

STEEL PRODUCTION, CONSUMPTION AND FOREIGN TRADE IN POLAND IN CRISES: THE FINANCIAL CRISIS 2008-2009 AND THE COVID-19 CRISIS – FIRST HALF OF 2020

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The publication consists on the situation in Polish steel industry in crises. The aim of the publication is to compare the volume of steel production in Poland in the periods of two crises that is the financial crisis from US in 2007-2009 and the COVID-19 crisis. In the quantitative analysis such data are compared: manufacture of crude steel and finished steel products, consumption of steel products, foreign trade in steel products. The changes in the steel production, consumption and foreign trade in two analyzed crises are helping to assess the depth of the crisis in steel industry.

Keywords: steel production, consumption, foreign trade, COVID-19 crisis, Poland

INTRODUCTION

Crisis analysis is a component of crisis management (CM). An analysis of the organization's situation helps understand the crisis. Crisis management is the process by which an organization deals with a disruptive and unexpected event that threatens to harm the organization or its stakeholders [1]. There are different types of crisis. Most often, a classification is influenced by the cause of the crisis or its effects [2]. In the first decade of this century, organizations struggled with the effects of the financial crisis that started in the US in 2007. The causes of the crisis was deregulation of financial derivatives in the US. The peak of the crisis in the world was in the years 2008-2009. The financial and banking crisis of 2008-2009 influenced on industries in many countries and their industries. The crisis in Polish steel industry started in 2009 [3]. The next crisis began in 2019 (ten years after the previous one) and was caused by the COVID virus pandemic. The type of the crisis: natural disaster (according to Lerbinger's classification [2]). Three elements are common to all crises: a threat to the organization, the element of surprise, and a short decision time [4]. In crisis process there are three stages: pre-crisis prevention, crisis management, and post-crisis outcomes [1]. Sometimes the crisis surprises organizations and they cannot realize the first stage (pre-crisis prevention). This was the case when the SARS-CoV-2 virus appeared in 2019 (the first cases of infection were in December 2019 among the inhabitants of Chinese city of Wuhan). On 30th January the World Health Organisation declared the new virus an inter-

national threat for people. COVID-19 has disrupted the social and economic order in the world. The government efforts to limit the spread of the virus COVID-19 have had the economic effects on companies. In the first months of 2020, the crisis begins. In the paper, two situations in Polish steel industry are presented: COVID-19 crisis and financial crisis of 2009. Three fields are analyzed: manufacture of steel production and finished steel products, steel consumption (apparent consumption and real consumption), foreign trade in steel products (exports and imports).

STEEL PRODUCTION IN THE 2009 CRISIS AND IN THE COVID-19 CRISIS

In 2009, the steel production was 7 129 thousand tonnes. It was the lowest volume of steel production in the Polish steel industry from the economy transformation in the country. The average annual production in the particular decades was as follows: about 10 600 thousand tonnes in 1990-1999, 9 318 thousand tonnes in 2000-2009 and 8 928 thousand tonnes in 2010-2019 [5]. The financial crisis in US started in 2007. In that year, the steel production in Poland was high, about 10 631 thousand tonnes. The first decreasing of steel production was in 2008 (down 15 % compared to 2007) but the high decreasing of steel production in Poland was in 2009 (down 34 % compared to 2007). After the crisis, steel production in Poland only two times was above 10 million tonnes (10 333 thousand tonnes in 2017, and 10 165 thousand tonnes in 2018) [5].

In COVID-19 crisis, in the period from January to June 2020, the steel production was 4 044 thousand tonnes. In quarters of the years, the steel production was: 2 098 thousand tonnes in the first quarter of 2020,

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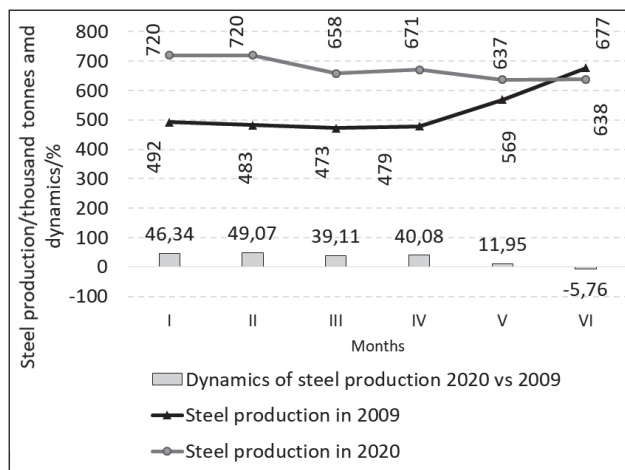


Figure 1 Steel production in Poland in the COVID-19 crisis and in the crisis of 2009 (only the first half) [own study based on data from Polish Steel Association [5]

Table 1 Production and dynamics in finished steel products in Poland in the COVID-19 crisis and in the crisis of 2009 [5]

Products	Production in the first half-year		Dynamics 2020 vs 2009
	2020	2009	
	/thousand tonnes		/ %
Hot-rolled products	3 756	2 879	30,5
including long	2 508	1 966	27,6
including flat	1 248	912	37,0
Cold-rolled sheets and strips	491	294	67,0
Galvanized sheets and tapes	387	170	128,2
Tubes and pipes, incl.:	212	165	28,5
seamless	55	74	-27,0
welded	160	91	75,8

1 946 thousand tonnes in the second quarter. In 2009, the steel production was 7 130 thousand tonnes. In particular quarters of the year, the steel production was: 1 448 thousand tonnes in the first quarter of 2009, 1 725 thousand tonnes in the second quarter, 2 052 thousand tonnes in the third quarter, 1 905 in the fourth quarter. The Figure 1 shows the trends of steel production in two analyzed crisis periods (comparable periods are from January to June because at the moment the data for steel production in Poland in 2020 are available from January to June). Based on the presentation of trends, it was found that only one decline in the steel production was larger, it was in June 2020 (compared to the 2009 crisis, down 5,76 %). When analyzing the trends, it was found that the steel production in Poland in the COVID-19 period was higher than in the financial crisis of 2009 (excluding June 2020). The largest decrease in production was recorded in seamless pipes (-27 %). In other products there was the increase. The largest increase in steep product in Poland was in the category: galvanized sheets and tapes (128,2 % in the first half of 2020 compared to the first half of 2009). All comparing the manufacture of finished steel products is presented in the Table 1.

STEEL CONSUMPTION IN THE 2009 CRISIS AND IN THE COVID-19 CRISIS

The apparent steel use of finished steel products in 2009 amounted to 8 194 thousand tonnes (less by 3 300 thousand tonnes versus 2008, and less by 3 800 thousand tonnes versus 2007). The highest consumption of finished steel product (apparent) in Poland was in 2018 (about 15 million tonnes) [5].

In 2020, the period from January to June, the apparent consumption was 6 252 thousand tonnes. In the first three months of 2020, the apparent steel use was above one mil-

Table 2 Consumption and dynamics in finished steel products in Poland in the COVID-19 crisis and in the crisis of 2009[5]

Products	Period	Consumption in the first half-year		Dynamics
		2020	2009	2020 vs 2009
	Month	/thousand tonnes		/ %
Flat	Jan.	635	286	122,03
	Feb.	630	360	75,00
	March	706	378	86,77
	April	537	296	81,42
	May	523	316	65,51
	June	554	361	53,46
	Total	3 585	1 997	79,52
Long	Jan.	373	250	49,20
	Feb.	449	262	71,37
	March	376	271	38,75
	April	332	179	85,47
	May	332	233	42,49
	June	363	240	51,25
	Total	2 225	1 435	55,05
Tubes	Jan.	87	58	50,00
	Feb.	97	79	22,78
	March	88	81	8,64
	April	58	66	-12,12
	May	53	80	-33,75
	June	63	82	-23,17
	Total	446	446	0,00

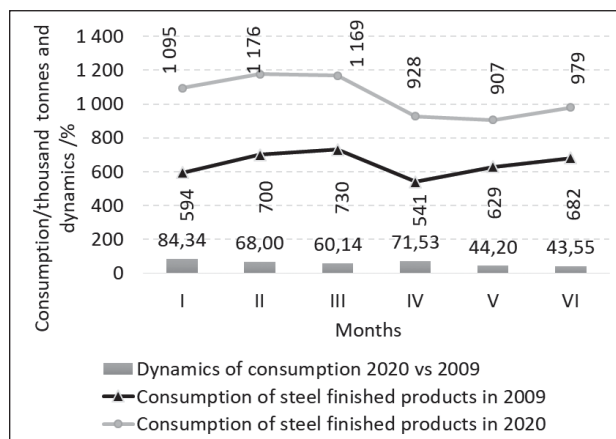


Figure 2 Apparent consumption of finished steel products in Poland in the COVID-19 crisis and in the crisis of 2009 [own study based on data from Polish Steel Association [5]

Table 3 **Foreign trade and dynamics in finished steel products in Poland in the COVID-19 crisis and in the crisis of 2009[5]**

Products	Foreign trade in the first half-year		Dynamics
	2020	2009	2020 vs 2009
	/thousand tonnes		/ %
Total			
Flat	4 132	2 088	97,89
Long	2 392	1 185	101,86
Tubes	585	299	95,65
Exports			
Flat	734	346	112,14
Long	1 337	994	34,51
Tubes	252	114	121,05
Imports			
Flat	3 398	1 742	95,06
Long	1 055	464	127,37
Tubes	333	185	80,00

lion ton monthly (1 095 thousand tonnes in January, 1 176 thousand tonnes in February and 1 169 thousand tonnes in March). From April through May decreasing (928 thousand tonnes and 907 thousand tonnes) and increasing (again) in June (979 thousand tonnes). In 2020, the period from January to June, the apparent finished steel products consumption was 6 257 thousand tonnes. In 2009, the apparent consumption in the period from January to June was 3 876 thousand tonnes of steel products. Compared to 2020 (in this period) less by 2 378 thousand tonnes. Changes illustrating the volume of steel consumption in the COVID-19 crisis and the crisis of 2009 are presented in Figure 2 and more information in Table 2.

Based on the data in Table 2, it was found that consumption of finished steel products in Poland in the COVID-19 period was higher than in the crisis in 2009 (excluding tubes).

FOREIGN STEEL TRADE IN THE 2009 CRISIS AND IN THE COVID-19 CRISIS

Foreign trade in the steel products in 2009 was 9 489 thousand tonnes. In 2008, the foreign trade was 13 606 thousand tonnes and in 2007, the foreign trade was 13 606 thousand tonnes 13 335 thousand tonnes. In 2009, the foreign trade decreased 30 % in volume compared to 2008 and decreased 29 % compared to 2007.

In analyzed period (January to June) of 2020, the foreign trade was 7 715 thousand tonnes of steel products. In the same period of 2009, the foreign trade was 4 260 thousand tonnes (less by 3 455 thousand tonnes). The changes in foreign trade in COVID-19 crisis and in crisis of 2009 are presented in Figure 3 and in Table 3. In analyzed period (January to June) of 2020, exports was 2 605 thousand tonnes of steel products. In the same period of 2009, exports was 1 315 thousand tonnes (less by 1 290 thousand tonnes versus 2020). The changes in exports of Polish steel products in COVID-19 crisis and in crisis of 2009 are presented in Figure

Table 4 **Exports of finished steel products in Poland in the COVID-19 crisis and in the crisis of 2009[5]**

Products	Period	Exports in the first half-year		Dynamics
		2020	2009	2020 vs 2009
	month	/thousand tonnes		/ %
Flat	Jan.	159	57	178,95
	Feb.	133	52	155,77
	March	129	59	118,64
	April	100	52	92,31
	May	104	45	131,11
	June	109	81	34,57
	Total	734	346	112,14
Long	Jan.	245	142	72,54
	Feb.	214	132	62,12
	March	241	149	61,74
	April	228	177	28,81
	May	204	196	4,08
	June	205	198	3,54
	Total	1 337	994	34,51
Tubes	Jan.	37	19	94,74
	Feb.	43	16	168,75
	March	44	20	120,00
	April	46	17	170,59
	May	42	19	121,05
	June	40	23	73,91
	Total	252	114	121,05

Table 5 **Imports of finished steel products in Poland in the COVID-19 crisis and in the crisis of 2009[5]**

Products	Period	Imports in the first half-year		Dynamics
		2020	2009	2020 vs 2009
	month	/thousand tonnes		/ %
Flat	Jan.	584	256	128,13
	Feb.	600	281	113,52
	March	680	323	110,53
	April	497	288	72,57
	May	504	289	74,39
	June	533	305	74,75
	Total	3 398	1 742	95,06
Long	Jan.	196	100	96,00
	Feb.	215	81	165,43
	March	204	81	151,85
	April	145	62	133,87
	May	137	65	110,77
	June	158	75	110,67
	Total	1055	464	127,37
Tubes	Jan.	67	24	179,17
	Feb.	76	30	153,33
	March	67	34	97,06
	April	42	29	44,83
	May	37	35	5,71
	June	44	33	33,33
	Total	333	185	80,00

4. Imports of steel products in 2020 (from January to June) was 5 110 thousand tonnes. In the same period of 2009, imports was 2 548 thousand tonnes (less by 2 562 thousand tonnes versus 2020). The changes in imports

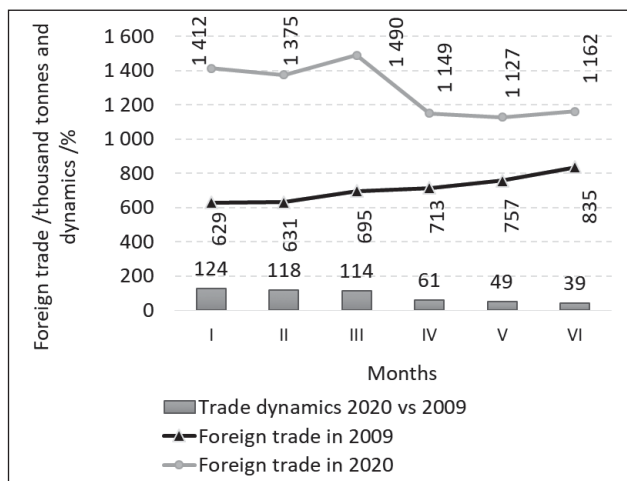


Figure 3 Foreign trade of steel products in Poland in the COVID-19 crisis and in the crisis of 2009 [own study based on data from Polish Steel Association [5]]

of finished steel products in COVID-19 crisis and in crisis of 2009 are presented in Figure 5.

More information about exports and imports is in Tables 4 and 5.

CONCLUSIONS

On the basis of the analyses it was found that: analyzed situation in steel industry in Poland the first half of 2020 is better than in the first half of 2009 according to the volume of steel production, apparent consumption of finished steel products and foreign trade in steel products.

Acknowledgements

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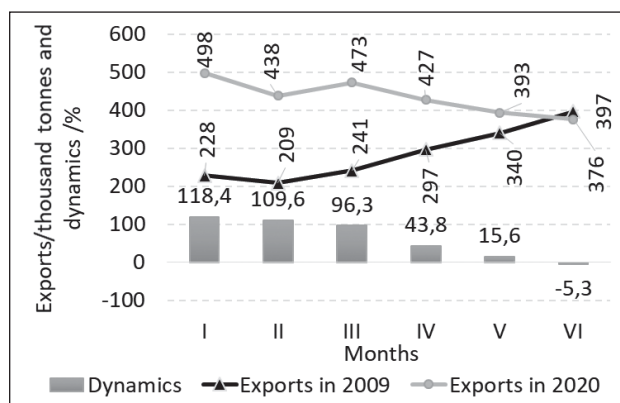


Figure 4 Exports of steel products from Poland in the COVID-19 crisis and in the crisis of 2009 [own study based on data from Polish Steel Association [5]]

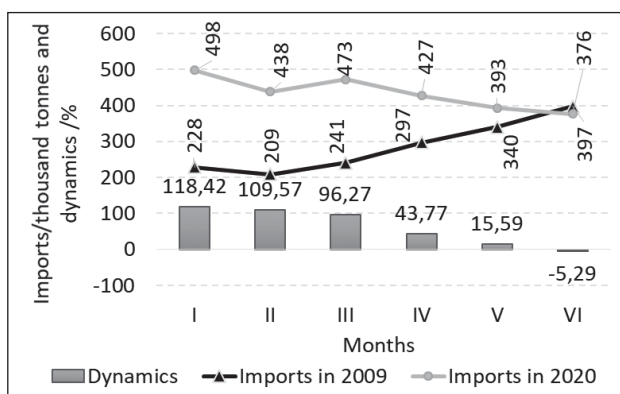


Figure 5 Imports of finished steel products to Poland in the COVID-19 crisis and in the crisis of 2009 [own study based on data from Polish Steel Association [5]]

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Note: B. Gajzik is responsible for English language, Katowice, Poland