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THE PERFORMANCE OF GRAPE PRODUCTION IN THE CZECH REPUBLIC

Nahanga Verter[1], Lea Hasíková[2]

[1]Department of Regional and Business Economics, Faculty of Regional Development and International Development Studies, Mendel University in Brno, Zemědělska 1, 613 00 Brno, Czech Republic

[2]Department of Languages, Faculty of Regional Development and International Development Studies, Mendel University in Brno, Zemědělska 1, 613 00 Brno, Czech Republic

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Abstract

Grape is a major agrarian input for winemaking in the Czech Republic (Czechia). This contribution assesses the performance of grape production in Czechia. The country's performance is compared with Slovakia and some major producing countries in the world. Using the OLS approach, the results show that area harvested, yields, farm gate price and wine export have a positive relationship with grape production in Czechia. The descriptive approach shows Czechia as a net importer of wine. Also, grape yields in Czechia and Slovakia have been below the EU and global averages. These two countries' wine exports have been concentrated in few markets within the EU single market.

There is a need for grape farmers in the countries to find ways to improve yield per hectare. Similarly, export promotion should be encouraged and diversified beyond the EU markets to reduce external demand volatility or shocks. Arguably, this measure may accelerate foreign earnings from grape and wine related export products in the country.

Keywords: area harvested, Czechia, EU, price, wine, yield

INTRODUCTION

Grape (Vitis vinifera) as a kind of fruit, grows in clusters. The fruit is an industrial product widely planted by both smallholder and large-scale farmers worldwide. Globally, the fruit is substantially used for winemaking. The product is also eaten fresh or used for raisins, juice, vinegar, jelly, seed oil, and seed extract.

Even though the Czech Republic (Czechia) is widely well-known for beer production and consumption, wine is also produced and consumed in the country. The most important input (crop) used for winemaking in the country are grapes, substantially grown in the South Moravian region (Žufan, 2004; Hejmalová and Šperková, 2011; Kučerová, 2014; Svobodová *et al.*, 2014; Syrovátka *et al.*, 2015). Prior to the Czechia joining the European Union (EU), there were high expectations that all facets of agricultural activities, such as grape production would be improved. Wine grape industries, and small holder farmers expected with a specific strategic hope, that through the EU Common Agricultural Policy (EU CAP), their productivity and competitiveness might be intensified (Tomšik, 2002). Similarly, after

accession in 2004, the total acreage of vineyards steadily improved. The structure of the grape wine on and industry changed in the positive direction. In 2004, the applicants for subsidies received also increased between 2004 and 2010 (Sedlo and Tomšik, 2012). Nonetheless, grape output in Czechia has not been substantially improved as expected.

Various factors can affect grape production. The factors vary from region to region within a nation, which could be partially due to the unique aspects of nature. Grapes are specifically sensitive to climate change because of the intrinsic connection between the climate and its features. The climate change affects the quality of grapes produced (Seguin and de Cortazar, 2005; Berli *et al.*, 2008; Webb *et al.*, 2008; de Orduna, 2010; Vlahović *et al.*, 2012; van Leeuwen and Darriet, 2016), as well as the quantity and yield per hectare (Bindi *et al.*, 1996; Bock *et al.*, 2013; Mozell and Thach, 2014; Petrović *et al.*, 2015; Fraga *et al.*, 2016). Similarly, frost injury and ice damage, diseases, labour cost and availability (Milić *et al.*, 2016; Centinari *et al.*, 2016), technology, consumption patterns (Žufan, 2004), and prices in countries, such as Australia (Zhao *et al.*, 2003; Oczkowski, 2014), Czechia and Slovakia might affect production and market supply (Tomšik *et al.*, 2016).

Although the above studies have attempted to underline some factors that influence grape cultivation and output in countries, empirical evidence on this topic in Czechia appears to be scanty, thus, the rationale for this study. The main objective of the study is to assess the performance of grape production in Czechia. The country's performance will be compared with Slovakia and some major producing countries in the world.

MATERIALS AND METHODS

The statistical data for the study are obtained from the Food and Agriculture Organization of the United Nations (FAO); and International Trade Centre (ITC) for the period 1993–2016. The study is both descriptive and empirical in nature. To determine some drivers of grape production in Czechia, a multivariate regression is specified as follows:

$$QGP_t = \beta_0 + \beta_1 GAH_t + \beta_2 GYPH_t + \beta_3 LOANS_{t-1} + \\ + \beta_4 PP_{t-1} + \beta_5 QGWX_t + \beta_6 QGWIM_{t-1} + \varepsilon_t \quad (1)$$

Where: QGP_t denotes the annual quantity of grape production (tonnes). In this work, grape production and grape output are used interchangeably. GAH_t stands for the annual area of grapes harvested (hectare- ha), known as the hectare of land under grape cultivation. $GYPH_t$ denotes grape yield per hectare in the country, measured in kilogram per hectare (kg/ha). $LOANS_{t-1}$ stands for the lagged of loans to agricultural producers in Czechia (local currency – CZK) to finance their farming related activities. PP_{t-1} stands for lagged of annual producer price for raw grapes, also known as farm gate price, paid per tonne. The PP is calculated in Czech local currency per tonne (LCU/tonne). $QGWX_t$ denotes the annual quantity of grape wine export (tonnes) from Czechia to other countries. $QGWIM_{t-1}$ denotes the lagged of annual quantity of grape wine import (tonnes); and ε_t denotes the error term.

These variables in the model are chosen because the authors think that they are likely to determine the direction of grape production in the country. Furthermore, these are the only variables the authors have access to within the period under study. The theoretical or prior expectation is for all the variables (except import) having a positive influence on grape production in Czechia. It is important to reiterate that the short form of the Czech Republic, Czechia is used in this contribution. To avoid reporting spurious regression findings, a unit root test, Augmented Dickey-Fuller (ADF) coined by Dickey and Fuller (1979), to test for a stationary time series data is applied prior to Ordinary Least Squares (OLS) regression estimation.

RESULTS AND DISCUSSION

Descriptive analysis: Grapes as integral agrarian input in winemaking, areas planted/harvested worldwide, rather than increase, it slowly decreased from 7.6 million hectares in 1993 to 7.1 million in 2016. Nonetheless, except for the EU (or Europe as a whole), the area harvested in China, the USA, Asia, Africa and the Americas increased within the period under study. The area of grape harvested in the EU substantially decreased from 4.3 million hectares (or 56.2 % of the world harvested area) in 1993 to 3.13 million hectares (or 44.1 % of the world harvested area) in 2016 (Tab. I). Arguably, the downward trend might be partly because of the EU's CAP effort to curtail overproduction of some crops within its member countries.

Notwithstanding, Spain was the largest cultivator of grape in the world regarding area harvested (13 % of global land cultivated) in 2016 (Tab. I), but the fifth largest producer of the crop in raw quantity output (7.7 % of the world output) in

the same year (Tab. II). It implies that China, France, Italy, and Spain have been the largest producers of grapes partly owing to their large farms as compared to other producing countries. Even though the grape area planted in Czechia has been far below the largest producers, and fluctuated, it increased from 11 thousand hectares in 1993 to over 16 thousand hectares in 2016. On the hand, the area harvested in Slovakia drastically reduced from about 27 thousand hectares in 1993 to 9 thousand hectares in 2016 (Tab. II).

Grape yield per hectare in Czechia, Slovakia and some leading producing countries in the world is presented in Fig. 1. Global yield fluctuated but increased during the study under review, from 7,367 kg/ha in 1993 to 10,912 kg/ha in 2016. In 2016, Peru recorded highest in the world, with 24,689 kg/ha. It was followed by Egypt (22,930 kg/ha), India (21,230 kg/ha), Vietnam (21,125 kg/ha), while China recorded 7th (17,599 kg/ha), the USA 8th (17,314 kg/ha), Italy 18th (12,277 kg/ha), France 43rd (8,250 kg/ha) and Spain 57th (6,450 kg/ha) positions in grape yield per hectare in the world (FAO, 2017). Arguably, some of those countries have been among the leading grape producers not only due to yields, but also occasioned by their vast area planted/harvested.

However, the reverse has been the case in Czechia and Slovakia as these countries recorded 67th (4,805 kg/ha or 5.3 t/ha), and 73rd (4,343 kg/ha or 4.8 t/ha) respectively in the global grape yields in 2016. Czechia highest yields were recorded in 1994 with 6.14 t/ha and lowest in 2010 with merely 2.9 t/ha. On the other hand, Slovakia, yields were recorded in 2015 with 5.7 t/ha and lowest in 1995 with merely 2.55 t/ha. As shown in Fig. 1, yields in the countries vary from year to year due to some specific factors. Arguably, the application of modern farm inputs and technologies may have partially contributed to high grape yields in advanced economies.

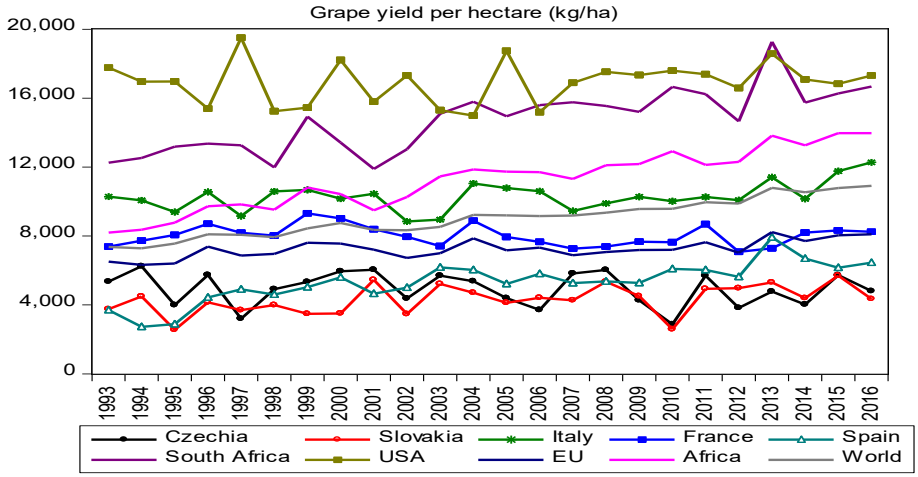
Surprisingly, grape yields per hectare in Czechia and Slovakia have not only been below the EU, but also Africa and the world averages (Fig. I) even though these countries are advanced in grape production. What are the possible factors that have militated grape yields in these countries? Soil fertility, climate change and diseases have been identified as among the constraints militating grape yields (Bindi *et al.*, 1996; Bock *et al.*, 2013; Fraga *et al.*, 2016) in countries, such as Czechia (Sedlo and Tomšik, 2012). Sadly, grape farmers hardly receive any compensation when their output falls due to adverse weather conditions and diseases (Tomšik *et al.*, 2016).

The global grape production (output) rose from about 56 million tonnes in 1993 to 77.4 million tonnes in 2016. This upward trend has been recorded partly because of the increase in area harvested, and yields occasioned by high

I: *Grape area harvested (ha, '000) in Czechia and some leading producers in 2016*

Economy/indicator	1993		2000		2005		2010		2014		2016	
	ha	Share	ha	Share	ha	Share	ha	Share	Ha	Share	ha	Share
Spain	1,235	16.3	1,168	15.9	1,161	15.8	1,002	14.2	931	13.1	920	13.0
China	139	1.8	286	3.9	411	5.6	555	7.9	770	10.8	843	11.9
France	902	11.9	861	11.7	855	11.6	772	10.9	758	10.6	757	10.7
Italy	948	12.5	873	11.9	793	10.8	778	11.0	703	9.9	668	9.4
Turkey	567	7.5	535	7.3	516	7.0	478	6.8	467	6.6	535	6.1
USA	308	4.1	383	5.2	378	5.1	385	5.5	419	5.9	410	5.8
Czechia	11	0.15	11	0.15	14	0.19	16	0.23	16	0.22	16	0.22
Slovakia	27	0.35	18	0.24	13	0.18	8	0.12	9	0.12	9	0.12
World total	7,574	100	7,338	100	7,373	100	7,048	100	7,125	100	7,097	100
Americas	769	10.1	873	11.9	910	12.3	958	13.6	1,004	14.1	1,001	14.1
Africa	316	4.2	308	4.2	336	4.6	325	4.6	350	4.9	350	4.9
Asia	1,638	21.6	1,660	190.2	1,788	24.3	1,832	26.0	2,100	29.5	2,1223	29.9
Europe	4,787	63.2	4,375	59.6	4,165	56.5	3,736	53.0	3,499	49.1	3,447	48.6
EU	4,256	56.2	3,979	54.2	3,778	51.2	3,391	48.1	3,181	44.7	3,132	44.1

Source: Compiled from FAO.
Note: share denotes proportion (% of global harvested area)



1: *Grape yields (kg/ha) in Czechia, Slovakia and some leading producing economies, 1993–2016*
Source: Compiled from FAO

breed varieties and modern technologies. Also, the upward demand for wine of fresh grape in both cultivating and consuming economies may have stimulated its production. Additionally, despite the numerous challenges that grape farmers have faced, the crop is still a major input for wine and fruit juice processing in Czechia, Slovakia, and some grape producing and importing countries.

The statistical evidence also shows that even though the EU share of production dwindled from about 28 million tonnes (or 50 % of global grape output) in 1993 to approximately 25.4 million tonnes (33 % of global grape output) in 2016, it was still up to 1/3 of the world's grape production (Tab. II). Also, under the auspices of the WTO, the EU CAP has been compelled to reduce domestic support and export subsidies to its producers and exporters that distort market signals. As earlier pointed out, the EU's grape production and competitiveness in the world fluctuated partly because of the CAP measures.

Just as the EU's sluggish performance, the volume of grape output in Czechia and Slovakia also steadily declined from 165 thousand tonnes or accounting for 0.30 % (Czechia 0.11 % and Slovakia 0.19 %) of global output in 1993 to about 114 thousand tonnes or accounting for 0.15 % (Czechia 0.10 %, and Slovakia 0.05 %) of

II: *Czechia, Slovakia and five major global grape producers (raw quantity, tonnes, '000) in 2016*

	1993			2000			2010			2014			2016		
	Qty	Rank	Share	Qty	Rank	Share	Qty	Rank	Share	Qty	Rank	Share	Qty	Rank	Share
China	1,520	8	2.72	3,373	6	5.20	8,652	1	12.85	12,628	1	17.0	14,843	1	19.17
Italy	9,750	1	17.46	8,870	1	13.68	7,789	2	11.57	6,931	3	9.30	8,202	2	10.59
USA	5,464	3	9.78	6,974	3	10.75	6,778	3	10.07	7,152	2	9.60	7,098	3	9.17
France	6,657	2	11.92	7,763	2	11.97	5,894	5	8.75	6,173	5	8.29	6,247	4	8.07
Spain	4,568	4	8.18	6,540	4	10.08	6,108	4	9.07	6,223	4	8.35	5,934	5	7.66
Czechia	61	53	0.11	67	53	0.10	46	59	0.07	64	56	0.09	76	52	0.10
Slovakia	104	49	0.19	59	58	0.09	21	69	0.03	38	63	0.05	38	61	0.05
World total	55,853	-	100	64,849	-	100	67,325	-	100	74,500	-	100	77,439	-	100
Asia	11,742	-	21.0	14,541	-	22.4	20,089	-	29.8	26,378	-	35.4	28,918	-	37.34
Americas	10,271	-	18.4	13,124	-	20.2	14,316	-	21.3	14,841	-	19.9	13,659	-	17.64
Europe	30,418	-	54.5	32,576	-	50.2	26,781	-	39.8	26,636	-	35.8	27,797	-	35.90
EU	27,811	-	49.8	30,304	-	46.7	24,621	-	36.6	24,400	-	32.8	25,374	-	32.77

Source: Compiled from FAO
Note: Rank = global ranking; share= proportion (%) of global production

global production in 2016 (Tab. II). This shows that the trend in grape output and the positions of these two countries in the world have changed tremendously in the opposite direction during the period under study. Nonetheless, Czech performance has surpassed Slovakia during the period under review.

Global wine production rose from about 26 million tonnes in 1993 to over 29 million in 2014. Notwithstanding, as experience in grape output, even though Italy, Spain and France recorded as the first, second, and third largest wine producers in the world, the annual output in these countries declined during the period under review. Although Czechia ranked 30th in Wine production in the world, it's annual wine output has steadily increased, albeit at a slow pace, the global share has remained the same (Tab. III).

Arguably, given that grapes are largely used for wine production, the demand for the products for winemaking and consumption might be intensified (Anchor and Lacinová, 2015). This to some extent would stimulate farmers to increase production to supply to the market for additional earnings (Hejmalová and Šperková, 2011).

Historically, Slovakia and Czechia has experienced intra-industry trade in wine products, as both countries have been the largest trading partner with one another (Kučerová, 2014). Nonetheless, wine trade between the two economies has not been solely depended on domestic production. Evidence from studies has proven that imported wine varieties to these countries are re-exported (Tomšik and Sedlo, 2013). Tab. IV presents the top export destinations for Czech and Slovak wine of fresh grapes (SITC 2204) in 2016. Slovakia, Poland, China, and Germany, recorded as the leading wine of fresh grapes importing countries from Czechia in 2016. Similarly, Czechia, China, Japan, and Italy were the leading importers of wine from Slovakia in the period under scrutiny.

A critical look at the export destination shows that Slovakia (heavily concentrated in Czechia, accounted for over 91 %) has been highly volatile more than Czechia (substantially concentrated in Slovakia 43 % and Poland about 27 %) in 2016 (Tab. IV). Arguably, the vulnerability of these two countries to shocks within their destination partners has been intensified. This might be partially the reason why the average export growth rate (quantity) for the period 2012–2016 drastically declined by –23 % in Czechia. On the other hand, the average export growth rate (quantity) in Slovakia increased by 9 % within the period 2012–2016 under study (Tab. IV).

The growth potential of demand and the market size might have been the factors that drive the attractiveness of Czechia and Slovak wine markets (Kučerová, 2014). Nevertheless, there is a need for market diversification (Zdráhal and Bečvářová, 2018) for grape products beyond the European borders to reduce global market shocks, stimulate competitiveness, and for more earnings to be ensured.

Even though there is market access to wine export within the EU borders, non-EU countries charge import duties. For instance, as shown in Tab. IV, import duties applied (most favoured nations-MFN) on Czech wine (SITC 2204 wine of fresh grapes) in Japan 15.6 %, China 14.7 %, Russia 14.1 %, Switzerland 13.4 %, Japan 11.4 %, and Ukraine 10.8 % in 2016 (ITC, 2017). Arguably, high import duties may have partially impeded Czech

III: *Czechia, Slovakia and top wine producers ('000 tonnes, share) in the world in 2014*

Indicators		1993		2010		2014	
Rank	**Economy**	**Tonnes**	**Share**	**Tonnes**	**Share**	**Tonnes**	**Share**
1	**Italy**	6,267.2	24.20	4,469.3	16.54	4,796.6	16.48
2	**Spain**	2,650.7	10.24	3,610.0	13.36	4,607.9	15.83
3	**France**	5,331.4	20.59	4,531.7	16.77	4,293.5	14.75
4	**USA**	1,944.1	7.51	2,711.0	10.03	3,300.0	11.34
5	**China**	500.0	1.93	1,600.0	5.92	1,700.0	5.84
30	**Czechia**	45.5	0.18	46.3	0.17	52.0	0.18
36	**Slovakia**	56.1	0.22	27.8	0.10	32.5	0.11
	World total	25,895.3	100	27,028.1	100	29,105.8	100

Source: Compiled from FAO.
Note: Rank = global ranking; share= proportion (% of global output)

IV: Top importing markets for wine of fresh grapes (SITC 2204) from Czechia and Slovakia in 2016

Economy/ Indicator	Export value 2016 ($ '000)	Balance 2016 ($ '000)	Share in exports (%)	Qty (tonnes) exported in 2016	Export growth-value 2012–16 (%)	Export growth-qty 2012–16 (%)	Export growth-value 2015-16 (%.)	Average tariff faced (%)
Czechia								
Total export	25,647	–173,976	100	10,957	–12	–23	–13	–
Slovakia	11,088	2,903	43.2	6,583	–24	–30	–39	0
Poland	6,839	6,828	26.7	2,496	13	11	73	0
China	1,524	1,509	5.9	53	0	–26	1,261	14.7
Germany	1,238	–17,435	4.8	382	161	233	–26	0
Switzerland	840	821	3.3	60	123	112	–45	13.4
Hungary	726	–17,735	2.8	340	–12	–14	42	0
Romania	561	–1,703	2.2	282	–9	–3	–30	0
Belgium	435	400	1.7	98	30	46	34	0
Ukraine	332	273	1.3	48	138	147	24	10.8
Netherlands	265	49	1.0	11	9	15	-24	0
Slovakia								
Total export	14,919	–45,218	100	20,851	-8	9	–17	–
Czechia	13,615	8,840	91.3	204,21	-9	11	–18	0
China	434	434	2.9	169	10	29	10	14.7
Taipei, China	169	169	1.1	9	56	36	345	11.4
Japan	169	166	1.1	23	55	45	–5	15.6
Italy	143	–11,388	1.0	47	–	–	–42	0
Germany	81	–5,557	0.5	30	–38	-6	–	0
Russia	50	50	0.3	52	–	–	–74	14.1
Ukraine	39	39	0.3	1	–18	-43	–33	10.8
Hungary	38	–13,406	0.3	29	–45	-60	27	0
Moldova	36	–2,179	0.2	21	–	–	–	6.6

Source: Compiled from ITC

and Slovakian wine exporters, from penetrating the non-EU markets.

Czechia has been substantially a net importer of wine of fresh grapes. For instance, the country exported $ 25,647 – imported $ 199,623 = –$ 173,976, or exported 10,957 (tonnes) – imported 170,079 (tonnes) = –159,122 (tonnes) wine of fresh grapes (SITC 2204) in 2016 (Tab. IV). Arguably, Czechia could be classified as a wine consuming nation rather than a producing nation, as the country's imports significantly outweigh exports.

Finally, since Czechia has been a net consumer (Tab. IV), and wine consumption in the country has increased, it is evident that the demand for grape in the country might be intensified, which may, in turn, trigger farmers to increase grape production. It is also of great importance to emphasize that, grape output is substantially consumed at home either in raw form or after processed as wine, fruits, or in any form.

OLS regression: Since time series data are prone to spurious regression results, this contribution carried out the ADF stationary test to address the issue. Tab. V presents ADF test statistics. Even though some variables are stationary at levels, the data used in the OLS regression are all in first differences. Similarly, diagnostic checklist tests for the OLS is done, and all the diagnostic tests were fulfilled (Tab. VI, and Fig. 2).

The OLS regression result is presented in Tab. VII. The results show that all the explanatory variables in the model jointly influence grape production in Czechia. The results further signifiy a positive relationship between areas harvested (GAH) and the annual quantity of grape production in Czechia (Tab. VII). This signifies that, an increase in the area

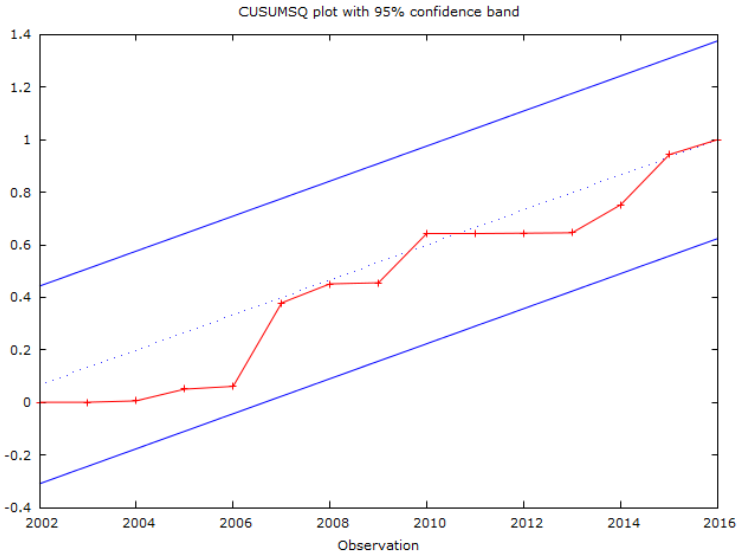
V: *ADF unit root test*

Variable	Levels	t. statistics	Variable	Levels	t. statistics
QGP	Level	–4.327***	PP	Level	–2.602
	First difference	–8.100***		First difference	–7.079***
GAH	Level	–1.573	QGWX	Level	–1.137
	First difference	–5.347***		First difference	–4.216***
GYPH	Level	–5.532***	QGWIM	Level	–1.324
	First difference	–8.609***		First difference	–5.355***
LOANS	Level	–0.448			
	First difference	–3.821***			

Note: The asterisks *** denote stationarity at 1 %

VI: *Diagnostic test of OLS model*

Test	P. value
Ramsey's RESET (squares and cubes)	0.753
Non-linearity test (squares)	0.085
Heteroskedasticity Test: White	0.177
Heteroskedasticity Test: Breusch-Pagan Godfrey	0.796
LM test for autocorrelation up to order 1	0.151
Test for normality of residual	0.969



2: *Cumulated sum of squared residuals (CUSUMSQ) test for structural stability*

harvested may lead to an increase in total grape output in the country, all things being equal.

As expected, the OLS results further suggest that grape yield per hectare (GYPH) could increase the overall annual grape production in Czechia (Tab. VII). Nonetheless, the statistical data shows that the country has been lagged behind the global averages in yield per hectare. The OLS result tallies with the works by Petrović *et al.* (2015) who also confirm a positive connection between yields and grape production in Serbia.

Contrary to the prior expectation, the finding reveals an inverse relationship between lagged loans to agricultural producers (LOANS) and grape production in Czechia (Tab. VII). This may

VII: *Some determinants of grape production (QGP) in Czechia*

Variables	Coefficient	t. statistics
d_GAH	5.796 (0.398)	14.56***
d_GYPH	13.352 (0.691)	19.32***
d_LOANS_1	–0.094 (0.036)	–2.592***
d_PP_1	0.710 (0.283)	2.513**
d_QGWX	0.367 (0.151)	2.415**
d_QGWIM_1	0.084 (0.0497)	–1.691*
R-squared	0.985	
Adjusted R^2	0.979	
F. (6, 15)	147.063***	
Durbin-Watson	2.432	

*, ** and *** denote significance at the 10 %, 5 % and 1 % levels; standard errors in parentheses

be because not all the loans are channel to grape production and other related activities.

The OLS results also show a positive connection between lagged producer price (PP) and grape production in Czechia (Tab. VII). This implies that an increase in the producer price may well stimulate grape farmers to increase production in the country. Similarly, studies by Zhao *et al.* (2003); Oczkowski (2014) also confirm that grape producers are sensitive to price changes in Australia. On the other hand, Volpe *et al.* (2010) find that grape farmers are not sensitive to price changes in California.

The OLS findings show a weak positive relationship between lagged quantity of wine import (QGWIM) and grape production in Czechia. As expected, the OLS findings show an ample positive relationship between the quantity of wine export (QGWX) and grape production in Czechia (Tab. VII). Arguably, the result suggests that all things being equal, an increase in the export of wine of fresh grapes may spur grape production in the country.

In inclusion, partially due to time series data constraint, some variables (i.e. rainfall or irrigation, labour force, insecticides, herbicides and fungicides) that may also influence grape production in Czechia were not used in this study Future researchers should use these variables and other factors in the models to verify its cause and effects on grape production in Czechia. Also, owing to the fact that the timeframe (1993- 2016) is short, all variables used after first differencing, and three lagged explanatory variables, these factors might have had implications to the findings in this study. Notwithstanding, the results indicate that area harvested, yields, price and exports have impacts on grape production in the country.

CONCLUSIONS

Given that grape is a major agrarian input for winemaking, this contribution assesses the performance of its production in Czechia, and compare with Slovakia and some major cultivating countries in the world. Using the OLS approach, the results show that area harvested, yields, price and wine export have positive effects on grape production in Czechia.

The descriptive data show that Czechia and Slovakia have experienced low grape yield per hectare relative to Africa, the EU and world averages. Similarly, Czechia has been a net consumer of wine in both tonnes and dollar terms. Also, wine products of fresh grapes have been concentrated within few EU markets. Grape farmers should adopt measures that would improve yields per hectare. In the same spirit, export promotion should be encouraged and diversified beyond the EU markets. Arguably, this measure may well reduce external demand/market volatility or shocks in the country.

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Contact information

Nahanga Verter: nahanga.verter@mendelu.cz

Lea Hasíková: lea.hasikova@mendelu.cz