Austria also registered a decrease in wine consumption with -22.2% in 2018 (2.3 million hl) compared to 2014 (3.0 million hl) (Figure 6).

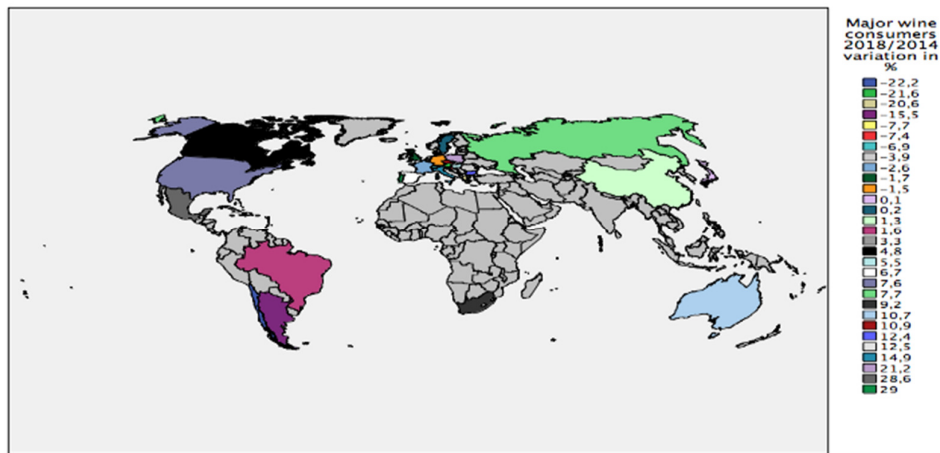


Figure 6. Major wine consumers at the worldwide level 2018/2014 [%]
Source: Authors' own processing with SPSS 20.00 software for Windows

China had the highest variation in percentage regarding the wine imports in 2018 compared to 2014, registering an increase of 79%, from 3.8 million hl in 2014, to 6.9 million hl in 2018. Nederland registered a growth of 11% regarding the wine imports, from 3,8 million hl in 2014 to 4.2 million hl in 2018 (Figure 7).

New Zealand had the highest variation in percentage regarding the wine exports, registering an increase of 45%, from 1.9 million hl in 2014, to 2.6 million hl in 2018. South Africa registered a growth of 25% regarding the wine exports, from 4.2 million hl in 2014 to 5.3 million hl in 2018 (Figure 8).

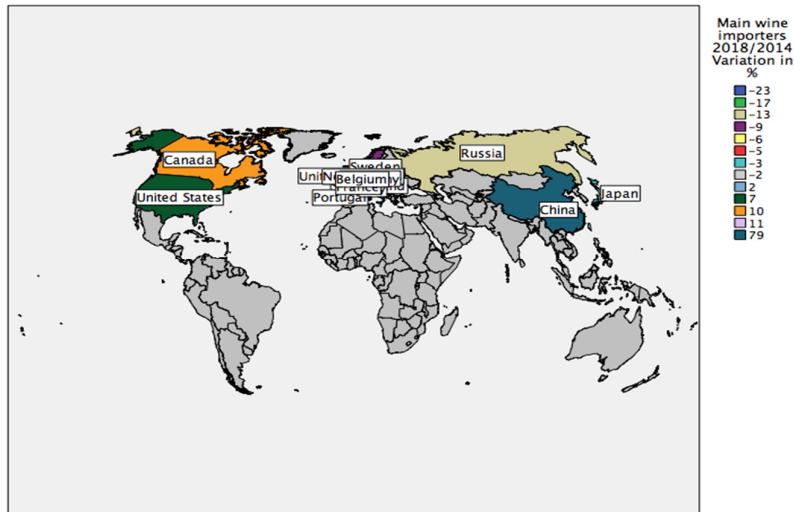


Figure 7. Main wine importers the worldwide level 2018/2014 [%]

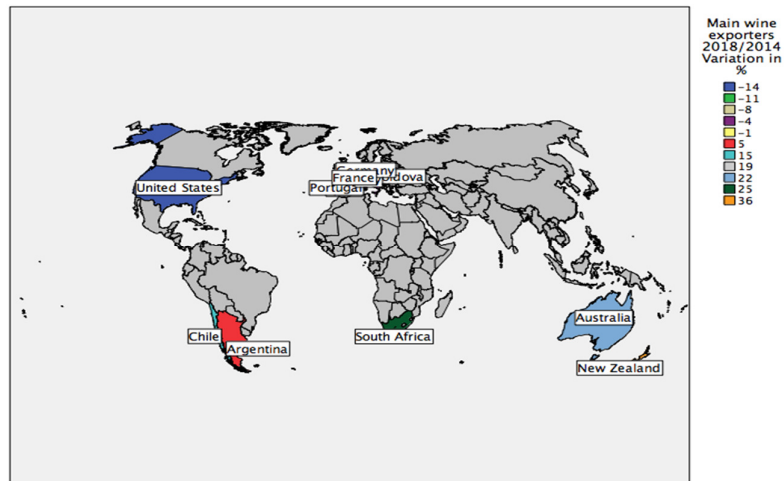


Figure 8. Main wine exporters the worldwide level 2018/2014 [%]
Source: Authors' own processing with SPSS 20.00 software for Windows

Results and Discussion

Competitiveness growth of wine producers through the National Support Programme 2009-2013

In 2008, the reform of the wine market was organized in order to increase the competitiveness of the wine producers from the European Union, on one hand and, on the other hand, to achieve a balance between the demand and the supply of wine, according to Council Regulation (EC) No 479/2008.

However, in 2013, another reform took place, which aimed at harmonizing, rationalizing and simplifying the provisions of the Common Agricultural Policy (CAP), adopted during the previous reforms.

The National Support Programme was the instrument by which the member States had the opportunity to customize their financial support, depending on their specific situation. Till the present times, two support

programmes were already implemented (2009-2013 and 2014-2018) and one program is still going on for the period 2019-2023.

Analysing the National Support Programme 2009-2013, the financial allocation was 5,315,092 thousand euro for 11 measures (Table 4):

- Single payment Scheme Support;
- Promotion;
- Restructuring and conversion of vineyard;
- Ongoing plans;
- Green harvesting;
- Mutual funds;
- Harvest insurance;
- Investments in enterprises;
- By-product distillation;
- Potable alcohol distillation;
- Crisis distillation;
- Use of concentrated grape must.

The data from the Table 4 reveals that the most substantial allocation is related to the measure aimed at restructuring and reconversion of the areas under vines, respectively the elimination of hybrid wines from plantations through conversion with noble vines.

Table 4. Financial allocation within National Support Programme 2009-2013

No. crt.	Support measure	Financial allocation (thousand euro)	(%)
1.	Single Payment Scheme support	509,715	9.59%
2.	Promotion	623,747	11.74%
3.a	Restructuring and conversion of vineyard	2,124,443	39.97%
3.b	Ongoing Plans	167,041	3.14%
4.	Green harvesting	56,835	1.07%
5.	Mutual funds	0	0.00%
6.	Harvest insurance	129,117	2.43%
7.	Investment in enterprises	552,941	10.40%
8.	By-product distillation	451,699	8.50%
9.	Potable alcohol distillation	358,509	6.75%
10.	Crisis distillation	84,217	1.58%
11.	Use of concentrated grape must	256,828	4.83%
	Total	5,315,092	100.00%

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

The phenomenon of replacing the hybrid vine surface with rooted grafts led to plantations with noble vines, as well as to the replacement of old vines with those from modern new clones. This measure had a major contribution to the rejuvenation of the vineyard heritage and to the modernization of its structure, improving the structure of the grape varieties based on the market requirements. This can be strengthened by the fact that a vine plantation remains in exploitation for more than 40 years.

The European Union member states took advantage of the financial funds allocated to the National Support Programme 2009-2013, especially Italy, Spain and France, which together spent 78.72% of the total amount for this programme (Figure 9).

The results of the National Support Programme 2009-2013 at the level of the European Union countries were (Figure 10):

- An area of 307,979 ha was reconverted;
- An initial budget of 2,291,484 thousand euro, majorated to 2,343,105 thousand ha;
- An average financial allocation per ha of 7,608 euro/ ha.

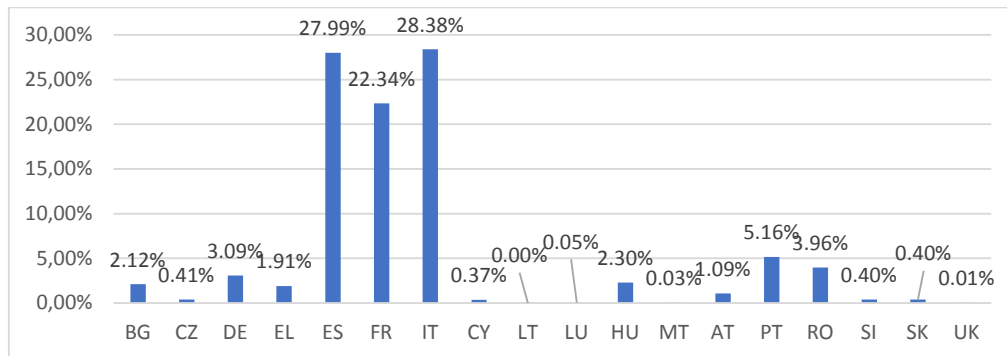


Figure 9. Financial funds allocated to the National Support Programme 2009-2013 by EU member states [%]

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

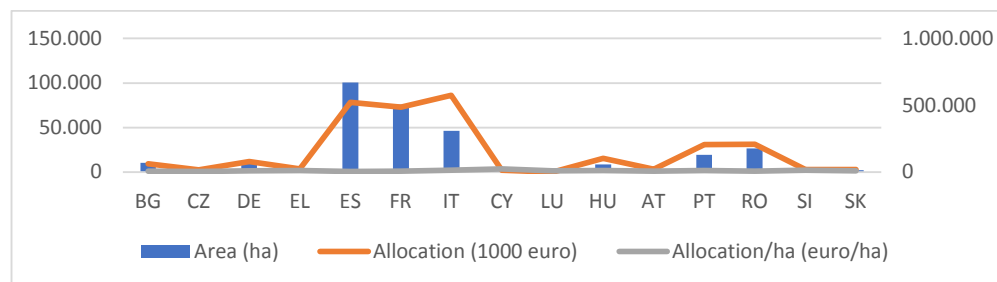


Figure 10. Results of the National Support Programme 2009-2013 by EU member states [%]

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

For Romania, the results of the implementation of the National Support Programme 2009-2013 were (<https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020):

- An initial budget for restructuring and reconversion of 205,232 thousand euro;
- A final financial allocation of 206,569 thousand euro;
- A reconverted area of 26,704 ha;
- An average financial allocation per ha of 7,736 euro/ha.

Competitiveness growth of wine producers through the National Support Programme 2014-2018

Analysing the National Support Programme 2014-2018, the financial allocation was 6,241,206 thousand euro for 9 measures (Table 5):

- Single payment Scheme Support;
- Promotion;
- Restructuring and conversion;
- Replanting of vineyards for health or phytosanitary;
- Green harvesting;
- Mutual funds;

- Harvest insurance;
- Investments in enterprises;
- Innovation;
- By-product distillation.

Table 5. Financial allocation within National Support Programme 2014-2018

No. crt.	Support measure	Financial allocation (thousand euro)	(%)
1.	Single Payment Scheme support	735,295	9.59%
2.	Promotion	1,094,112	11.74%
3.a	Restructuring and conversion	2,654,545	39.97%
3.b	Replanting of vineyards for health or phytosanitary	1,440	3.14%
4.	Green harvesting	23,930	1.07%
5.	Mutual funds	0	0.00%
6.	Harvest insurance	129,657	2.43%
7.	Investment in enterprises	1,200,467	10.40%
8.	Innovation	1,010	8.50%
9.	By-product distillation	400,750	6.75%
	Total	6,241,206	100.00%

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

The European Union member states took advantage of the financial funds allocated to the National Support Programme 2014-2018, especially Italy, Spain and France, which together spent 77.76% of the total amount for this programme (Figure 11).

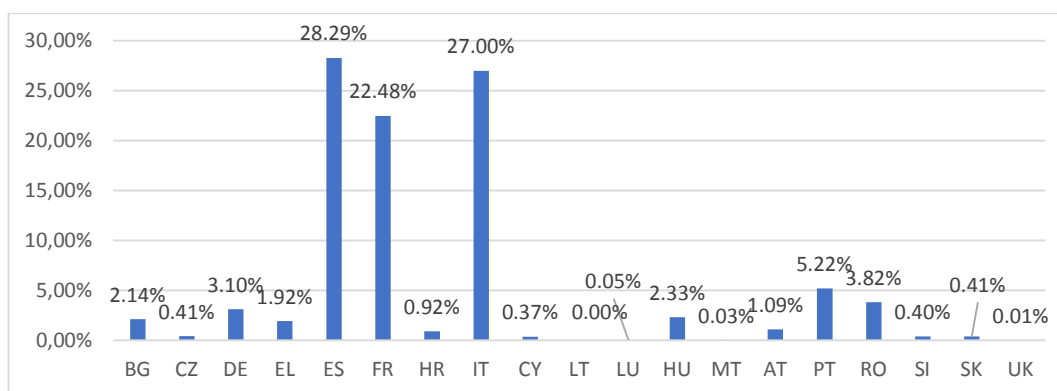


Figure 11. Financial funds allocated to the National Support Programme 2014-2018 by EU member states [%]

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

The results of the National Support Programme 2014-2018 at the level of the European Union countries are (Figure 12):

- An area of 385,171 ha was reconverted;
- An initial budget of 2,655,985 thousand euro, majorated to 2,654,812 thousand ha;
- An average financial allocation per ha of 6,894 euro/ ha.

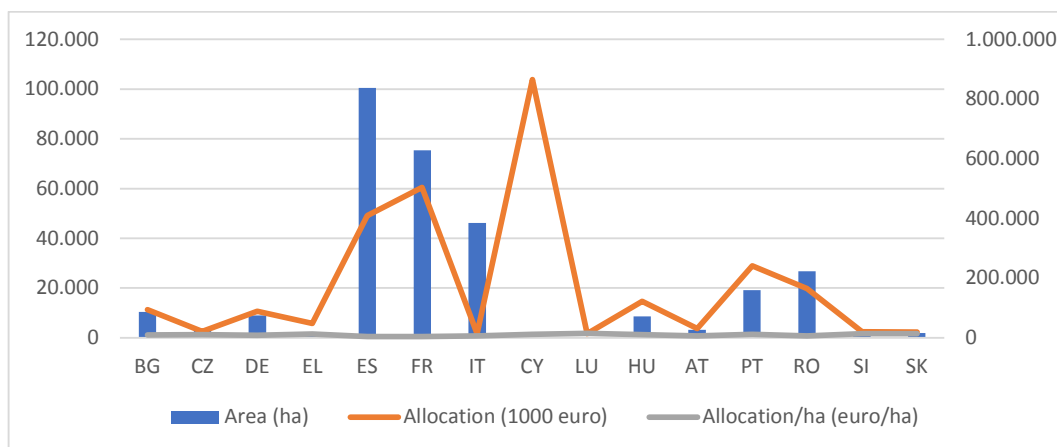


Figure 12. Results of the National Support Programme 2014-2018 by EU member states [%]

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

For Romania, the results of the implementation of the National Support Programme 2014-2018 were (<https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020):

- An initial budget for restructuring and reconversion of 191,050 thousand euro;
- A final financial allocation of 164,915 thousand euro;
- A reconverted area of 23,186 ha;
- An average financial allocation per ha of 7,113 euro/ha.

Competitiveness growth of wine producers through the National Support Programme 2019-2023

Analysing the National Support Programme 2019-2023, the financial allocation was 6,041,436 thousand euro for 9 measures (Table 6):

- Single payment Scheme Support;
- Promotion and Information;
- Restructuring and conversion;
- Replanting of vineyards for health or phytosanitary;
- Green harvesting;
- Mutual funds;
- Harvest insurance;
- Investments in enterprises;
- Innovation;
- By-product distillation.

The European Union member states took advantage of the financial funds allocated to the National Support Programme 2019-2023, especially Spain, Italy and France, which together spent 80.33% of the total amount for this programme at 30th of June 2020 (Figure 13).

Table 6. Financial allocation within National Support Programme 2019-2023

No. crt.	Support measure	Financial allocation (thousand euro)	%
1.	Single Payment Scheme support	719,295	11.91%
2.	Promotion and Information	1,132,439	18.74%
3.a	Restructuring and conversion	2,274,724	37.65%
3.b	Replanting of vineyards for health or phytosanitary	2,500	0.04%
4.	Green harvesting	28,500	0.47%
5.	Mutual funds	0	0.00%
6.	Harvest insurance	15,927	0.26%
7.	Investment in enterprises	1,414,124	23.41%
8.	Innovation	975	0.02%
9.	By-product distillation	452,952	7.50%
	Total	6,041,436	100.00%

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

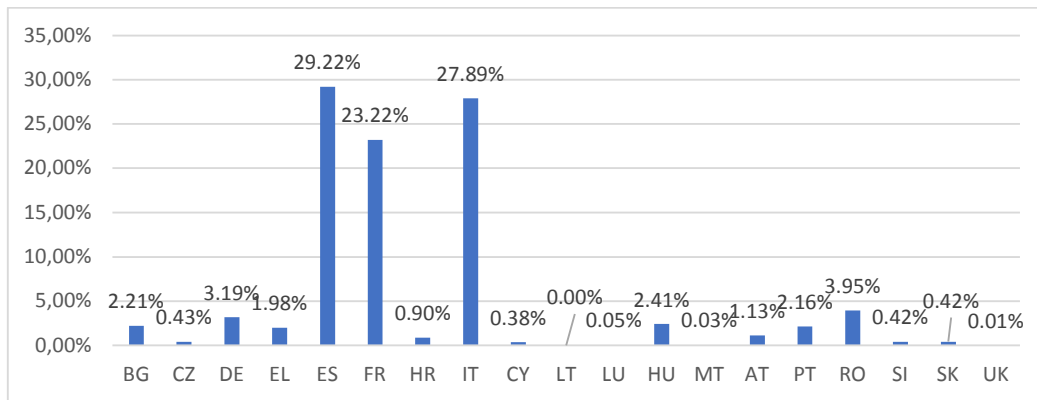


Figure 13. Financial funds allocated to the National Support Programme 2014-2018 by EU member states [%]

Source: Authors' own analysis, <https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020

Competitiveness of wine producers from Romania

Romania is an important European country from the point of view of wine industry, the various wines it produces are known for their quality. With an area of around 180,000 ha cultivated with vines which, in 2016, represented 1.42% of its agricultural area and 2.28% of arable area, Romania ranks the 5th position in the European Union, after Spain, Italy, France and Portugal. (<https://ec.europa.eu/info/food-farming-fisheries/farming/facts-and-figures/markets/overviews/market-observatories/wine#overview>, accessed on 10.03.2020)

According to the data of the National Institute of Statistics (INS), the total area occupied by vineyards decreased by 5.40%, from 187,629 ha in 2007 to 177,497 ha in 2018 (Figure 14).

Analysing the area under productive hybrid vines, we can observe a negative trend during the analysed period, as a result of the implementation of the National Support Programme for viticulture 2007-2013 and the National Support Program 2014-2018 for Romania in the wine sector.

The decrease of the areas under hybrid vineyards leads to the premises of qualitative development of the Romanian wine market, also sustained by the favourable legislative framework to the increase in areas under grafted vines.

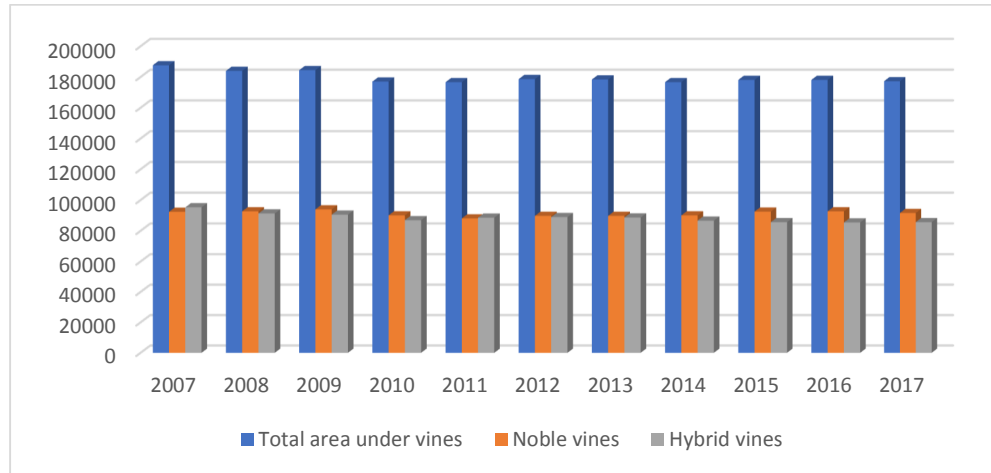


Figure 14. Evolution of the areas under productive vines in Romania 2007-2018 [ha]
 Source: Authors' own analysis, The Statistical Yearbook of Romania, 2007-2018

Conclusions

This study explores the determinants of vine and wine industry, by analysing the impact of the National Support Programmes 2009-2013; 2014-2018; 2019-2023. The National Support Programme was the instrument by which the member States had the opportunity to customize their financial support, depending on their specific situation. Till the present times, two support programmes were already implemented (2009-2013 and 2014-2018) and one program is still in progress for the period 2019-2023. Romania is an important European country from the point of view of wine industry, the various wines it produces are known for their quality. However, the countries that took the most of the advantage of the financial funds allocated through the National Support Programmes, were: Italy, Spain and France, which together spent more than 70% of the total amount for each of these programs.

Authors' Contributions

Conceptualization: NM, GL, MMT and CD; Formal analysis: NM, GL, MMT and CD; Methodology: NM, GL, MMT and CD; Validation: NM, GL, MMT and CD; Writing - original draft: NM and CD; Writing - review and editing: RL and MMT. All authors read and approved the final manuscript.

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Conflict of Interests

The authors declare that there are no conflicts of interest related to this article.

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