

## PORK MEAT MARKET BEHAVIOR SINCE 2018 UNTIL NOW IN ROMANIA

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### Abstract

*This period was chosen due to the occurrence during this time interval of some phenomena that disturbed a pork market, at the same time and a challenge for the pig farmers forced to adapt to the new situation. In the context of the appearance in Romania and in other EU countries of the African Swine Fever epidemic which led to the drastic reduction of the pig herds and subsequently of the COVID 19 epidemic the pork market suffered several fluctuations during this period. Due to the specific situation of Romania with a large number of pigs raised in households, the epidemic has a significant impact on the number of pigs, who drastically reduced during this period. For this purpose, we performed for the period 2018 - 2020 an analysis of pork prices, pig herds, imports and exports and pork market behaviour for this period. Main objective is to provide an overview of the Romanian economic situation in terms of livestock, in order to highlight the importance of local farms and, therefore, its major impact on the economy.*

**Keywords:** market, swine fever, pork, livestock, epidemic

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### Introduction

The period selected for this analysis of the pork market is an atypical one, due to the appearance of 2 phenomena that produced interferences in pig farming, namely: the African Swine Fever epidemic and recently the Covid epidemic 19. Starting with 2018, the African Swine Fever virus entered Romania with wild boars on the border with Ukraine, initially in the households of Satu Mare county and later in Tulcea county, the Ceatalchioi area spreading with a fairly high speed, finally affecting almost all the country. Due to the specific situation of Romania territory with many pigs raised in households, in the non-professional system, with pigs raised in the wild, the epidemic spread very quickly with a significant impact on pig herds due to mortality and disease eradication measures, which require preventive euthanasia of the entire contaminated herd. The measures taken at that time to stop the spread of the epidemic by companies specializing in pig breeding and the authorities were ineffective, which led to a very rapid spread of the disease and contamination of the first professional pig farm in Tulcea County. The severity of this virus is mostly due to its impact on international and national commerce with pork meat and other related products; furthermore, this also has a significant impact on a microeconomic level, by its spread to small family farms that are raising pigs for consumption (Danzetta M., et al., 2020). Recently, the pork market has suffered a new imbalance with the emergence of the Covid 19 epidemic and the restoration of activities in the field of HoReCa

### Literature review

This paper is using data extraction analysis and interpretation. The considered period is 2018 until October 2020, in regard to all the information gathered. The research is also based on work field experience, of the author. The data comparison observes the peaks and lows of the

swine fever virus in Romania and its repercussions on the economy and also the impact of the Covid 19 epidemic. The analyzed data were extracted from official sources that monitor and centralize all aspects of the pork market both in Romania and in the EU area. Also used data from the literature of specialties that study ASF. The data will be combined with proposed measures in order to slow or to possibly clear the swine fever virus from Romanian territory.

### Findings

In Romania, the effects of African swine fever virus have been felt since 2018, when the virus first entered a commercial pigfarm in Tulcea County, requiring the euthanasia of 35,000 pigs. As a result, in the period 2018-2020, the Romanian authorities had to implement a series of measures recommended by the European Commission to combat African swine fever virus. The main recommended measures were to establish a legislative framework focusing on the sizing of pig farms under strict biosecurity rules on households and the control of pig movement. (M.A.D.R., 2018) In the absence of implementing the recommended measures and due to poor management of the disease, uncontrolled movement of pigs and meat products in households, and deficient biosecurity conditions in households, the disease has spread to almost the entire country. As a result, Romania registered between 2018 - September 2020, a total of 562.729 dead and euthanased pigs in domestic pigs and approx. 2.874 cases in wild boars, respectively 16, 4% of the average population in the last three years, as it is shown in table 1 below:

Total number of pigs (heads)	Total dead pigs		Households of the population			Commercial farms		
	Number 3=(5+8)	% col 3/2	Total dead pigs (heads)	of which		of which		
		0		dead (heads)	dead + killed + preemptively slaughtered (heads)	Killed pigs + dead (heads)	Cremated corpses (heads)	Buried corps (heads)
4.228.000	693.201	16.4%	127.655	2.817	130.472	562.729	0	562.729

**Table 1. Situation of existing and dead/euthanized herds since 2018 until now**

*Source: (combined data from : ANSVSA/DSU/DSV/Prefecture and author calculation)*

During this period, many companies specializing in pig farming have been affected by the ASF pandemic, with some farms having to euthanize and incinerate their entire herd of pigs, or in an area 10 km around the farm, an outbreak is confirming, according to law of E.U. adapted to Romania, all deliveries are blocked for at least 60 days. These situations caused dropped in pig herds, economic losses commercial farms and imbalances in the pork market. According to the centralized data for all this period, at national level, 3,650 outbreaks of ASF were registered in the administrative-territorial area of 39 counties in non-professional and professional farms from which 41 commercial farms specialized in pigs breeding were contaminated, all the existing herds, at the date of finding the outbreak, was euthanized, incinerated, or buried. The measure is preventive with scope to preventing the spread of the virus. At the level of the European Union, Romania is one of the countries most affected by the African Swine Fever virus.

### **The economic impact**

The epidemic is very serious, if no measures are taken to stop the disease can lead to the disappearance of the entire pigs herd from the territory of a country

According to the E.C. (European Council) Regulation no. 349/2005 (E.C., 2005) establishing the rules on Community financing of emergency interventions and the control of certain animal diseases referred to in Council Decision 90/424 / E.E.C. (E.E.C., 1990) and GD 1214, 07.10.2009 (H.G., 2009) updated with GD 484 / 05.07.2018 (H.G., 2018) on the methodology for establishing and payment of compensation due to owners of animals slaughtered, killed or otherwise affected in order to rapidly eliminate outbreaks of communicable animal diseases; specific compensation is granted for the entire herd of pigs considered contaminated. The respective compensations shall be granted for both professional and non-professional holdings or for which compensations have been granted in accordance with certain conditions:

- in the case of non-professional holdings if the pigs have been registered in the National Animal Identification and Registration System.
- In the case of commercial holdings, the compensations were granted if, because of the epidemiological investigation, all the biosecurity conditions imposed by the legislation in force were applied and respected.

Until now, 15.182 professional and non-professional farms have been compensated and the total value of payments is 485,093,670 lei.

A specific situation for Romania that adapts very difficult to EU legislation due to the numerous non-professional farms and peasant households and for which no compensation is granted is the following:

If a PPA outbreak is detected within a radius of 10 km around commercial farm, the movements of pigs from the farm to the outside are prohibited for 30-40 days, after which they will be allowed only by directing them to a slaughterhouse that has the possibility of thermal processing. , the lifting of the restrictions will be done after at least 60 days after the verification of the swine flocks from all the restricted area and if laboratory analysis will be negative at ASF.

All this situation affects the exploitation from an economic point of view, practically blocking the outflows of pigs and implicitly the financial inflows:

- Additional feed costs due to impossibility of deliveries
- Impossibility to respect with contractual commitments
- Impossibility to comply with welfare conditions
- Overcrowding of farm because limited space
- Euthanizing animals due to lack of space
- Selling animals at a lower price due to overweight

An important number of companies specializing in pig farming that have been affected either by direct contamination with the ASF virus and the euthanasia of the entire herd of pigs, or by quarantine, which blocks the activity, they went into financial blockage. Currently, a large part of the affected farms remained in conservation, without continuing activity, they did not have the financial power to reopen production. Many indirectly affected farms subsequently closed activity.

In conclusion, according to the analysis of the data from this period, there is a decrease in the total number of pigs produced in Romania starting with the middle of 2018, the trend remaining downward for this year as well.

Starting in 2020, a new epidemic affecting this time the population, Covid 19, will make it difficult to carry out the activity in a normal way, due to restrictions imposed on food services, closure of activities in various sectors that have a direct or indirect an impact on the meat market.

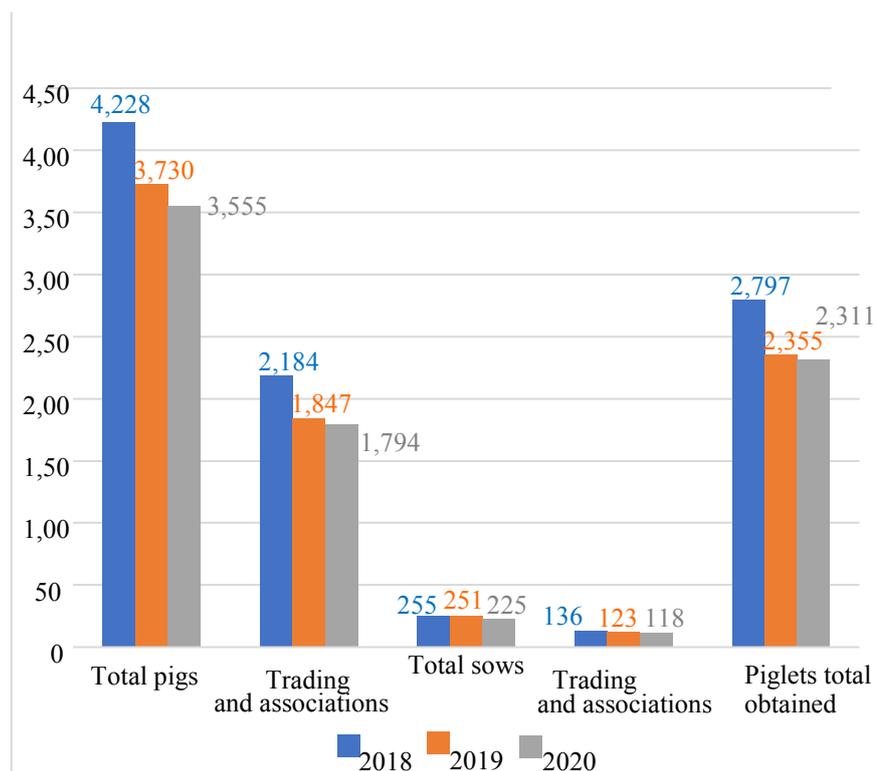
In 2020, another worrying phenomenon, especially in the south-east of the country, namely the prolonged drought, the lack of irrigation systems, caused a large part of the harvest to be compromised, which led to an increase in the price of cereals. The evolution of the pig herds can be seen in Table 2 and figure 1.

**Table 2. Total number of pigs, sows, and piglets (thousand heads)**

SPECIFICATION	Existing pig herds at 30.06.			Different +/- between	
	2018	2019	2020	2018	2019
<b>PIGS TOTAL - from which:</b>	<b>4.228</b>	<b>3.730</b>	<b>3.555</b>	<b>-673</b>	<b>-175</b>
Pig breeders, from which:	4.228	3.730	3.555	-673	-175
Professional farms	2.184	1.847	1.794	-390	-53
Familial farms	2.044	1.883	1.761	-283	-122
<b>SOWS TOTAL – from which:</b>	<b>255</b>	<b>251</b>	<b>225</b>	<b>-30</b>	<b>-26</b>
Pig breeders, from which:	255	251	225	-30	-26
Professional farms	136	123	118	-18	-5
Familial farms	119	128	107	-12	-21
<b>PIGLETS TOTAL OBTAINED</b>	<b>2.797</b>	<b>2.355</b>	<b>2.311</b>	<b>-486</b>	<b>-44</b>

*Source: A.N.S.V.S.A.,2020 and E.C. 2020b and author's own calculation*

**Figure 1. The evolution of the pig herds in Romania period 2018 – first semester 2021 (thousand heads)**



*Source: M.A.D.R. operational information and Carcass classification commission 2020 and author's own calculation*

Analysing the existing data, we find a decrease in the last 3 years of pig herds in Romania, this phenomenon being caused mainly by the impact of African Swine Fever in pig farming and later by the inability of some economic agents to manage such crises in the longer term forced to close its activity.

The Romanian market reacted differently to this phenomenon, initially the consumer on a very short period of time, due to the lack of information about this epidemic and the fact that it is not transmissible to humans, turned to poultry meat which produced for a period a decrease in demand for pork.

Another phenomenon that led to an unwanted change in the demand and supply of pork results from 3 main aspects:

- Pigs delivered to specialized slaughterhouses during the period when a farm is in quarantine, the meat obtained had to be processed by heat processing and sold at the market as a finished product, fresh or frozen meat cannot be delivered. The sale

price was well below the production price. The law is very restrictive in this respect, the companies that can process in this mode are few and set a price below the market price.

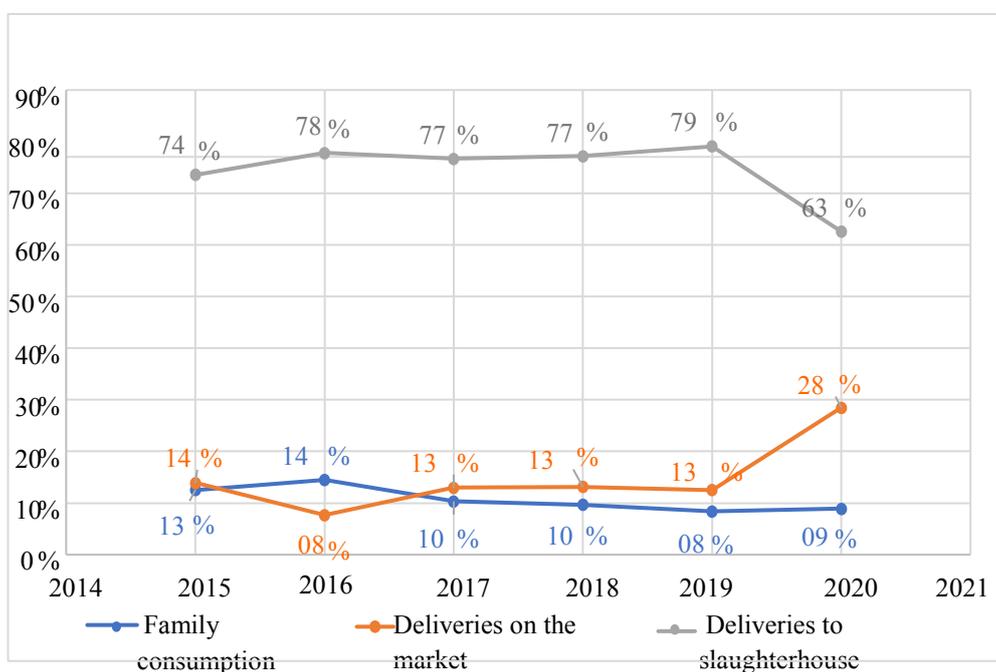
- After the quarantine period, the pigs exceed the maximum weight by 20-30 kg, the carcass quality decreases, implicitly a decrease of the price per./kg
- To complete the pork shortage in the market, imports of fresh, frozen meat and pork by-products from EU countries not affected by the ASF have increased

Starting with 2020, due to the decrease in the number of live pigs in the country, the deliveries of live pigs directly on the market increased significantly, which in the conditions of ASF evolution almost doubled compared to 2018 and 2019.

At the same time the deliveries of live pigs to slaughterhouses have decreased a lot, the pork deficit resulting from this phenomenon will be supplemented by imports.

The segment that has remained constant is the one represented by the family consumption of pork from one's own household can see in figure 3 and table 2:

**Figure 3. Capitalizing on the production of the live pigs 2015 - 2020**



Source: operating information MADR and Carcass Classification Commission 2020 and author's own calculation

**Table 2 Total number of pigs, sows, and piglets (thousand heads)**

SPECIFICAT	TOTAL PRODUCTION			MEAT VALORIZATION								
				FAMILY CONSUPTION			DELIVERIES ON THE MARKET			DELIVERIES TO SLAUGHTEHOUSE		
	1K heads	1 k live tons	kg/ head	1K heads	1K live tons	kg/ head	1K heads	1 k live tons	kg/ head	1K heads	1 k live tons	kg/ head
<b>2020</b>	2.737,8	314,1	115	199,6	28,0	140	808	89,5	111	1.730,2	196,6	113,6
<b>2019</b>	2.544,5	269,1	106	196,6	22,6	115	434,2	33,7	78	1.913,7	212,8	111,2
<b>2018</b>	2.747,0	289,4	105	241,9	28,0	116	464,8	38,0	82	2.040,3	223,4	109,5
<b>Difference sem I 2020/ sem I 2019</b>	193,3	44,9	9,0	3,0	5,4	25,0	373,8	55,8	33,0	-183,5	-16,3	2,4
	7,6%	16,7%	8,5%	1,5%	23,9%	21,7%	86,1%	165,6%	42,3%	-9,6%	-7,6%	2,2%
<b>Difference sem I 2020/ sem I 2018</b>	-9,2	24,6	9,4	-42,3	0,0	24,0	343,2	51,5	29,0	-310,1	-26,9	4,1
	-0,3%	8,5%	8,9%	-17,5%	0,0%	20,7%	73,8%	135,5%	35,4%	-15,2%	-12%	3,7%

*Source: operating information MADR and Carcass Classification Commission 2020 and author's own calculation*

Starting with 2019 and until the outbreak of the Covid 19 pandemic, the pork market reacted differently both to the previous period and to the next period.

Due to the major impact of the ASF on the pigs production of several Asian countries, especially China, which losing more than 50% of the pig herd, the demand for pork from this country has been very high; practically the demand would be 80% of the total pork production in the EU.

China's demand will be partially covered by imports; the impact has caused prices to rise significantly due to limited pork supply, constant market demand and coverage of the meat deficit to this country from the EU, USA, Brazil, etc.

All this demand of the pork market has spread in Romania, the supply being reduced, causing prices to increase by 45%.

Starting with 2020, pork production in the EU has decreased slightly due to the spread of the ASF virus in other countries such as Poland and very current Germany. China and several Asian countries have now blocked imports from Germany due to this situation.

Germany was by one of the main exporters of pork, in 2019 it exported to the EU: 1,020,000 tons of meat, of which: 601,000 tons to China and practically the price of pork at EU level is set on the stock exchange in this country.

Given the impact of the Covid-19 pandemic and the limitations imposed, the prices that increased in 2019 began to decrease towards the average of 5 years due to the decrease of food services. Starting in the middle of the year, its prices stabilized with a slight upward trend due to the return of food services and increase world demand; but due to the blockade of German exports to China, the price will decrease followed by a probably will be increase during the winter holiday

### **Conclusions**

Considering the presented ones, we find that during the last 3 years the pork market has reacted differently to all these two unprecedented phenomena, it is practically about 2 epidemics, one that affects only pigs and one that affects the population.

In the pork market there is a cyclicity of demand and supply that is repeated annually if no external factors intervene to disrupt this whole process.

The demand of pork begins to increase after the first quarter of the year, remaining constant until the winter holidays when it increases a little and then decreases again. Depending on this market meat demand, the farms will organize their production to cover the need during the period when the market demand is higher. The selling price of live pork is closely related to this market demand and supply, if we analysed separately the last 3 years, the situation is as follows:

In 2018, because the evolution of the epidemic was incipient, supply and demand followed their normal course until the second quarter when due to the consequences of applying measures to eradicate the disease led to a decrease in supply both quantitatively and qualitatively. The meat deficit was supplemented by imports from UE country

In 2019, after a sharp decrease in demand and selling price, there was a constant increase in demand with the highest selling price of pigs since Romania's entry into the EU.

This phenomenon is influenced by the decrease in supply with the spread of the disease in more and more areas, the reduction of pigs offers and the very high demand for pork in China. In 2020, after a decrease in the first weeks, a peak followed, in which the demand was very high with the declaration of the state of emergency caused by the Covid 19 pandemic, followed by a sudden decrease due to the decrease of food services. Another factor that will influence the market is the prolonged drought this year, especially in the south-eastern part of the country, which will cause the price of cereals to increase without affecting the price of pork delivery if demand remains low.

In order to control this epidemic, the farmers and also with the involvement of the authorities through concrete measures such as:

Implementation of increased biosecurity measures order to prevent infections with ASF and Covid 19:

- by periodically training the staff with tests to verify the acquisition of knowledge.

- Investments in equipment and machinery that can increase biosecurity measures, for these investments there is the possibility of financing through PNDR funds through sub-measure 5.1.
- Organizing the production so that there is always a minimum of space that can ensure the continuation of the flow of internal activity for a period of at least 40 days in case the farm is quarantined.
- Ensuring a rhythmicity of deliveries based on well-established contracts to ensure cash flow.
- Purchasing of cereals, premixes, sufficient medicines with a minimum stock to cover a possible quarantined period.
- Application and to comply with minimum biosecurity measures by family farms
- Registration of familial pig farms depending on their size and prohibition of open breeding system.
- Prohibition by law of family farms within an area 10 km of a commercial farm.
- Ensuring some support measures for companies in the context generated by Covid 19.

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