A Study Of The Agriculture Of Poland And Romania In Post-Communist Period

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Abstract

In terms of size of territory and population, Poland and Romania are the largest former socialist countries, now, members of the European Union. In the last 25 years of transition to a market economy, Poland has excellent managed its natural potential and is, now, an economic model for other former socialist countries, including Romania. Poland has not experienced economic recession; its positive economic evolution was completely different from the evolution of the largest European economies, many of them facing distressful situations for long periods of time.

The question to be addressed in this paper is: „How could we explain the present success of Polish agriculture? Could the present economic realities be partially influenced by the historical evolution of a country? “ In an attempt to provide an answer to this question, the present paper will highlight the economic developments in Romania and Poland in relation to developed countries for the last about 100 years in terms of “path dependency theory” and will conduct a comparative analysis between the two countries.

Keywords: Agriculture, economic development, comparative analysis, Romania, Poland, path dependency

Introduction

The socialist model of economic and social development, applied with some particuliarities and different results in the countries of Central and Eastern Europe, collapsed at the end of 1989. This happend because the maintaining of the control of socialist countries meant higher costs than the economic, political and military possibilities of USSR .

Thus, in 1989, all communist regimes from Central and Eastern Europe had collapsed and started their post-communist transition toward a political system based on the market economy. The transition to the market economy led to radical structural changes in terms of socio-economic and institutional changes. The amplitude and speed of these changes were

different from country to country depending on the economic situation of each country and also the political will of the governments in power. The efforts of transition to the market economy has been successful by the accession of Poland (2004) and Romania (2007) at the European Union.

This paper emphasizes the changes that took place in agriculture of Poland and Romania during the transition to a market economy and if these changes where influenced by historical factors.

The aim of this paper is to provide an answer to the question of whether a country's current situation of the agriculture can be explained by means of its historical evolution. We try to come up with an answer to this question by comparatively analyzing Romania and Poland during the post-communist period and searching for possible causes of their different evolutions so far in their manner of development between the two previous periods: inter-war period and communist period.

The paper is structured as follows:

Chapter 1: provides a general view of the agriculture of Poland and Romania in transition to the market economy

Chapter 2 : briefly analyses of agriculture of the two countries during two previous periods: inter-war period and communist period.

We conclude by accentuating on the peripheral character of Romanian agriculture during the time and a good evolution of Polish agriculture especially in the last 25 years.

1. Agriculture of Poland and Romania in post-communist period

At present, the agriculture of Poland and Romania is an important branch of the national economy, emphasized by its share in the economy, a level significantly higher than in the developed countries. In both two countries, agriculture represents between 3-10% of GDP and 10-40% of the active labour force, compared to only 2-3% in Western Europe. Taking into account its importance, agriculture is an essential component of reforms in Romania, in Poland and in other former communist countries, reforms that had as results: "de-collectivisation / land privatization, restructuring and privatization of former socialist agricultural enterprises, liberalization of prices and agricultural markets, privatization of upstream and downstream industries, liberalization prices and agricultural markets, creating a banking system adequate to the financing of agriculture, creation of a legislative and institutional framework compatible with the EU. Romania and Poland have an important agricultural potential compared to the countries in transition, engaging a significant workforce. Compared to developed countries, the high percentage that agriculture records in the GDP of Romania and Poland reveals the importance of this sector in the national economy.

Tab 1: Importance of agriculture in the national economy in several European countries

	Share of agriculture in GDP (%)					Share of workforce employed in agriculture				
Year	France	Poland	Romania	Spain	Hungary	France	Poland	Romania	Spain	Hungary
1990	3.50	**8.25**	**21.20**	5.56	14.54	5.60	**25.20**	**29.10**	11.80	18.20
1995	2.73	**5.29**	**21.43**	4.21	8.42	4.90	**22.60**	**40.30**	9.00	8.00
2000	2.34	**3.30**	**12.06**	4.12	5.75	4.10	**18.80**	**42.80**	6.70	6.50
2004	2.02	**3.70**	**14.60**	3.41	5.08	3.90	**18.00**	**31.60**	5.50	5.30
2007	1.80	**3.44**	**6.49**	2.71	4.00	3.50	**14.70**	**29.50**	4.50	4.70
2011	1.84	**3.26**	**7.48**	2.46	4.65	2.90	**12.70**	**28.60**	4.20	4.80
2012	1.85	**3.21**	**6.01**	2.44	4.54	2.90	**12.60**	**29.00**	4.40	5.20

Source: world bank data

The evolution of agriculture in the GDP in Romania was determined by the regression of other fields of the economy, mainly in industry and certainly not of increasing of agricultural production. The Romanian agriculture recovery after 19`90 was a long term process with many obstacles because of adoption of some controversial political decisions in the early years of transition to a market economy. These decisions brought among others to a low level of foreign investments and the lack of adequate measures to reform Romania's economy.

In Poland, the labour force employed in agriculture has seen significant reductions in the entire period of transition, going from 25.20% in 1990 to 12.60% in 2012. However, if we compare the share of the workforce employed in Polish agriculture to that of developed countries, we can conclude that this indicator is an obstacle in the development of agriculture and of rural areas. Regarding Romania, workforce employed in agriculture increased from 29.10% in 1990 to 42.80% in 2000 and decreased to 29,00% in 2012, being a limiting factor in agricultural recovery. Thus, on the entire transition period, agriculture has become an employment buffer, taking especially layoffs in the industry, becoming a haven of economic and social security for the unemployed who are residing in rural areas and and those who have returned to the countryside after 1990.

Regarding the agricultural areas, both Romania and Poland hold important ones, from this point of view being the most important countries in Central and Eastern EU membership.

Tab 2: Used agricultural area and its share in total area:

	Romania		Poland	
Year	thousand ha	%	thousand ha	%
1994	14,798.00	62.07	18,450.00	59.01
1998	14,802.00	62.09	18,229.00	58.30
2000	14,856.80	62.32	17,812.30	56.97
2004	14,711.60	61.71	16,327.40	52.22
2007	14,709.30	61.70	16,177.10	51.74
2011	14,590.90	60.95	15,133.90	48.40

Source: INS (2005), INS (2012), GUS (2013)

Interesting is the analysis in terms of arable land per capita. In 2011, the situation was as follows:

Tab. 3: Gaps in the use of labour in the agricultural sector in 2011

Country	Surface used in agriculture (thousand ha)	Employment in agriculture (thousand)	Area/agriculteral worker (ha)
Romania	14,590.00	2,612.00	5.59
Poland	15,133.90	2,376.70	6.37

Source: INS (2012), GUS (2013)

In the year 2011, the agricultural land area/Polish farmer was 6.37 ha, better than 5.59 ha agricultural land area/Romanian farmer. In 2000, this indicator was 6.80 ha/ farmer in Poland and only 3.04 ha/ farmer in Romania. The level of this indicator in the EU (15 members) in the same period of time (2000) was 19.30 ha / farmer. Although there is an improvement of this indicator, the gap with the average of EU is still very large. In order to ensure a level of labour productivity similar to that of developed European countries, both in Poland and especially in Romania, it requires significant reduction of the surplus labour force employed in agriculture, the technical modernization of production, a real concentration of capital land, setting up competitive production units and increasing the value of work as a result of revenue growth in agriculture. Interesting is the picture of the main productions in post-communist period:

Tab. 4: Wheat production in several European countries (thousand tons)

	1989	1995	2000	2004	2007	2010	2013
Bulgaria	5,425.00	3,435.30	3,406.30	3,961.20	2,390.60	4,094.60	5,504.90
Greece	2,763.00	2,139.00	1,858.00	1,773.70	1,383.50	1,663.10	1,585.60
Spain	5,468.70	3,138.70	7,293.60	7,096.70	6,436.40	5,941.20	7,744.80
France	31,821.10	30,868.30	37,353.40	39,692.90	32,769.90	38,194.70	38,637.50
Hungary	6,540.00	4,614.00	3,692.50	6,006.80	3,986.70	3,763.70	5,058.30
Austria	1,361.50	1,301.40	1,313.00	1,718.80	1,399.30	1,517.80	1,597.70
Poland	8,461.60	8,668.00	8,502.90	9,892.50	8,317.30	9,487.80	9,485.20
Romania	7,845.70	7,666.60	4,434.40	7,812.40	3,044.50	5,587.50	7,296.40
Slovakia	2,266.40	1,937.90	1,254.30	1,764.80	1,379.60	1,227.80	

Source: Eurostat data

As it can be noticed, the evolution of the Romanian wheat production are extremely sensitive to the variations in weather and natural conditions. Far more revealing are the yields per hectare.

Tab 5: Average production of wheat per hectare in various European countries (quintals / hectare)

	1990	1995	2000	2004	2007	2012	2013
EU	58.30	59.70	58.60	58.90	48.40	51.10	:
Bulgaria	45.50	29.10	30.80	38.90	22.10	37.60	42.50
Greece	19.30	25.00	22.30	21.20	22.20	27.90	:
Spain	23.80	14.80	31.00	32.60	35.70	23.70	35.80
France	64.80	65.10	71.20	75.80	62.60	66.10	72.50
Hungary	50.80	41.60	36.10	51.20	35.90	37.50	46.20
Austria	50.50	50.90	44.70	59.20	47.80	41.40	53.70
Poland	**39.60**	**36.00**	**32.30**	**42.80**	**39.40**	**41.40**	**44.30**
Romania	**32.40**	**30.90**	**22.90**	**34.00**	**15.40**	**26.10**	**34.80**
Slovakia	50.00	44.40	30.90	47.80	38.30	32.90	:
Turkey	:	:	22.30	22.60	21.30	26.70	:

Source: Eurostat data

It can be seen the maintaining of the gap in terms of yields per hectare recorded in Romania compared to developed countries and to the neighbouring countries. For example, the yields per hectare are considered modest if you really consider the existing potential of Romania: we obtain a multi-annual average production of wheat of approximately 2000kg (compared to 5500- 7000kg as potential) and maize of about 3000kg per hectare (compared to 8000kg, potential). These productions of wheat and maize but also of other vegetable products, whether expressed to population, it ranks Romania to the limit of insuring its safety and food autonomy.

The responses of this evolution cannot be placed mainly only on account of weather. Other more serious **factors** are:

-the excessive fragmentation of holdings through the repossession of former owners and their descendants

-the destroying of the investments made during the communist era, which would have contributed to a higher production.

-the low agrotechnic level.

Regarding the low agrotechnic level, it could be emphasized by the number of tractors per 100 square kilometers of arable land in Poland, Romania and other European countries.

Tab. 6: Evolution of the number of tractors since 1990 in several European countries (number of tractors per 100 square kilometers of arable land)

Country	1990	1995	2000	2004	2007	2008
Austria	2,373.65	2,517.81	2,394.77	2,397.03		
Bulgaria	135.83	95.80	98.44	93.46	149.90	172.29
Spain	483.10	573.58	671.42	742.11	807.28	825.14
UK	791.91	762.29	772.39	696.89		
France	800.04	716.38	685.47	652.89		
Greece	744.24	837.28	925.88	983.17		
Hungary	97.74	191.84	246.21	258.90		
Poland	**823.60**	**928.49**	**933.82**	**1,082.79**	**1,242.51**	**1,245.99**
Portugal	563.14	697.11	1,040.50	1,139.56		
Romania	**140.62**	**174.97**	**170.61**	**192.72**	**200.58**	**200.42**
Slovakia		178.20	153.66	158.31	153.83	154.65
Turkey	279.81	315.11	395.30			
Ukraine		140.99	97.93	114.03	103.86	103.31

Source: world bank data

We notice the small number of tractors, available in Romania compared to the European average (without to take into consideration their obsolete technical status, resulting from the financial inability of smallholders to buy other new equipments). On this indicator, Poland recorded higher values than the European average. In addition, it is undoubtedly that, very small holdings are not not proper to become modern forms of exploitation of agriculture because of the absence of seed selection, improper storage of crops, lack of know-how regarding crop rotation , lack of large-scale irrigation etc.

Regarding the use of fertilizers in farming Romania's situation is also a bad one, Romania being ranked on the last places. In Poland, the situation is completely different, being superior even than the European average.

Tab. 7: Quantity of fertilizers used in Romania and other countries(kg/ha)

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Austria	234.02	295.65	130.71	135.10	130.15	109.79	109.64	83.14	108.15	103.13
Bulgaria	113.77	147.33	80.85	74.23	73.94	102.01	111.24	104.60	97.05	133.08
Spain	164.45	175.27	165.40	142.14	142.33	157.72	106.54	96.93	130.68	122.62
EU	166.61	174.36	168.00	160.18	156.82	168.02	137.79	124.14	146.69	142.90
France	211.30	223.36	212.10	192.49	190.39	209.34	152.53	120.56	150.54	141.29
Greece	156.38	162.09	176.42	143.04	124.63	96.90	119.05	62.99	123.70	120.15
Hungary	94.88	95.50	98.52	85.20	99.20	110.41	96.70	77.48	84.33	93.29
Poland	**116.20**	**128.87**	**129.14**	**161.94**	**159.34**	**171.33**	**151.09**	**141.71**	**178.94**	**169.74**
Portugal	194.04	176.96	208.31	207.12	135.29	209.44	161.61	119.38	152.29	145.18
Romania	**34.78**	**38.63**	**42.63**	**51.35**	**40.60**	**44.64**	**45.64**	**48.49**	**52.55**	**54.13**
Serbia					117.39	153.66	114.56	143.52	116.44	126.84
Slovakia	83.11	78.95	83.67	80.50	91.78	89.95	75.08	78.31	85.06	95.94
Slovenia	403.48	400.29	358.70	329.55	322.01	324.53	285.14	246.19	287.44	279.67
Turkey	72.80	84.29	85.63	86.76	91.84	90.34	71.97	104.57	96.38	102.86
Ukraine	15.95	15.78	16.42	17.19	21.55	27.64	32.79	27.30	32.66	38.87

Source: world bank data

Regarding the production of industrial plants, Romania's situation is better both in relation to Poland and other European countries:

Tab. 8: Production of industrial plants in Romania and several European countries (thousand tons)

	1990	1995	2000	2004	2007	2010	2013
Bulgaria	:	:	690.80	1,279.90	742.8	2,201.10	2,396.40
Greece	:	:	:	:	:	967.40	:
Spain	:	:	1,420.00	1,495.20	873.3	1,088.50	1,381.10
France	:	5,541.20	6,185.10	6,480.00	:	10,142.10	9,136.80
Hungary	:	:	:	1,600.70	1,663	1,649.90	:
Austria	:	:	:	:	274.5	375.30	358.50
Poland	**1,409.40**	**1,498.00**	**1,073.20**	**1,791.60**	**2,282.4**	**2,364.80**	**2,784.20**
Portugal	:	32.30	34.70	19.30	15.5	8.60	:
Romania	**909.80**	**1,107.10**	**890.70**	**2,026.50**	**:**	**2,374.60**	**2,978.80**
Slovakia	167.20	259.40	264.80	494.80	470.7	501.80	615.20
Albania	50.00	8.20	9.70	4.70	3.7	4.80	:
Serbia	:	:	:	:	:	:	:
Turkey	:	:	4,464.70	:	3,182.6	:	3,403.00

Source: Eurostat data

Regarding animal agricultural production in the last 25 years, the livestock met a totally unfavorable evolution both in Poland and Romania . In the case of Romania, there was a dramatic drop in livestock through forced slaughters, high mortality, export improperly done (only in 1992 there were exported about two million cattle). There were destroyed modern industrial enterprises of growing high-yield livestock and poultry.

Tab. 9: Evolution herd of cattle in Romania and several European countries (thousand heads)

Country	1990	1995	2000	2004	2007	2010	2013
EU (27)	:	:	:		89,431.47	87,387.19	87,187.12
Bulgaria	1,482.00	645.00	652.20	679.55	611.02	553.70	585.55
Greece	687.13	550.00	568.00	640.00	682.00	679.00	653.00
Spain	5,104.11	5,495.00	6,163.89	6,653.09	6,584.98	6,075.08	5,696.91
France	21,446.00	20,836.50	20,088.93	18,948.00	19,124.00	19,599.00	19,129.00
Hungary	1,571.00	928.00	805.00	723.00	705.00	682.00	782.00
Austria	:	2,325.83	2,155.45	2,050.99	2,000.20	2,013.28	1,958.28
Poland	**9,024.20**	**7,193.00**	**5,723.00**	**5,200.17**	**5,405.55**	**5,561.75**	**5,589.54**
Portugal	1,367.00	1,386.41	1,396.86	1,488.15	1,491.50	1,502.76	1,470.50
Romania	**5,381.00**	**3,496.30**	**2,870.40**	**2,808.10**	**2,819.00**	**2,001.10**	**2,022.40**
Slovakia	1,563.00	929.00	646.15	540.15	501.82	467.13	467.82
Serbia	:	:	:	:	1,087.00	938.00	913.00
Turkey	:	:	:	:	:	:	14,532.85

Source: Eurostat data

Tab. 10: Evolution of livestock in Romania and Poland between 1990 and 2013 (thousand heads)

Country	Romania			Poland		
	1990	2013	evolution 2013/1990	1990	2013	evolution 2013/1990
Cattle	5,381.00	2,022.40	-62.42	9,024.20	5,589.54	-38.06
Swine	12,003.00	5,180.20	-56.84	19,739.20	10,994.40	-44.30
Sheep	14,062.00	9,135.60	-35.03	3,798.00	218.51	-94.25
Goats	1,005.00	1,313.00	30.65			

Source: Eurostat data

The low levels of livestock in Romania can be highlighted by expressing the density of animals to 100 hectares (agricultural land and pastures). For example, in 2012, on the density of cattle and on density of swine, Romania was ranked on the last places.

Tab. 11: Density of cattle in the EU countries at the level of 2012 (thousand heads)

Country	livestock (thousand heads)	density (heads / 100 hectares)	Country	livestock (thousand heads)	density (heads / 100 hectares)
Holland	4,090.00	227.70	Italy	6,249.30	40.70
Belgium	2,441.30	186.10	**Poland**	**5,595.50**	**39.70**
Irland	6,309.10	139.20	Finland	903.40	39.60
Slovenia	460.60	101.70	Czech	1,332.10	38.20
Germany	12,686.00	77.00	Spain	5,688.80	30.20
Austria	1,958.30	70.00	Lithuania	713.50	25.40
France	19,129.00	68.70	Slovakia	467.90	25.00
Denmark	1,583.00	59.70	Greece	679.00	24.40
UK	9,682.00	56.50	Hungary	772.00	15.20
Portugal	1,470.50	51.30	**Romania**	**2,022.40**	**14.90**
Sweden	1,443.50	47.70	Bulgaria	593.70	12.00

Source: INS (2013)

Note: Data for Romania are for the year 2013 UK are for 2011 for the other EU countries are for the year 2012

Tab. 12: Density of swine population in the EU countries at the level of 2012 (thousand heads)

Country	livestock (thousand heads)	density (heads / 100 hectares)	Country	livestock (thousand heads)	density (heads / 100 hectares)
Holland	12,013.00	1,200.10	UK	4,383.00	72.20
Belgium	6,351.30	789.50	Greece	1,077.00	69.10
Denmark	12,402.00	509.20	Hungary	2,935.00	68.00
Germany	28,046.10	237.00	Italy	8,561.90	66.40
Austria	2,895.80	213.70	Czech	1,547.70	61.40
Spain	25,654.40	204.90	**Romania**	**5,180.20**	**58.90**
Portugal	2,020.30	188.80	Sweden	1,478.20	57.00
Slovenia	303.60	176.90	Finland	1,258.30	56.00
Irland	1,468.50	125.60	Slovakia	637.00	46.80
Poland	**10,994.40**	**101.10**	Lithuania	754.30	33.40
France	13,428.00	73.10	Bulgaria	588.50	17.90

Source: INS (2013)

Note: *Data for Romania are for the year 2013, for UK are for 2011 and for the other EU countries are for the year 2012*

We could put the question: the recent developments of agriculture in Poland and Romania could be explained from an historical perspective?

In order to find an answer, we have to analyze the evolution of agriculture of Poland and Romania in previous periods: inter-war and communism.

2. The agriculture of Poland and Romania during two periods: inter-war period and communist period.

2.1 The agriculture of Poland and Romania in the interwar period

Extending the analysis of the evolution of Polish and Romanian agriculture, beginning 1918, we notice that, permanently, the both countries have been in a race of tracking the evolution in developed countries. In this race, Poland had better results.

Taking into account the information regarding their natural, human and economically productive potential, Romania and Poland were situated in the inter–war period among the first countries in Europe, but from the point of view of the economic and social development level, their status was fundamentally different compared to their potential status.

Despite of all efforts, in the interwar period, the Romanian and Polish agriculture had to endure the consequences of their own underdevelopment and additionally, effects of the world economic crisis (for example: the world agrarian crisis during 1928-1936). Regarding the development of agriculture, we may unquestionably say that at the end of the inter-war period, Romania had not really started the restructuring its agricultural production. This reality

was reflected in a low level of the Romanian agricultural productivity, which in 1938 was of only 80 dollars/person in agriculture, as opposed to 130 dollars/person in Poland, 200 dollars/ person in Czechoslovakia or 560 dollars / person in Great Britain (Dobre, 1996).

Tab. 13: Agricultural productivity ($/person) in European countries, 1938

Country	Dollars/person in agriculture
Great Britain	560
Netherlands	500
Sweden	470
Denmark	440
Switzerland	430
Belgium and Luxembourg	400
Ireland	310
Germany	290
France	280
Czechoslovakia	200
Norway	200
Austria	160
Hungary	150
Italy	130
Poland	***130***
Finland	110
Bulgaria	110
Romania	***80***
Average of the 18 European countries	210

Source: Dobre (1996)

The international comparisons outlines very well the deepening backwardness of the level of the Romanian agricultural productivity, even the average production of wheat / ha, the Romanian main agricultural product.

Tab. 14: Average production of wheat per hectare in various European countries (quintals / hectare, rounded figures)

Country	1908-1912	1920-1922	1934-1938
Romania	***11.7***	***8.9***	***10.3***
Denmark	31.0	29.0	30.4
UK	21.4	20.0	23.1
Germany	18.5	17.0	22.0
Czechoslovakia	…..	15.0	17.1
Austria	…..	11.0	16.7
France	13.2	14.0	15.6
Italy	9.6	10.0	14.4
Hungary	…..	11.0	14.0
Poland	***…..***	***10.0***	***14.6***
Serbia/ Yugoslavia	10.0	10.0	11.5
Bulgaria	10.3	12.0	12.5
Grecia	7.0	7.0	9.0
Spania	9.4	9.0	9.6
Portugal	6.0	10.0	9.0

Source: Murgescu (2011)

This case can highlight a very important conclusion, namely the average yields per hectare on the whole period were under the pre-war yields. (Murgescu, 2011) It can be seen that the lower yields per hectare led not only to increasing of the productivity gap with the developed countries of Europe, but also with the predominantly agricultural countries neighbouring Romania (Bulgaria, Yugoslavia, Hungary, Poland).

2.2 The agriculture of Poland and Romania during the communist period

For a first analysis of the performance of Romania and Poland after the war, it is worth to emphasize the evolution of GDP / capita in the period 1950- 1989:

Tab. 15: Evolution of GDP/capita (PPP) in Romania, Poland and Europe (1938-1989) (1990 international Geary-Khamis dollars) [1]

	Romania	Poland	7 East European Countries	Average of 36 West European Countries	Romania compared to European average	Poland compared to European average
1938	1,242	2,182	1,764	3,226	0.38	0.68
1950	1,182	2,447	2,111	3,655	0.32	0.67
1960	1,844	3,215	3,070	5,316	0.35	0.60
1970	2,853	4,428	4,315	7,697	0.37	0.58
1980	4,135	5,740	5,786	9,643	0.43	0.60
1989	3,941	5,684	5,915	11,113	0.35	0.51

Source: Maddison (2003) and own calculation

Above data, outlines the increasing gap Romania, Poland compared both the European average (which was expected) and to other eastern European countries. The developments of two countries were mainly similar; however, after the war, Romania has suffered effects of war more than Poland (and to the other socialist countries), then Romania has seen a high growth of about three decades (above the European average), followed by a last disastrous decade in terms economic development. Regarding the evolution of Romania and Poland in this last "socialist decade", is it useful to compare the performance of different socialist countries.

Interesting is the analysis of performances of Romania and Poland in agriculture and a first indicator in this regard is the labor productivity in agriculture (see Table 16).

[1] Average of & East European countries: Albania, Bulgaria, Czechoslovakia (or Czech Republic and Slovakia), Hungary, Poland Romania, Yugoslavia (or former Yugoslavian area).

Tab. 16: Agricultural productivity in Romania and Poland and other European countries in the period 1948 / 52-1988 / 92 (millions of calories produced by a male agricultural worker)

Country	1948/52	1958/62	1968/72	1978/82	1988/92
Austria	15.2	35.0	56.2	94.7	117.9
Bulgaria	12.5	22.3	49.2	89.5	117.3
Czechoslovakia	21.8	35.5	52.7	73.2	91.3
France	22.3	40.8	64.8	120.2	187.3
Germany (FRG)	31.8	59.7	106.7	183.9	240.6
Greece	4.5	7.0	8.6	15.0	22.3
Irland	20.9	31.3	38.6	64.9	94.8
Italy	9.2	18.4	31.2	58.1	83.2
Yugoslavia	18.6	33.9	40.3	75.4	88.4
UK	36.6	62.1	85.1	111.7	139.7
Poland	**19.6**	**28.7**	**35.6**	**40.0**	**45.3**
Portugal	6.6	8.8	18.6	25.5	44.5
Romania	**8.6**	**12.5**	**23.2**	**52.9**	**59.2**
Hungary	12.3	21.6	35.9	71.3	90.7
Soviet Union	21.3	38.3	55.8	58.8	63.4

Source: Murgescu (2011)

The analysis of labor productivity takes into account active males in agriculture, favoring developed countries that use less labor and more capital, and the results could be distorted.

Therefore, in order to have a real view of agricultural productivity, we have to complete our analysis with other data, for example wheat crop yield.

Tab. 17: The yield of wheat crop in Romania and Poland and other European countries in the period 1950-1990 (quintals / ha)

Country	1950	1970	1990
Austria	17.1	32.8	51.5
Bulgaria	12.4	29.3	40.0
Czechoslovakia	19.0	32.5	51.2
France	18.3	38.3	64.1
West Germany	26.2	39.0	65.6
Greece	10.2	17.8	26.4
Irland	22.6	42.2	81.8
Italy	15.2	23.7	30.5
Yugoslavia	11.9	24.2	41.1
UK	27.1	40.8	70.2
Poland	**12.5**	**24.7**	**36.3**
Portugal	7.2	10.3	15.5
Romania	**10.2**	**18.8**	**34.2**
Hungary	13.8	27.1	50.1
Soviet Union	14.7	14.3	19.2

Source: Murgescu (2011)

Also in this case, the position of Romania and Poland was one peripheral for the entire period 1950-1990:

Tab. 18: Economic level of Romania and Poland in European context (1989) expressed by other data

Country	Milk yield per cow liters/ head	Number of tractors/ 100 ha	Consumption of fertilizers kg./ ha
Albania	1,276	1.7	137.2
Austria	3,917	22.9	210.1
Bulgaria	3,295	1.3	221.5
Czechoslovakia	3,254	2.7	314.4
France	2,818	7.9	313.8
Germany (FRG)	4,920	19.0	410.7
Greece	1,943	4.8	165.2
Irland	3,880	17.3	725.1
Italy	3,557	11.7	173.9
Yugoslavia	1,785	14.2	130.7
UK	5,009	7.7	348.7
Poland	**3,358**	**7.8**	**245.7**
Portugal	3,353	2.0	78.3
Romania	**1,951**	**1.5**	**117.7**
Hungary	5,043	1.0	268.2
Soviet Union	2,587	1.2	117.9
Average of developed countries	4,057	9.2	247.5
Average of socialist countries	2,561	3.1	133
European average	3,118	3.5	157.4

Source: Grigorescu (1993)

The above data confirm peripheral position of Romania (below the average of the former socialist countries) and recorded higher position for Poland (even higher than the European average).

Conclusion:

Following the conducted research, we can say that the influence of the historical factor plays an important role in all social and economic fields. Due to the lack of complete data series, uniform and reliable, it could not be done an exact quantification of the influence of the historical factor, for the analyzed period (1918- present) but only a quantitative assessment on certain areas. The present status of agriculture of Poland and Romania has deep roots in its historical evolution. In literature, the influence of the historical factor is materialized through the ***theory of path dependence***. The theory of path dependency is rooted in economic history, but it has a relevant contribution latest from Paul David (1985) which explains excellent the existing gap of economic development existing between Western Europe and Central and Eastern Europe, highlighted by the GDP / capita over the last 200 years.

It is believed that the combination of the geographical factors and historical ones, explains the backwardness in many spheres (political, social, economic) of the countries in Central and Eastern Europe, they being organized in a hinterland of the developed countries in western Europe (Podkaminer 2013).

In conclusion, analyzing the agriculture of Romania and Poland in the last 100 years, we could consider their evolution as similar for first two periods interwar and communism period and an excellent evolution of Polish agriculture after 1990 because of EU funds..

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