

STEEL INDUSTRY IN NEW EU MEMBER STATES IN COMPARISON WITH THE GLOBAL TRENDS

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Accession of the metallurgically significant countries of the Central and Eastern Europe to the EU in 2004 was conditioned by fulfilling the Restructuring Programs as the foundation for achievement of competitiveness and guarancy of viability. The Restructuring Programs, which fulfilling and regular monitoring had lasted 5 years, demonstrated the right of the significant position of the steel industry in the new EU members, especially in Poland, Czech Republic, Slovakia, and in Hungary. The objective of the article is to point to the key elements in context of steel industry global trends, regarding either production or especially utility values and total consumption. In this connection, privatization took an important role too.

Key words: steel, products, consumption, Central Europe, world

Industrija čelika u novim članicama EU u usporedbi sa globalnim trendovima. Prinos metalurgije glavnih zemalja Srednje i Istočne Europe u EU u 2004. je bilo ostvarenje restrukturiranja programa kao temelj za postizanje konkurentnosti i jamstvo opstanka. Restrukturiranje programa, provedba i redovito praćenje za 5 godina opravdalo je značajno mjesto u industriji čelika u novim zemljama EU, naročito u Poljskoj, Češkoj, Slovačkoj i Mađarskoj. Ovaj članak ima za cilj istaknuti ključne elemente u razvojnom konextu industrija čelika u svijetu, kako u pogledu proizvodnje, a posebice u odnosu na kvalitete i ukupnu potrošnju. Važan element u tom pogledu, nastavak privatizacije.

Ključne riječi: čelik, proizvodi, potrošnja, Centralna Europa, svijet

INTRODUCTION

In the end of February 2010, when this article was being prepared, the figures of global steel production in January 2010 were announced comparing the situation of the previous year. Production of 109 millions tons in 1/2010 represents 25 % increase year-on-year. The coarse estimate, i.e. multiplication of this figure by 12, shows the annual steel production at the level higher than 1300 million tons. At the World Steel Association Annual Conference in Beijing in October 2009, the prediction of the consumption in 2010 was introduced as it is shown in the Table 1.; that represents return to the level of 2008 [1].

Nevertheless, the trends of consumption as well as production vary region to region. So, the ratio of particular region has substantially changed. The Figure 1. shows growing share of Asia at the expense of EU and NAFTA countries [1]. The share of Asian countries grew by nearly 10 % within just last two years; this situation is mainly because of rapidly growing China. It is necessary to stress that within two last years, when the crisis impacted the whole world, only China and India show out growing steel production.

This article documents the development of the Central European countries – mainly Poland, Czech Republic, Slovakia, and Hungary. In these countries the steel indus-

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Table 1 ASU (Apparent Steel Use) Finished Steel /mil. t

	ASU	Change
2008	1 207	-1,4%
2009	1 104	-8,6%
2010	1 206	+9,2%

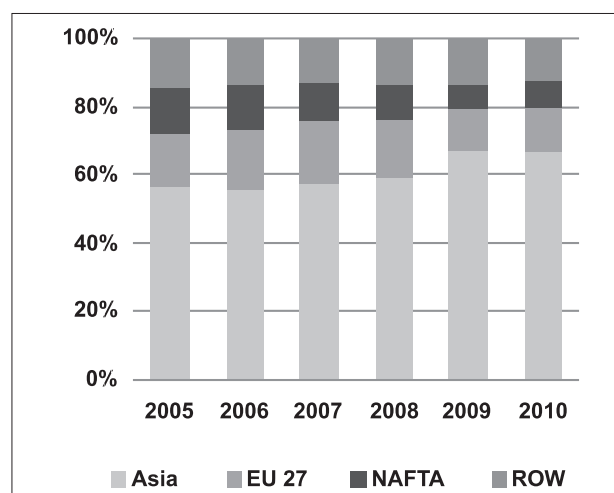


Figure 1 ASU by regions; ROW (Rest of World)

try was perceived as the sensitive branch, thus viability criteria as the indicator of competitiveness had to be achieved. Moreover, the fulfilling of the restructuring program was the compulsory part of the Accession Treaty.

HISTORY OF THE CENTRAL EUROPEAN STEEL INDUSTRY

Regarding the quest after the steel production in particular country, the specific regional conditions should be taken into consideration. Looking at the dates of establishment of the both main steel companies and educational institutions – technical universities – the steel tradition goes at least 200 years back. For example, establishment of the Mining Academy in Banská Štiavnica reaches the year of 1762, the Montan Institute in Jáchymov (Joachimsthal) was established in 1716. Academia Metallurgica Omnium Prima was established in 1763 as a part of the Charles University and mainly the Imperial Decree, which influenced the birth of Technical Universities in Austrian Leoben and Czech Příbram (the university moved to Ostrava in 1945) in 1849. The Academy of Mining in Cracow was established in 1919, the same year Poland recovered its independence.

Even today's significant steel companies have their roots in the long tradition. The reason of formation of the steel regions was local deposits of iron ore and sufficiency of energy, mainly from the water and woods and later coal, when the steel companies concentrated to the coal basins. The rising of the new transport infrastructure even accelerated the development of this industry.

Further development of communications, followed by the construction and later the machinery went on during 19th and the whole 20th century. The peak of steel production in the four (three then) countries was in the end of 1980s, when 35 million tons of steel were produced – e.g. 17.1 million tons in Poland, 15.1 million tons in Czechoslovakia and 3.7 million tons in Hungary in 1986. This production represented the utilization of about 80 % of the capacities [2].

Political and economical changes in 1989 distinctively influenced steel industry as well as other traditional branches. This showed in the drop in consumption at first, so the production was exported and gradually decreased. Later, the quantity of imports started to grow and namely for the products our companies were not able to produce because the manufacturers of steel products increased their requirements. It is possible to say that these trends were similar in all four countries. The economy of this situation was even accelerated by the policy of the banks. The environmental legislation was also the new and very distinctive aspect, mainly the Law on the Air Protection. Above all, the weird approach of the new political garniture to the heavy industry in their effort to differ from their predecessors resulted in drop of new investments and impossibility to finance the down-stream facilities as it was done in the old EU countries.

The solution of the situation in connection with interest in the admission to EU was to achieve the viability criteria, in order to be fully competitive within Europe as well as other markets. This led to the removal of the obsolete capacities, increase of the labor productivity and fulfilling the aforementioned restructuring programs. In the case of the Czech Republic it was Protocol No. 2, and for Poland it was Protocol No. 8 of the Treaty of accession. The similar situation was in Slovakia and

Hungary. The fulfilling of the restructuring program was regularly monitored by EU twice a year.

Simultaneously, the main producers of all countries were privatized. Today's steel companies have transparent owners, in many cases they are part of the multinational groups. The industry is now viable and fully competitive.

The beginning of the 21st century was significant not only because of the termination of the ECSC after 50 years of the activity [2] but also by the most extensive enlargement of EU – from 15 to 25 countries. Besides four countries mentioned in this article, also Latvia and Slovenia are the new EU members producing steel.

Nevertheless, it is necessary to stress that the process of restructuring in the new EU members was accompanied not only by bold drop of capacities and increase of productivity, but also by new legislative requirements, regarding mainly environmental and social issues. Investments to the primary production ensued from this situation, while the old EU members already invested in the final production. Moreover, after the EU admission, the last customs barriers fell, that resulted in enormous growth of imports, mainly because of the requirements of customers for products, which were not available at the domestic markets. The share of import converged to 70 %, for some branches – mainly the automotive – it was even 90 %. The example of the trends of steel trade is shown in the Figure 2 and 3 [3-5].

IMPACT OF THE GLOBAL FINANCIAL AND ECONOMIC CRISIS

The period of the growing imports could be characterized as the period of the growing demands of customers on the utility value of final steel products. Rapidly growing demands of customers, especially on the sophisticated products, resulted in the fact that only 30 % of steel products at today's global market are older than 10 years [6]. For example, the new advanced high-strength steels used in the automotive not only improve the economy of engine operation and thus improve the environmental parameters of means of transport, but also improve the safety of transport. This fact results in the close cooperation of the end users with steel producers mainly in the scope of R & D. It shows us the only way the Central European steel industry should follow. The global crisis even amplifies this need.

Regarding the steel sector, the global economic crisis started to show itself worldwide in the second half of 2008. Its impact has been varying regionally; we can say that the traditional steel regions have been affected more severely than areas that can be understood as emerging ones. Some world regions, especially China, India and the Middle East countries showed out even the increase in production and consumption. This fact is confirmed by the figures of the Figure 4., which compares the trends in production of the World, China and EU27 in the period of 2000 to 2009 [7].

As it concerns the Central European countries, the impact of the crisis – comparing the steel production in

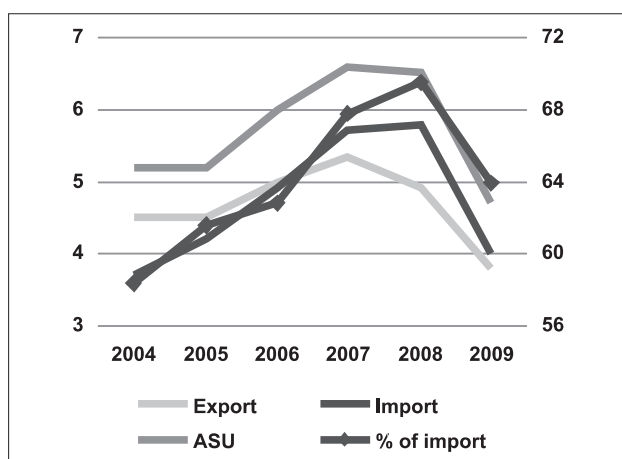


Figure 2 Trends of Commercial Characteristics in Czech Republic / mil t;%

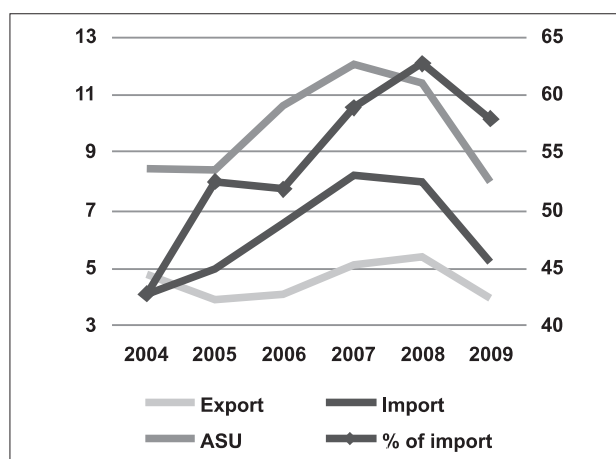


Figure 3 Trends of Commercial Characteristics in Poland / mil. t;%

Table 2 Comparison of steel production in 2008 and 2009 / mil. t

	2008	2009	% change
World	1304,2	1199,1	-8,1
China	500,3	567,8	+13,5
EU-27	198,0	139,1	-29,7
Czech Rep.	6,387	4,594	-28,1
Slovakia	4,490	3,747	-16,5
Poland	9,728	7,208	-25,9
Hungary	2,096	1,401	-33,2

2008 and 2009 – was similar as in the other developed countries. Nevertheless, in these countries, where the production of cars dramatically grew in the last years, the drop was influenced mainly by the construction and machinery connected to the construction. Production of household appliances has some effect, too.

Relatively distinct reaction to the crisis, which resulted in restricting the production capacities of less efficient facilities and strong pressure to the costs reduction, allows the steel companies to survive the crisis in the condition allowing rapid reactions in the case of the demand resurrection. Table No. 2 shows the steel production drop between 2008 and 2009 [8].

The global decrease, which is less than 10 %, is strongly influenced by the BRIC countries – Brazil, Russia (to the less extent due to proximity of EU), India and China. The analysis of these global trends is an off-topic of this article, but we must realize that China changed from the net importer to the net exporter within relatively short period.

The global recovery is also evident from utilization of the world's steel capacities, which were used to nearly 90% until the first half of 2008 and then dropped as far as 58% in December 2008. Since then it has been growing as shown in Figure 5 [8].

CONSEQUENCES OF THE CRISIS

The World Steel Association forecast as well as the situation in particular steel top countries; clearly prove a trend of the shift of consumption and production of steel

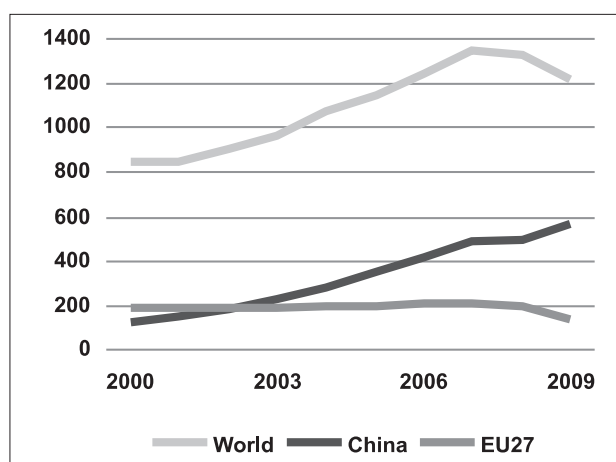


Figure 4 Steel production / mil. t

from North America and Europe to Asia. worldsteel forecasts also the growing share of regional consumption of steel products in Asia. The Figure 1 depicts the situation between 2005 and 2010. But the most important is that within the two year period (2008 to 2010) the global steel consumption returns to the same level, but the share of Asia has increased by almost 10%, reaching two-thirds of global consumption [1].

What consequences it brings to the Central European countries? The end users will be pushier regarding the level of product sophistication, the enduring cooperation between producers and customers, mainly in the R & D scope, will become the business as usual. However, all these changes must respect the legislation, mainly in the field of environment, energy and finance. The carbon leakage as a reaction to needlessly strict EU legislation in the scope of carbon dioxide emissions reduction is imminent for the Central European countries [5].

For example, to sketch in the matter: the CO₂ emissions were 2.8 bln tons in USA and 2.7 bln tons in China in 2007. The 2017 forecast counts with the growth to 3.4 bln tons in USA and 4.3 bln tons in China. This is in direct contradiction to the EU obligation to decrease the carbon dioxide emissions by 20 % till 2020, which can harm or even destroy the Central European industry in the end [6]. In that case, the price would be too high.

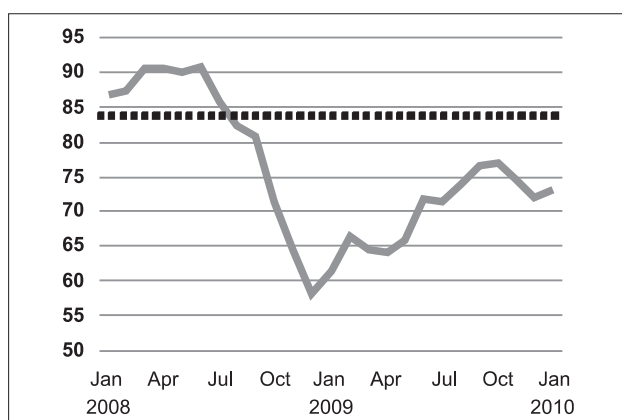


Figure 5 Monthly global utilization of the steel capacities / %

CONCLUSION

As it has been already mentioned, the key driving engine of the consumption and production of steel are the Asian countries as well as Russia and Brazil. The BRIC countries are often evaluated separately in order to demonstrate the dynamic of the “hunger” for the steel products. Consumption is no more connected to the traditional countries, while the new capacities are taking over the leading role and facing the global crisis more easily. The co-operation of producers with their customers is slightly becoming utterly requisite. This fact will lead not only to better utility values of the products but also to the reduction of the environmental burden during production as well as use of the final products.

Consumption and production of steel products is also influenced by the macroeconomic situation. The comparison of CE countries with the traditional EU members is shown in Table 3. [3].

Table 3 GDP growth / %

	2007	2008	2009	2010	2011
France	2,1	0,3	-2,3	1,2	1,5
Germany	2,5	1,3	-4,8	1,5	1,7
EU 10	2,5	0,6	-4,0	1,1	1,7
Czech Rep.	6,1	2,3	-4,0	2,1	3,1
Hungary	1,0	0,6	-6,5	0,0	3,4
Poland	6,8	4,9	+1,4	1,7	3,0
Slovakia	10,6	6,2	-4,8	3,1	4,3
EU	2,7	0,7	-3,9	1,1	1,7

The specific consumption (i.e. consumption per capita) of steel products is a paramount factor for the development in particular countries. Following Table 4. shows that the new member countries, especially CZ and SLO overtop the values of traditional EU members as well as the NAFTA countries [5].

The recent trends in the World and Europe prove that steel products are still indispensable, while the main branches of users are general machinery, construction and automobile industry. The historically significant re-

gions, mainly Europe and North America are facing severely competitive environment from Asian countries, mainly China. The prognoses indicate growth not only of production but also of consumption in these countries – the consumption per capita in China should exceed 400 kg this year.

Table 4 Trends of specific ASU / kg per capita

	2006	2007	2008	2009	2010
World	179	193	190	174	190
Germany	475	517	496	350	385
France	261	269	251	170	192
Austria	483	488	474	341	372
EU15	407	421	387	265	299
Czech Rep.	580	638	631	439	467
Poland	279	315	302	203	236
Hungary	224	265	273	173	197
Slovakia	363	422	376	245	271
Slovenia	593	687	702	631	641
EU12	289	322	294	184	202
EU27	382	400	367	248	278
Russia	246	285	250	176	191
USA	387	350	319	195	232
China	277	322	331	394	413
Japan	604	622	597	410	475
Korea	1 037	1 136	1 210	953	1 102

The way for the steel companies of the Central Europe has to follow enduring cooperation with customers, production of higher share of sophisticated products as well as respecting the legislation requirements regarding decreasing the environmental burden, energy consumption and improving the SOH conditions. The potential of the domestic customer branches is the positive promise to the future.

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