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IMPACT OF THE METAL PROCESSING INDUSTRY ON INDUSTRIAL PRODUCTION IN CROATIA DURING THE PERIOD OF RECESSION: LESSONS LEARNED

Abstract

The metal processing industry has historically had a large role and importance for the Croatian economy. The current picture of the economy reflects the historical situation, trends and events that are described in the paper. In order to understand macroeconomic indicators and certain events, it is important to analyse the macro-environment, because it greatly affects the development and operations of an enterprise.

The general economic climate is explained, as well as its underlying indicators that affect the competitiveness. The goal of this paper is to show lessons learned regarding the impact of the metal processing industry on industrial production in Croatia during the period of recession. These lessons might indicate how to find the best business strategy that will enable the development and prosperity of enterprises in the global market in the future. There are no rules or definitions for achieving success. The enterprise must define its pathway if it wants to accomplish its goals - because an enterprise without strategy is like a ship without a rudder. There is a growing emphasis on the importance of industrial production, so the metal processing industry today shows signs of a slight recovery and growth, which still cannot be compared with the previous situation.

Keywords: Industry, metal processing, enterprise, competitivness, strategy

1. Introduction

This paper systematically describes and analyses the metal processing industry in Croatia. The metal industry has always had an important place in the development of the economy. Today this industry is trying to reach its former levels of business. The problem is poor competitiveness and technological obsolescence of production capacity, and the disappearance of the traditional market in which these companies used to offer their products. In the transition period, the role of industry was completely neglected, but nowadays there is a growing understanding of its value. This paper analyses the development indicators of the metal processing industry in the Republic of Croatia. Primarily it shows the structure of the industry, the number of enterprises and employees within a five-year period, from 2008 to 2012. The paper presents the economic trends in 2008 before the outbreak of the global economic crisis and the state and movement of the economic trends after the crisis. As for the metal processing industry, it was primarily affected by the local version of the crisis (whose main feature is a permanently high level of indebtedness and long-standing trend of de-industrialization) rather than by global influences.

2. Strategy as a tool for strengthening the competitiveness of enterprises and industry

Generally, it is difficult to define exactly what competitiveness means, and it is difficult to achieve. "The European Commission defines competitiveness as the ability to produce goods and services that will meet the challenges of international markets, while maintaining a high and sustainable level of income or, more generally, the ability to create, with the pressures of external competition, relatively high income and the level of employment" (European Commission[1], 1999: 75).

For a successfully designed strategy, a company must have a defined mission, vision and goals. "Often the mission and the vision are identified as one concept, but there is a great difference between them" (Cummings, Davies, 1994: 149). When defining a successful strategy, as it is emphasized by Weihrich and Koontz (1998), there are three key questions: where the company is now, where it wants to go and how to reach its desired goal. To know where an enterprise is and where it is going, it should know what the purpose of the company is and what its geographic orientation is - which can be local, regional or global.

The strategy must be flexible and changeable regarding impacts such as new competitor moves, new customer preferences, technological achievements, changing market conditions, crisis situations etc. Good strategy and its successful implementation are the result of good management. "A large number of companies believe that achieving long-term competitive advantage over competitors is most dependent on owning and developing knowledge and skills, and only about having a recognizable product. The reason is that competitors are able to copy a popular or innovative product, but it is far more difficult to figure out how to duplicate the experience and competitive advantages that a company has created and developed for long time" (Thompson, Strickland, 2006: 6).

Strategies that do not create or encourage changes in their environment will not survive. A company should constantly strive to develop a competitive edge. It is necessary to seek new opportunities and exploit market opportunities that other companies have not taken advantage of. Companies need to look for new customers and create customer needs for new products and services.

3. Analysis of the metal processing industry in the Republic of Croatia

How powerful an industry is depends on its quality. "The quality of the industry is determined by the structural structure, technological and capital development, product competitiveness, age and gender structure, labour force qualification, etc. Industrial and economic regions depend on different types of industries" (Stiperski, 1995: 124). Development is the technological improvement of production. "The cause of Japan's industrial product's success and competitiveness is more of a constant technological advancement, than in major scientific discoveries. The industry that is not technologically perfected was sentenced to failure. Technological improvement in production requires considerable financial resources and special skills in the workforce" (Sayer, 1989: 670).

"The metal processing industry is one of the most important industries in the Republic of Croatia, which occupies a key position in the economy structure, while also being one of the leading export activities. Businesses are focused on: export, introduction of new technologies, education of professional staff, certification of quality systems, environmentally friendly production, and connectivity with domestic and foreign manufacturers. The manufacturing program of the metal processing industry in Croatia is very diverse and could meet all the needs of potential buyers and partners. Entrepreneurs in the sector continue to strengthen, and this is manifested by an increase in their production capacity, new products and greater exports" (Agency for Investments and Competitiveness[2]).

The problems encountered by the metal processing industry relate above all to the technological equipment, namely most of the companies have obsolete technology and equipment. "These restrictions make it impossible for companies to exploit their export potentials completely. There are difficulties in technical communication with developed EU industries (transfer of drawings made in different CAD systems, benchmarking and unique labelling of EAN products). To obtain long-term co-operative work, it is necessary to master the processing of hard materials and higher demands on the accuracy of measurements and shapes, and surface quality, which requires knowledge of new technological processes and the application of new production technologies. Thereafter, there are not enough recognizable products in the metal-processing industry that are competitive on the international market" (Majdančić et al., 2006).

"Croatian companies in the metal processing industry, especially in the metal products sector, are following world quality standards. The number of companies that have one of the ISO 9000 certificates is increasing, which is a precondition for co-operation and export to developed industrial countries and the establishment of sub-contracting and strategic partnerships, in particular with domestic machine and machine manufacturers" (Croatian Chamber of Economy[3]).

To be able to do an analysis of the metal processing industry, it is necessary to know how it is structured. "According to the National Classification of Activities 2007 (NKD 2007), the metal processing industry belongs to the section C, where the processing industry is engaged in the transformation of raw materials into a new product. In the classification of activities, there may often be ambiguity around the boundary between the manufacturing industry and other areas of the classification system" (National Classification of Activities 2007[4]). It is important to note that such classification of activities has been applied since 2008, whereas before that the classification with other terms was applied. In the metal industry the sectors are:

- C24 Manufacture of metals
- C25 Manufacture of fabricated metal products, except machinery and equipment
- C28 Manufacture of machinery and equipment, n.e.c.

4. The influence of the metal processing industry on industrial production in the Republic of Croatia

H: The metal processing industry has a significant influence on the level of industrial production in the Republic of Croatia.

For proving the underlying hypothesis, various data are used to explain the positive impact on the importance of the metal processing industry and the level of industrial production in the Republic of Croatia.

For proving hypothesis 0, two assumptions have been set:

H0.1: There is no significant influence of the metal processing industry on industrial production with regard to observed parameters,

H0.2: There is a significant influence of the metal processing industry on industrial production with regard to observed parameters.

According to the NKD 2007, industrial production or the processing industry belongs to section C. The activities of the manufacturing industry are presented in Table 1.

Table 1 Structure of the manufacturing industry in the Republic of Croatia

Activity according to NKD 2007	Sector
C10	Manufacture of food products
C11	Manufacture of beverages
C12	Manufacture of tobacco products
C13	Manufacture of textiles
C14	Manufacture of clothing
C15	Manufacture of leather and related products
C16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of straw and plaiting materials
C17	Manufacture of paper and paper products
C18	Printing and reproduction of recorded footage
C19	Manufacture of coke and refined petroleum products
C20	Manufacture of chemicals and chemical products
C21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C22	Manufacture of rubber and plastic products
C23	Manufacture of other non-metallic mineral products
C24	Manufacture of metals
C25	Manufacture of fabricated metal products, except machinery and equipment
C26	Manufacture of computers and electronic and optical products
C27	Manufacture of electrical equipment
C28	Manufacture of machinery and equipment
C29	Manufacture of motor vehicles, trailers and semi-trailers
C30	Manufacture of other transport equipment
C31	Manufacture of furniture
C32	Other manufacturing industries
C33	Repair and installation of machinery and equipment

Source: Made by the authors according to the Croatian Bureau of Statistics

The manufacturing industry is comprised of 24 different activities. This paper analyses the metal processing industry or sectors of the manufacturing industry: C24, C25 and C28. This hypothesis analyses the importance of the selected sectors to the entire manufacturing industry. The relationship between the number of companies in the metal processing industry and the manufacturing industry is the first indicator used to accept or reject H0. Indicators are listed in Table 2 for a period of five years.

Table 2 The number of enterprises in the metal processing industry and the entire processing industry of the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	10,621	10,771	10,640	9,851	9,736
C24	105	109	106	105	107
C25	1,726	1,752	1,746	1,612	1,540
C28	558	562	579	538	570
Σ(C24,C25,C28)	2,389	2,423	2,431	2,255	2,217
% Σ in C	22.49%	22.49%	22.84%	22.89%	22.77%

Source: Made by the authors according to the data taken from the Croatian Chamber of Commerce - County Chamber Slavonski Brod

Table 2 shows that the total number of enterprises in the metal processing industry Σ (C24, C25, C28) increased in the observed period, but the share of the metal processing industry in the total processing industry (% sum in C) is equal. As the metal processing industry grows, the total manufacturing industry is growing. The conclusion is that the number of companies in this field has a significant impact on the manufacturing industry, because the share of the metal processing industry in the manufacturing industry is above 22%. So, the metal processing industry makes one-fifth of the companies in the manufacturing industry, which is a very large share. The number of companies in the metal processing industry has a significant impact on the manufacturing industry of the Republic of Croatia.

The second element to support H0 is net wages and salaries in the metal processing industry and their impact on the manufacturing industry as a whole. An overview of the amount and the ratio of net wages and salaries to the metal processing industry and the manufacturing industry is given below in Table 3.

Table 3 Net wages and salaries in the metal processing industry and the entire processing industry in the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	12,284,875,500	12,405,403,437	12,453,570,065	12,636,027,764	13,165,461,946
C24	258,796,458	280,565,993	295,053,753	302,570,024	345,379,281
C25	1,440,428,849	1,315,210,472	1,258,761,454	1,218,444,436	1,158,556,841
C28	637,527,893	608,203,058	582,850,256	593,036,780	639,923,897
Σ(C24,C25,C28)	2,336,753,200	2,203,979,523	2,136,665,463	2,114,051,240	2,143,860,019
% Σ in C	19.02%	17.76%	17.15%	16.73%	16.28%

Source: Made by the authors according to the data taken from the Croatian Chamber of Commerce - County Chamber of Slavonski Brod

Table 3 shows that in the observed period the net wages and salaries of the processing industry decreased in relation to 2008. In the metal processing industry, this trend is reversed, and net wages and salaries slightly increased in 2012. The percentage share of wages and salaries of the metal processing industry in the total processing year by year is constantly increasing, on average 0.5 per year. From this it can be concluded that the net wages and salaries of the metal processing industry have a significant impact on the manufacturing industry of the Republic of Croatia.

The third element to support H0 is the profit of the metal processing industry and its impact on the manufacturing industry as a whole. The breakdown of profit for the period from 2008 to 2012 is analysed below in Table 4.

Table 4 Profit in the metal processing industry and the entire processing industry in the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	14,545,470,150	12,739,659,068	7,554,203,853	5,924,398,179	6,761,361,822
C24	622,894,257	37,684,638	20,723,828	15,944,205	29,892,550
C25	1,014,663,746	706,264,174	566,168,600	580,712,862	625,999,076
C28	351,116,915	361,118,254	228,869,307	218,517,756	271,925,496
Σ(C24,C25,C28)	1,988,674,918	1,105,067,066	815,761,735	815,174,823	927,817,122
% Σ in C	13.67%	8.67%	10.79%	13.75%	13.72%

Source: Made by the authors according to the data taken from the Croatian Chamber of Commerce - County Chamber Slavonski Brod

According to Table 4, it is evident that in the observed period, the manufacturing industry's profit is growing compared to 2008. In the metal processing industry there is also a trend of growth in 2012, but at a much lower rate than the industrial average. In other words, the percentage of the metal processing industry in total processing year-over-year did not record growth in 2008, and there has been a constant drop since 2009. In 2012, the share is growing. From this it can be concluded that the profit of the metal processing industry does not have a significant impact on the processing industry of the Republic of Croatia comparable to the number of companies and net wages and salaries. Because of this, the metal processing industry should take strategic action to increase its profits, which would result in a higher share of profit in the total processing industry.

The fourth element to support H0 is the loss recorded by the metal processing industry and its impact on the manufacturing industry as a whole. An indication of the losses over a period 2008-2012 is given below in Table 5.

Table 5 Losses in the metal processing industry and the entire processing industry in the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	6,531,989,643	6,227,677,666	9,597,650,703	6,559,472,433	7,090,781,564
C24	256,904,267	1,603,408,321	754,151,535	553,656,764	419,803,158
C25	447,393,205	514,969,935	659,076,769	249,390,463	263,991,663
C28	191,856,208	194,404,987	214,063,111	188,443,808	195,345,668
Σ(C24,C25,C28)	896,153,680	2,312,783,243	1,627,291,415	991,491,035	879,140,489
% Σ in C	13.71%	37.13%	16.95%	15.11%	12.39%

Source: Made by the authors according to the data taken from the Croatian Chamber of Commerce - County Chamber of Slavonski Brod

Table 5 shows that in the observed period, the losses of the manufacturing industry were growing in relation to 2008, mostly in 2011 (more than twice as compared to 2008). In 2012, the loss level stabilized and was at the level recorded in 2008. The share of the loss of the metal processing industry in the total loss of section C is not proportional to the number of companies - it is smaller. The only significant deviation was in 2011 when it was 37.13%. From this it can be concluded that the loss recorded by the metal processing industry is significant, but it is smaller in relation to the number of companies, and because of the stabilization that would occur in 2012 and in the overall loss, and in proportion to the section C, it can be concluded that the metal processing industry has a significant impact on industrial production, as it does not have a large share of the loss. Although, for the metal processing industry to be more competitive and successful, it is necessary to devise optimal strategic methods, and with the help of their implementation reduce the debt of this industry as well as the share of debt relative to section C.

The fifth element to support H0 is the sales revenues in Croatia in the metal processing industry and their impact on the manufacturing industry as a whole. Revenues from sales in the country in the period 2008-2012 are given below in Table 6.

Table 6 Revenues from sales in the country in the metal processing industry and the entire processing industry in the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	89,365,772,102	89,378,812,130	84,548,401,381	87,083,198,338	102,076,638,785
C24	1,017,755,046	891,680,088	784,200,959	897,074,965	1,534,011,544
C25	5,759,945,935	6,171,506,147	5,750,820,246	5,752,528,941	7,421,330,094
C28	2,340,503,634	2,169,935,956	2,003,085,556	2,255,964,613	3,012,700,327
Σ(C24,C25,C28)	9,118,204,615	9,233,122,191	8,538,106,761	8,905,568,519	11,968,041,965
% Σ in C	10.20%	10.33%	10.09%	10.22%	11.72%

Source: Made by the authors according to the data of the Croatian Chamber of Commerce - County Chamber Slavonski Brod

Table 6 shows that in the observed period, sales in the country were the highest in 2008, followed by a drop in 2009 and again growth that did not reach the level of 2008. The share of sales in the country in the total processing industry amounts on average to 10%. Such a low percentage can be explained by the fact that a large number of products of this industry are exported and that the metal processing industry is one of the major exporters. Such a strategy is desirable for the development of the industry. The small share of sales revenue within the country is a result of the collapse of large companies that were struggling with sales, but also of the destruction of related industries such as shipbuilding, or stagnation of the construction sector.

The sixth element to support H0 is revenues from sales abroad in the metal processing industry and their impact on the manufacturing industry as a whole. Revenues from sales abroad in the period 2008-2012 are given below in Table 7.

Table 7 Revenues from sales abroad in the metal processing industry and the entire processing industry of the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	56,921,341,215	57,078,482,442	53,382,582,270	46,149,905,621	53,854,397,430
C24	2,322,431,871	2,281,337,982	1,819,750,257	1,481,678,726	1,998,027,592
C25	4,907,912,075	3,926,551,122	3,304,192,017	3,301,154,405	3,457,916,637
C28	3,003,238,936	2,801,296,029	2,232,452,185	2,315,598,311	2,742,527,778
Σ(C24,C25,C28)	10,233,582,882	9,009,185,133	7,356,394,459	7,098,431,442	8,198,472,007
% Σ in C	17.91%	15.75%	13.78%	15.38%	15.22%

Source: Made by the authors according to the data of the Croatian Chamber of Commerce - County Chamber Slavonski Brod

Table 7 shows that in the observed period, foreign sales increased steadily, although after 2008 there was a recession period. The metal processing industry is one of the largest industrial exporters and the share of exports in the observed period is about 15%, increasing to 17.91% in 2012. From the data presented it can be concluded that the metal processing industry has a significant share of the manufacturing industry with regard to the realized sales revenues from abroad.

The seventh element to support H0 is investment in the metal processing industry and its impact on the manufacturing industry as a whole. Investments in the time period 2008-2012 are given below in Table 8.

Table 8 Investments in the metal processing industry and the entire processing industry of the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	7,105,497,700	7,040,836,877	8,048,192,339	10,702,638,010	11,846,301,206
C24	227,103,050	173,795,245	338,072,035	371,979,949	198,930,590
C25	742,359,243	634,817,185	453,626,470	512,336,376	726,500,874
C28	271,457,360	274,829,560	235,155,675	262,809,366	367,515,420
Σ(C24,C25,C28)	1,240,919,653	1,083,441,990	1,026,854,180	1,147,125,691	1,292,946,884
% Σ in C	17.46%	15.38%	12.75%	10.71%	10.91%

Source: Made by the authors according to the Croatian Chamber of Economy - County Chamber Slavonski Brod

Table 8 shows that investments in the manufacturing industry are constantly decreasing, while in the metal processing industry the level of investment is nearly the same. When the absolute investment of the metal processing and the entire processing industry is fully matched, the metal processing industry has a growing trend of investment, although the amount of investment is stagnating. This is to a certain extent a good indicator, as other activities are reducing their investments, whereas the metal processing industry continues to invest. Industry in general can hardly be successful without following trends and constant technological upgrades. The lack of investment would cause stagnation. Investments are one of the most important factors with which the company can achieve not only a competitive advantage but also more successful financial results. Only by investing in new technology and manufacturing methods can the company achieve competitiveness.

The eighth element to support H0 is the level of imports of the metal processing industry and its impact on the manufacturing industry as a whole. An overview of the level of imports in the period 2008-2012 is given below in Table 9.

Table 9 Imports of the metal processing industry and the entire processing industry of the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	31,367,623,091	32,739,770,909	31,559,339,770	30,055,445,580	38,721,575,501
C24	1,735,864,837	1,660,475,250	1,509,162,223	1,181,245,747	1,955,309,807
C25	2,178,103,320	2,135,741,494	1,840,220,592	1,702,155,326	2,297,998,968
C28	1,142,067,884	1,298,060,435	1,011,358,321	1,447,192,354	1,797,716,245
Σ(C24,C25,C28	5,056,036,041	5,094,277,179	4,360,741,136	4,330,593,427	6,051,025,020
% Σ in C	16.11%	15.55%	13.81%	14.40%	15.62%

Source: Made by the authors according to the Croatian Chamber of Economy - County Chamber Slavonski Brod

Table 9 shows that the level of imports of metal processing and processing industries has decreased considerably compared to 2008. The share of imports of the metal processing industry in section C amounts to an average of 15%. The level of imports of the metal processing industry is relatively high, but the result is that raw materials for the metal processing industry almost do not exist in the country and need to be imported. Domestic production of iron and other elements of production has been destroyed, so companies are forced to import. Today, many companies from overseas, due to economies of scale and scope, are much more efficient and produce at much lower costs than the domestic producers.

The ninth element to support H0 is the number of employees in the metal processing industry and their impact on the manufacturing industry as a whole. The number of employees in the period 2008-2012 is given below in Table 10.

Table 10 The number of employees in the metal processing industry and the entire processing industry of the Republic of Croatia in the period 2008-2012

	2012	2011	2010	2009	2008
C	219,838	229,102	230,016	234,437	251,770
C24	4,739	5,263	5,523	5,875	6,976
C25	26,636	25,692	24,477	23,801	25,651
C28	10,507	10,376	10,193	10,512	11,576
Σ(C24,C25,C28)	41,882	41,331	40,193	40,188	44,203
% Σ in C	19.05%	18.04%	17.47%	17.14%	17.55%

Source: Made by the authors according to the data of the Croatian Chamber of Commerce - County Chamber Slavonski Brod

Table 10 shows that the number of employees in the manufacturing industry in the period from 2008 to 2012 has decreased by about 30,000 or 13%. In the metal processing industry, the number of employees is constant, except for decreasing after 2008. From this it can be concluded that the share of the number of employees of the metal processing industry has a significant influence on the section C.

In order to better explain the previous indicators, and to better substantiate H0 in Table 11 below, a detailed description of the metal processing industry for section C is provided, which is a comparison of indicators with all industries of the manufacturing industry. The year 2012 is taken because it is the last year of the period (2008-2012) that the paper researched.

Table 11 Share of selected indicators within the manufacturing sector in 2012

	Number of employees %	Number of companies %	Net wages and salaries %	Profit %	Loss %	Income from sales in the country %	Sales of overseas sales %	Investments %	Import %
C10	17.82	11.16	17.08	7.70	12.26	27.70	8.88	15.66	15.97
C11	2.70	2.39	3.60	4.73	4.43	5.49	1.37	3.90	2.49
C12	0.33	0.0003	0.52	1.9	0	1.25	0.79	2.47	1
C13	1.51	2.08	1.03	0.37	0.87	0.66	0.68	0.54	1.12
C14	7.29	4.78	4.23	1.77	4.97	1.43	4.02	1.46	2.35
C15	3.88	1.22	2.32	1	3.35	0.46	4.28	0.71	5.79
C16	5.05	7.63	3.38	1.24	4.43	2.22	3.67	2.67	1.41
C17	1.58	1.57	1.54	0.45	6.88	1.59	1.65	2.18	2.47
C18	2.62	7.92	2.54	1.08	2.2	2.57	0.35	1.32	0.92

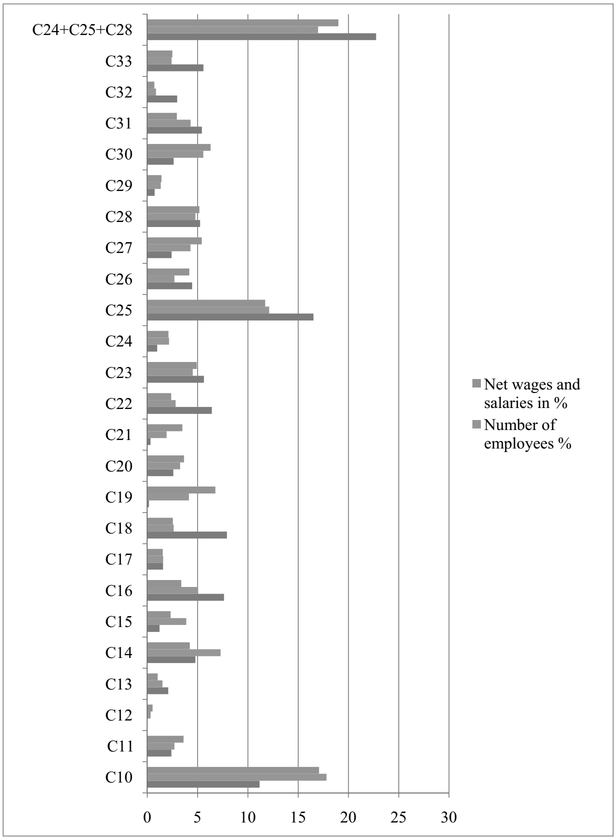
	Number of employees %	Number of companies %	Net wages and salaries %	Profit %	Loss %	Income from sales in the country %	Sales of overseas sales %	Investments %	Import %
C19	4.14	0.16	6.77	9.11	0.14	19.53	16.28	16.33	0.91
C20	3.26	2.59	3.65	1.08	16.73	4.01	5.60	4.07	7.30
C21	1.92	0.32	3.49	5.91	0.78	1.65	5.64	8.14	6.32
C22	2.81	6.42	2.37	1.23	2.34	3.02	2.01	3.15	4.98
C23	4.52	5.63	4.92	1.71	7.28	4.86	4.37	7.28	5.18
C24	2.16	0.98	2.10	4.28	3.93	1.14	4.08	3.20	5.53
C25	12.12	16.52	11.72	6.97	6.84	6.45	8.62	10.45	6.94
C26	2.70	4.46	4.18	1.88	0.57	3.91	4.37	2.52	8.83
C27	4.29	2.41	5.41	3.54	2.04	3.73	7.18	3.10	6.98
C28	4.78	5.25	5.18	2.41	2.93	2.67	5.28	3.82	3.64
C29	1.34	0.73	1.41	0.46	1.02	1.01	2.12	0.93	3.73
C30	5.57	2.62	6.29	26.93	10.78	0.99	4.80	2.40	2.73
C31	4.30	5.42	2.94	0.73	3.38	1.89	2.28	2.89	1.98
C32	0.86	2.97	0.7	0.31	0.16	0.72	0.54	0.39	0.93
C33	2.41	5.58	2.49	13.10	1.56	1.17	1.12	0.41	0.45
Σ(C24,C25,C28)	**16.98**	**22.75**	**19**	**13.66**	**13.7**	**10.26**	**17.98**	**17.47**	**16.11**
C	100	100	100	100	100	100	100	100	100

Source: Made by the authors according to the data of the Croatian Chamber of Economy - County Chamber of Slavonski Brod

Table 11 shows that the metalworking industry (C24, C25 and C28) has a significant share in almost all indicators. The only activity that is close to or in some cases has a larger share is C10 food production. Based on these indicators, it is possible to confirm the hypothesis 0 (H0) that the metal processing industry has a significant influence on the level of industrial production in the Republic of Croatia. Only, this industry needs to be restructured, invested in and improved by using strategies to make this industry more competitive. The whole processing industry is in a very bad situation, but the economic awareness of the importance of the industry for industrial development is growing. And there is a significant place and role for the metal processing industry, which is one of the leaders of the manufacturing industry (section C).

Figure 1 shows the share of all activities in the manufacturing industry for the following indicators: net wages and salaries, number of employees and number of enterprises.

Figure 1 Share of enterprises, number of employees and net wages and salaries by activities of the manufacturing industry in 2012



Source: Made by the authors according to the data of the Croatian Chamber of Economy - County Chamber Slavonski Brod

Figure 1 confirms the hypothesis. The metal processing industry with the production of food C10 has undoubtedly the highest importance in the manufacturing industry with regard to net wages and salaries, the number of employees and the number of registered companies. Within the metal processing industry, the largest share of the production sector of metal products is C25. All other activities have a much smaller share and importance for the manufacturing industry than for metal processing. Although the metal processing industry has high barriers of entry due to expensive machines, it has the most registered companies with regard to other activities. This is the result of the historical heritage that this industry has on the territory of the Republic of Croatia.

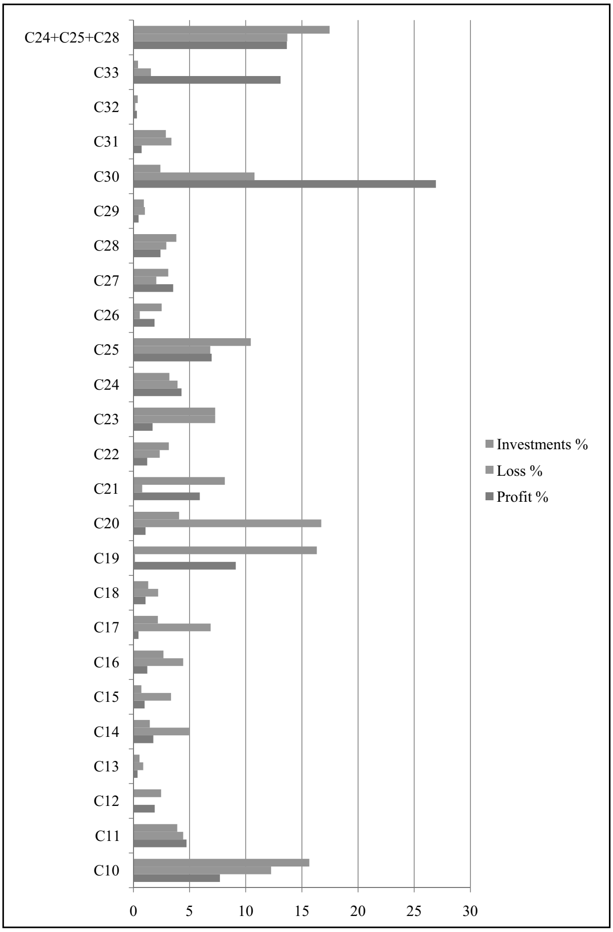
The number of employees in the metal processing industry and in the C10 sector is almost the same. Although the metal processing industry employs a large share of employees, the strategic plan should be to change the educational structure of these employees, as they are mostly unskilled and lower-skilled workers. A modern and technologically advanced manufacturing sector based on the knowledge economy should be created by the metal processing industry.

The third observed parameter in the figure are net wages and salaries, which are most often reflected in the metal processing industry. This is a logical sequence of development since the metal processing industry has the largest number of companies, a high share of employees, and it must have the largest share of wages and salaries. Although the C10 sector has more employees, it has a lower share of wages and salaries, which indicates that employee standards and salaries are more suitable in the metal processing industry.

In the domestic economy, it is necessary to make a strategic turnaround and to position it towards the development and improvement of the manufacturing industry.

Figure 2 shows the shares of all industries in the manufacturing industry for the following indicators: investments, losses and profits for the period.

Figure 2 Investments and profits by activities of the manufacturing industry in 2012



Source: Made by the authors according to the data of the Croatian Chamber of Economy - County Chamber of Slavonski Brod

Figure 2 shows that the metal processing industry has the highest share of investment in the manufacturing industry. After the metal processing industry, its production is mostly invested in the C19 sector - production of coke and refined petroleum products, and the C10 sector. But with the highest share of investment, the metal processing industry is in the group of activities with the biggest losses. Greater losses are only in the C20 sector - the production of chemicals and chemical products, and the C10 sector of food manufacturing.

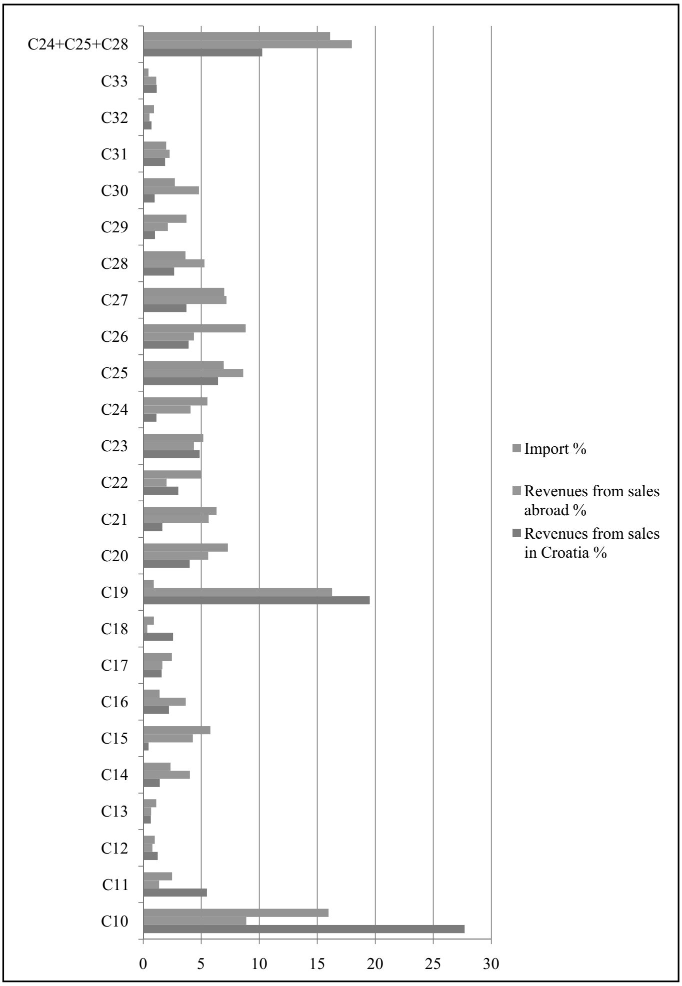
The metal processing industry has a high level of losses, and it does not have the largest share of profits. The C30 sector - production of other means of transport has the largest share.

It is necessary to use a strategy for better cost management and organization management, but also for the better management of human resources, sales, procurement, marketing etc. Despite the unanticipated financial situation of this industry, and a large number of companies in bankruptcy, a large number of micro-enterprises are doing business gain.

Strategic models and methods need to be used to make a large and significant manufacturing industry a competitive industry capable of being a regional leader. For now, the metal processing industry has no enviable financial indicators, no enviable market position, similarly to the rest of the manufacturing industry. Radical changes are inevitable for the metal processing industry to improve its financial image, and in addition to become a strategically respected and competitive industry.

Figure 3 shows the share of all industries in the processing industry for the following indicators: imports, sales revenues in the country and sales revenues from abroad.

Figure 3 Share of imports, sales revenues from abroad and in the country by activity of the manufacturing industry in 2012



Source: Made by the authors according to the Croatian Chamber of Economy data - County Chamber Slavonski Brod

Figure 3 shows that the metal processing industry and the production of food products have the largest level of imports. One of the main causes of agricultural imports is the lack of domestic capacity. The common reason for imports in the metal processing sector and C10 are lower prices of raw materials / products. The metal processing industry is not the only one with business problems; rather, this is the case for the entire manufacturing industry.

A positive indicator is that it has the highest share of sales in foreign markets compared to all other section C activities, i.e. it can be said that the metal processing industry is the largest industrial exporter. This activity should be stimulated and there should be a steady investment in its growth and development. Export is one of the elements that ensures more successful business as well as competitiveness in the market. If a company exports, its products are of satisfactory quality and desirable in other competitive markets. Although metal processing technology is generally outdated, there are many companies that still manage to export, and high levels of investment in this industry are comparable to other manufacturing industries.

The metal processing industry has significant shares and production in the domestic market, but the largest share is in the C10 sector - the production of food products, followed by the C19 production of coke and refined petroleum products, and thereafter by the metal processing industry. Other manufacturing industries have a much lower share than the metal processing industry.

Based on the presented and substantiated data it can be concluded that the metal processing industry has a significant influence on the manufacturing industry because it is the leader or at the industry top with regard to most of the observed indicators. Other manufacturing activities other than sector C10 and in some cases C19 and C30 have little individual impact on the processing industry.

As a concluding assessment of hypothesis 0, the assumption is confirmed:

H0.2: There is a significant influence of the metal processing industry on industrial production with regard to observed parameters.

5. Conclusion

This paper shows the impact of the metal processing industry on the manufacturing industry in the recession period 2008-2012. The shares of the metal processing industry as a part of the manufacturing industry, as well as the ratio of the metal processing industry and other sectors of the manufacturing industry, are presented. The metal-processing industry has historically and economically one of the most prominent roles in domestic production, so accordingly this paper shows lessons that can be used in the future to improve development. Lessons learned from research are that industrial production has to be the key of economy development through permanent investments, innovations and human resource development. This paper provides the main data of the recession period. The main drawback of the Croatian classification of activities is that there is no strict definition concerning which activities make up the metal processing industry. Thus, the authors have chosen the three major sectors of the manufacturing industry as precisely as possible to analyse the metal processing industry. Recommendation for future research is to make a permanent comparison with historical data, try to define more precisely the boundaries of the metal processing sector, as well as to compare the Croatian industry with industries and strategies of the most developed countries.

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(ENDNOTES)

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UTJECAJ METALOPRERAĐIVAČKE INDUSTRIJE NA INDUSTRIJSKU PROIZVODNJU REPUBLIKE HRVATSKE TIJEKOM RECESIJE: STEČENA ISKUSTVA

Sažetak

Metaloprerađivačka industrija ima povijesno veliku ulogu i značaj za hrvatsko gospodarstvo. Današnja slika gospodarstva odraz je povijesnih stanja, kretanja i događanja, koji su također opisani u radu. Za razumijevanje makroekonomskih pokazatelja i shvaćanje određenih događaja, bitno je analizirati makrookolinu, jer ona uvelike utječe na razvoj i poslovanje poduzeća. Nakon što je obrazložena opća gospodarska klima i njezini temeljni pokazatelji koji utječu na konkurentnost u radu, analizirani su pojmovi strategije i konkurentske prednosti. Cilj svakog poduzeća je pronaći najbolju poslovnu strategiju koja će omogućiti razvoj i prosperitet poduzeća u globalnoj utakmici. Ne postoje pravila ili definicije za postizanje uspjeha. Poduzeće mora znati u kojem smjeru ide ako želi ostvariti svoje ciljeve jer je poduzeće bez strategije kao brod bez kormila. Danas se ponovno sve veći značaj daje industrijskoj proizvodnji, tako da metaloprerađivačka industrija danas bilježi lagani oporavak i rast, koji se još uvijek ne može mjeriti s prijašnjim stanjem.

Ključne riječi: industrija, metaloprerađivačka industrija, poduzeće, konkurentnost, strategija