

## RESTRUCTURING OF STEELWORKS IN DIRECT RESEARCH

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The publication presents the most recent results of research conducted in metallurgical enterprises which build Polish metallurgical sector. Three main areas of restructuring were tested, that is repair restructuring, development restructuring and adaptation restructuring. For each type of restructuring there were certain strategies set for functioning of steelworks and their corresponding actions. The last stage of tests was the assessment of conducted restructuring activities in steelworks and reference to situation in metallurgy in perspective of following years.

*Key words:* restructuring process, metallurgical enterprise, direct research

### INTRODUCTION

Metallurgy in Poland, and in other countries where economic transformation occurred, has been restructured. Repair programs included all functions and resources. In order to conduct restructuring, however, the steelworks which were owned by the state had to be privatised first (purchase of steelworks by private capital, national or foreign). Analysis of the course of changes conducted in steelworks after privatisation may be done on the basis of statistical data and/or direct research. The author has, in previous publications, based her tests on statistical data. In this publication it was decided by her to present a part of the results achieved in a survey conducted in steelworks in Poland. The topic of the survey was a set of restructuring activities implemented after market transformation. Three periods of changes were analysed. First area of changes was conducted during market transformation (in the 90s of last century). Second scope of tests consisted of years 2001-2008 (including market conjuncture period in years 2004-2008). Third area of changes is the phase of crisis in economic cycle of many countries and where the increase of negative results took place in year 2009. For the purpose of those tests, it was assumed, that restructuring is a process of changes which occur inside the enterprise in order to achieve beneficial relationships with the surrounding. Such approach to restructuring was pointed out by, among other authors, Z.D. Hurry [1]. The essence of restructuring is the continuous adjustment of the enterprise to the dynamics of changes in the surrounding.

### TYPES OF RESTRUCTURING

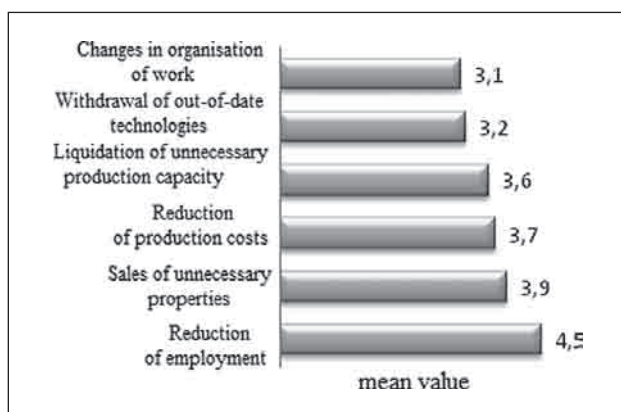
In order to set the goal of restructuring one can divide it into three types: repair, development and adap-

tive restructuring. Repair restructuring is conducted when the situation of the enterprise is very difficult. It is an alternative to liquidation or bankruptcy of the enterprise [2]. In countries which underwent market transformation such restructuring was radical and crucial change of all the business activities of the enterprises [3,4]. Repair restructuring aims at saving the enterprise, whereas in development restructuring the emphasis is put on increasing the value of the enterprise [1] by taking actions which increase the competitive advantage of the company. Development restructuring is commonly perceived as the opposite of repair restructuring. It is conducted by enterprises which are in good financial condition [5]. A good conjuncture on the market is favourable for development strategy. During an external crisis as well as during internal crisis the assumptions of development strategies in enterprises are being modified depending on the degree of dependence from the intensity of negative effects of bad conjuncture on the market. An adaptive restructuring (adjustable) is then conducted. Companies use radical saving programs [6]. Restructuring process is connected with reconfiguring the enterprises in dynamic surroundings [7].

### STEELWORKS: ABOUT REPAIR RESTRUCTURING

First scope of research was the assessment of repair restructuring. The period when repair restructuring was conducted in Polish metallurgical sector was years 1992-2006. In 1993, Polish government approved first repair program for this sector. In 2006 the conduction of the last program was finished. Steelworks taking part in the tests pointed out the necessity of conduction of the mentioned actions in order for them to function after system transformation in market economy. A scale of importance of actions conducted in steelworks during repair restructuring was fixed. Respondents assessed

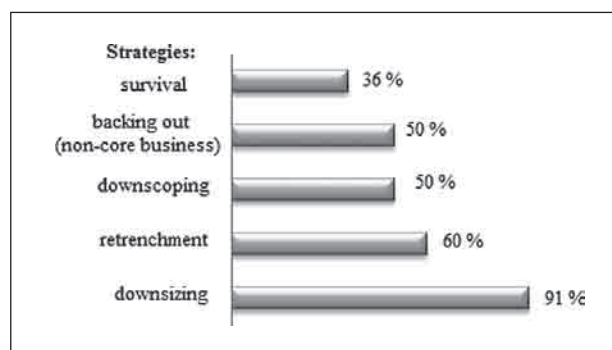
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**Figure 1** Assessment of the importance of actions in repair restructuring in steelworks in Poland [8]

the list of activities typical for repair restructuring using the scale from 1 to 5, where 1 - small importance of action for the enterprise and 5 - big importance. Results in form of the highest and the lowest average values of marks are presented in Figure 1 [8].

Tested steelworks marked reduction of employment the highest among the necessary actions in repair restructuring. Justification of such choice results from the fact that in conditions of central planning economy the maintenance of high level of employment (140 thousand of people employed in metallurgy in Poland) was the element of policy of the country (hiding the unemployment). Privatised steelworks were not able to keep such large numbers of employees due to lack of financial aids. Level of efficiency was proportionally low (a little more than 100 tonnes of steel per one employee) in reference to indicators achieved in steelworks in other countries of European Union (steelworks in Germany, in the 90s, reached the productivity of 300 tonnes of steel per one employee). Another issue that was analysed was the assumed strategic solutions in steelworks in time of repair restructuring. Strategy of downsizing dominated and was based on decrease of the sizes of metallurgical enterprises and selling the unnecessary properties. Realisation of this strategy was supported by assumptions of retrenchment strategy which was accompanied by excluding the unnecessary activities from the steelworks (functions outsourcing). Implementation of mentioned strategies was followed by narrowing down of production – downscoping and backing out of supplementary activities (non-core business). Steelworks in the period of repair restructuring took up strategies which allowed steelworks to survive the difficult period of economic transformation. Figure 2 presents a percentage approach to results in reference to each type of strategy. The course of repair restructuring in Poland was assessed by the steelworks on 3.5 with maximum 5.0. The following problems were pointed out: 1) delays in privatisation of the enterprises by the government 2) not taking into account in governmental repair programs of the situations in each particular steelworks (emphasis put on restructuring of metallurgical sector), 3) lack of



**Figure 2** Strategies of repair restructuring period in steelworks in Poland (research participants choose more than one strategy, 100 % was used for each answer) [8]

financial means to conduct many repair programs and as a result - stretching restructuring in time and modifying repair programs.

## STEELWORKS ON DEVELOPMENT RESTRUCTURING

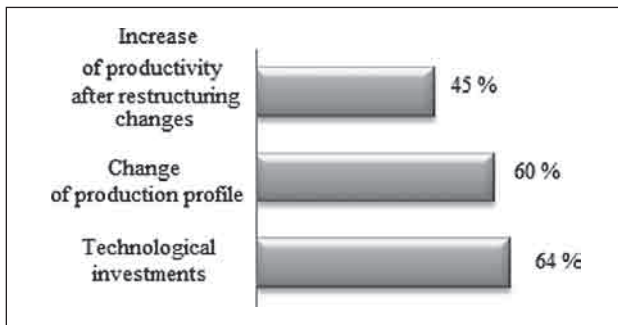
Development restructuring in steelworks in Poland began after conduction of obligatory, statutory repair programs. It was conducted in years 2006-2008. In some steelworks realisation of development strategies was initiated in 2005. Such form of restructuring was supported by good conjuncture. Table 1 presents dynamics of GDP and consumption in the world and in Poland (year to year approach).

**Table 1 Economic indices vs. production of steel / % [9]**

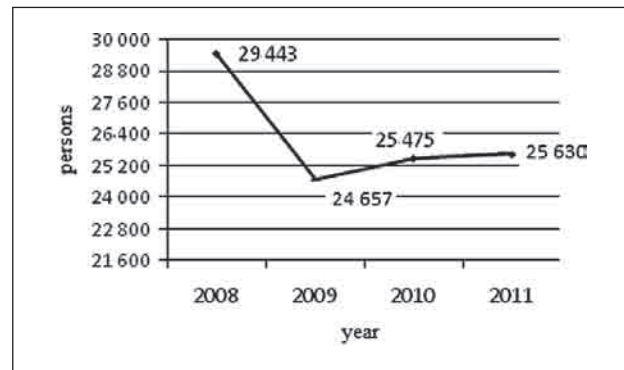
| Indices                  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009  |
|--------------------------|------|------|------|------|------|------|-------|
| GDP in the world         | 2,7  | 4,1  | 3,5  | 4,0  | 3,9  | 2,2  | -2,0  |
| Consumption in the world | 4,4  | 7,6  | 5,2  | 6,5  | 5,6  | 0,2  | -11,1 |
| GDP in Poland            | 2,8  | 5,3  | 3,4  | 5,8  | 6,5  | 4,9  | 1,9   |
| Consumption in Poland    | 2,6  | 4,3  | 2,7  | 5,2  | 4,6  | 6,1  | 2,0   |

Endogenous determinants in development restructuring were conducted technological investments which allowed for the increase of productivity and change of production profile (indications of steelworks taking part in the test are presented on Figure 3. In metallurgy in Poland in 2002 open-hearth furnace technology of steel melting was totally phased out. Currently in steelworks steel is produced in converter furnaces and electric furnaces (ratio 1:1).

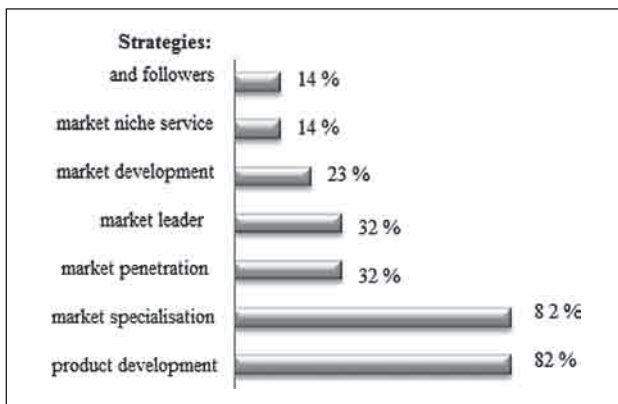
Metallurgical enterprises in Poland in time of good conjuncture conducted strategies of product development and market specialisation. Strategy of product development was a result of technological innovations introduced in steelworks. Strategy of market specialisation, on the other hand, was conditioned by handling a particular segment of the market [10]. Figure 4 presents range of strategies applied on Polish market in steelworks in time of economic boom (good conjuncture).



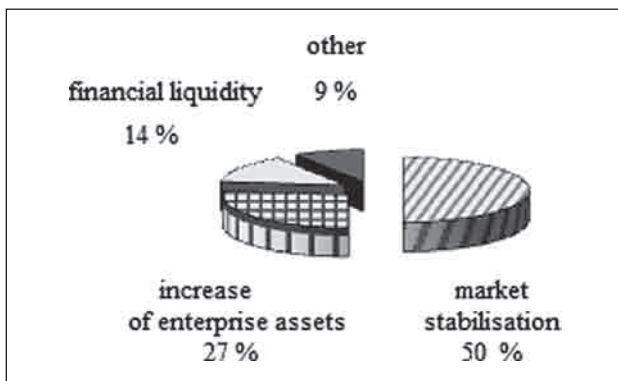
**Figure 3** Endogenous determinants in development restructuring of Polish steelworks (research participants choose more than one determinants, 100 % was used for each answer) [8]



**Figure 6** Decrease of employment in steelworks in Poland [10]



**Figure 4** Strategies for the period of economic conjuncture in steelworks in Poland (research participants choose more than one strategy, 100 % was used for each answer) [8]



**Figure 5** Key effects of restructuring process in steelworks in Poland [8]

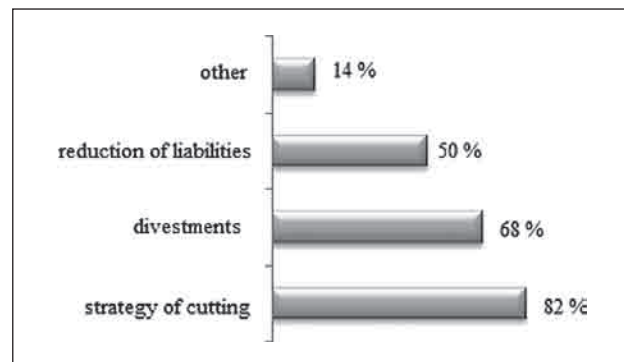
In development restructuring, the key effects were market stabilisation, increase of enterprise assets, financial liquidity, innovativeness and increase of enterprise share in the market (Figure 5).

### STEELWORKS ABOUT MANAGEMENT IN CRISIS

Conducting business activities in conditions of market economy is closely connected with the fact of constant adjustment to changes occurring in the surround-

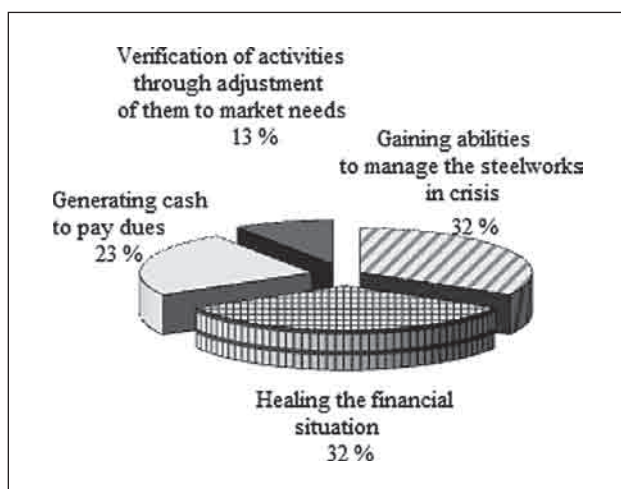
ing. Situation of crisis (after year 2008) forced steelworks to other restructuring activities, so-called adaptive ones (adjustment of business to bad conjuncture of the market). In period of crisis production dropped and the costs of manufacturing rose. Steelworks made decisions concerning reduction of employment (Figure 6).

Economic crisis was characterised by conduction of strategy of cutting that is reduction of costs of business activity of the company. Saving programs in steelworks included also activities based on temporary retreat from the planned investments and a stoppage of implemented investments (divestment strategy). In period of bad conjuncture the strategic aim of steelworks was to regain pre-crisis balance (reduction of liabilities of the enterprise) – Figure 7.



**Figure 7** Strategies of steelworks in Poland in period of crisis (research participants choose more than one strategy, 100 % was used for each answer) [8]

Strategy of costs cutting applied in steelworks in period of crisis should be broadly understood. It consisted of the activities concerning: decrease of production level, narrowing the production assortment, use of cheaper raw materials, reduction of reserves, freezing the investments, reduction of employment, limiting work time of the employees (unpaid leaves), temporary switch-off of production capacity, limiting the number of planned repairs of machines and devices, liquidation of unnecessary business activities, liquidation of posts, joining the departments, sales of properties, etc. In period of economic crisis the highest costs in steelworks were connected with reduction of employment (work-



**Figure 8** Effects of adaptive restructuring of steelworks in crisis in Polish market [8]

ers' severance pays) and stoppages of production. After 4 years of crisis (since September 2008 till today) the enterprises taking part in tests underline that crisis was a new experience for them. Steelworks learned how to manage an enterprise in time of bad conjuncture. From passive attitude used in first months of crisis they moved to restructuring actions. The basic assumption for new programs of steelworks was rational minimising of business activity costs. The word rational should be underlined here when it comes to reduction of costs, not in a spontaneous way but after deep thinking over and after multi-aspect assessment. Figure 8 shows effects of adaptive restructuring of steelworks in crisis.

Market of steel is still in phase of bad conjuncture. Strategies of global metallurgical enterprises still assume adjustment of the use of production capacity to the scale of demand.

## CONCLUSIONS

Restructuring process was very popular in 90. when the companies have financial problems [11]. In the period were published many scientific articles. After the period enterprises realized developmental strategies (good situation in the market). In 2008 the market broke and restructuring changes in enterprises were realized. On the basis of conducted empirical analysis of situation in Polish metallurgical industry it can be generally concluded that metallurgical enterprises in Poland went through a long-term process of changes from repair restructuring to development restructuring including adaptation to crisis situation. Limited production, reduced

employment, economical technology allowed steelworks to maintain position on the market. Conducted repair programs as well as taken action were evaluated by managerial staff of steelworks taking part in tests with grade 4 (good) (68 % of indications). Perspectives for restructured steelworks in Poland are assessed with moderate optimism as beneficial ("rather beneficial") indication of 60 % of steelworks which constitute metallurgical segment in Poland (29 enterprises). Opportunities for metallurgical enterprises should be seen in production of highly-processed steel, with high quality, where the need arises to have know-how and the proper infrastructure in order to offer such products. Big metallurgical enterprises in Poland owned by global capital groups (ArcelorMittal, CMC, Donbas) focus on strategies of market expansion (looking for new markets). National enterprises (owned by Polish capital, National Treasury or mixed capital) look for development perspectives in some sections of market, offering specialised products.

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**Note:** The responsible translator for English language is D. Grachal, Katowice, Poland