

# PERSONNEL CONTROLLING – HUMAN CAPITAL MANAGEMENT. RESULTS OF A SELECTED COMPANY LISTED ON THE WARSAW STOCK EXCHANGE

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## Abstract

**Background.** Personnel controlling is focused on the efficiency of managing resources (human resources), it has motivating functions and creates transparent rules and procedures for planning, monitoring, control, and refers to the possibilities of using existing problems in the organisation or protection against their adverse effects.

**Research aims.** The objective of this article is to present the results of personnel controlling research through the valuation of human capital in an energy company listed on the stock exchange (The Warsaw Stock Exchange).

**Methodology.** The applied research procedure combines the analysis of the literature with empirical research and is based upon searching for the answer to the questions how important controlling information is for human resource management in the selected listed company belonging to WIG 20 index.

**Key findings.** The research has shown that despite the lack of existence of regulated and formalised methods of human capital valuation, the company intuitively makes indirect valuations, however only using the qualitative approach and only when making strategic decisions.

**Keywords:** controlling, personnel controlling, human capital, human resources management, listed company.

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## INTRODUCTION

In global competition, the information and knowledge economy's prerequisites increasingly focus employees' performance on economic efficiency considerations. The realisation that people with their knowledge, experience, education, personality, and behaviour constitute the only resource that generates and retains organisational value led to the human capital concept (Welpel et al., 2007). This approach to human resources necessitates the use of personnel controlling with the use of human capital management tools.

These deficits lead to the need for a further specification of the value attribute ascribed to a firm's human resource. Such numerical or even monetary calculation of corporate human capital is a constitutive prerequisite for examining whether and to what extent it can be the source of a sustainable "human capital advantage" for the firm compared to its competitors. With this end in mind, the calculation of human capital forms the basis for a managerial optimisation of a given human resource stock and, as such, may be understood as the key challenge for personnel controlling (Bechtel, 2007).

This paper aims to present the results of a comparative analysis of the valuation methods of human capital used in a company from the energy sector listed on the Warsaw Stock Exchange. The study applies the multiple case study method to find answers to the following research questions:

- What is the awareness of the needs to assess the value human capital during personnel controlling?
- What ratios should be used for human capital valuation by companies from the energy sector?
- What is the effectiveness of human capital valuation ratios developed by the authors of this research when used in the energy sector?
- What is the possibility of extrapolation of the methodology used in this research into other sectors?

## THEORETICAL BACKGROUND

The human resources of the company and the quality of their management are of great importance for the company's success. They affect not only the implementation of the company's mission, but also the financial and market results of its operations. The area of competitive advantage most overlooked in the knowledge organisation is the use of all the sources of knowledge available to the organisation. According to Tobin:

The power of the knowledge-enabled organization comes from its ability to identify and harness all available knowledge resources and apply them to specific learning needs. This means using information from employees, customers, suppliers, and competitors. The Knowledge-Enabled Organization is an excellent discussion of the relevance of learning as a key factor of a firm's human resource strategy (Knight, 1998).

Achieving business success depends on many factors. The starting point of this research are the hypotheses that companies with controlling achieve greater levels of business success than do companies without controlling, and that by improving controlling as a key measure, companies may directly increase their possibility of business success (Osmanagić, Bedenik & Lalovac, 2007).

The literature concerning the given topic presents few concepts of controlling (Sierpińska, Niedbała, 2003):

- controlling that is oriented on accounts,
- controlling oriented on data information generating and processing,
- controlling as a subsystem of management.

Bearing this information in mind one can clarify the definition of controlling that is given by H. Bieniok:

Controlling is a system of unified actions in management mainly concerning planning, control, data gathering and processing as well as organising and personnel training in order to achieve the organisation's goals (Bieniok, 1997).

Horvarth described controlling as a management subsystem that deals with shaping and coordinating planning, controlling, and powering processes aimed at controlling the whole system from the point of view of the goals set (Horvath, 2013).

Controlling is a multi-faceted and internally integrated system, using appropriate tools and providing cross-cutting economic information tailored to the needs of business management (Nowak, 2013).

The characteristics of controlling according to Nowak are:

- controlling is a business management subsystem that supports the implementation of all management functions,
- the superior function of controlling is the coordination function of processes taking place in the enterprise,
- the main subject of controlling activities is information function focused on the needs of making decisions,
- controlling is aimed at achieving the goals set by the company as a whole,
- controlling, by initiating and supporting various activities, improving the business management process (Nowak, 2013).

The elementary features of personnel controlling are as follows (Pocztowski & Purgał-Popiela, 2004):

- perceiving employees as an important element of the company's potential,
- perceiving personnel as source of organisation's competitiveness,
- changing approach of treating employees only as a source of possible costs,
- combining personal strategy with the overall strategy of company,
- active introducing managers at one level in the process of personnel,
- management.

Most often, controlling is defined in the context of its functions. In this approach, we can distinguish three meanings of the concept of controlling (Weber, 2001):

- controlling as a function of coordination,
- controlling as a function providing access to information,
- controlling as a special form of management.

Personal control is focused on the efficiency of managing resources (human resources), it has motivating functions and creates transparent rules and procedures for planning, monitoring, and control, and refers to the possibilities of using existing problems in the organisation or protection against their adverse effects. It allows identifying and eliminating bottlenecks (primarily understood in the sense of staff shortages or company competence gaps) (Nowak, 2008).

Controlling should support the enterprise management process, which is described by the management functions: planning, organising, motivating, and controlling. E. Nowak formulates the basic objective of controlling as supporting the implementation of individual business management functions, which should contribute to improving the accuracy of making business decisions (Nowak, 2013).

This article grapples with major challenges in performance-based management (Wholey, 1999):

- How can managers develop a reasonable level of agreement on goals and strategies for achieving the goals?
- How can managers develop performance measurement systems of sufficient quality to document performance and support decision-making?
- How can managers use performance information in systems for managing agencies and programs? In providing accountability to key stakeholders and the public?
- How can managers use performance information to demonstrate effective or improved performance? To support resource allocation and other policy decision-making?
- What specific types of training do managers need?
- What research should be done on performance-based management?

Brzezin describes controlling as a business management model that is aimed at optimising the company's financial result and value through appropriate selection of methods and the use of management accounting (Brzezin, 2001).

The set of quantitative information that will be necessary for the functioning of personal controlling depends on the specific nature of the company's activity, the areas covered, and information needs relevant to the given situation and purpose to which they are to be used. In each of the areas, indicators (indicators are variables selected and defined in order to measure the progression or regress on the way to achieve the goal) and parameters affect the shaping and operation of the process. Indicators and parameters can also be used to analyse resources and personnel in a structural aspect. A very important element is the assessment of a given component of the HR process and the relationships taking place in the process. Therefore, these meters help in optimising the work of staff in this part of HR activities and in optimisation of personnel factors. It is also an operational improvement

of planning, control and control in a given area. They can contribute to the motivation of employees to carry out tasks in line with the organisation's goals and provide support during the implementation of, for example, best practices in a given area. What is particularly important, the use of indicators by personnel services can convince decision-makers to incur additional costs for projects in the area of HR, and also allows them to obtain funds for basic personnel expenses (Marciniak, 2015).

The first research in the field of human capital was conducted by Marshall (1959), Walras (1898), Wolsh (1935), and Fisher (1927). They had wanted to define the human capital concept used management. However, the main assumptions of the human capital theory were formulated by Schultz (1961), Becker (1967), and Mincer (1974).

Lucas (1988), as well as Romer (1986; 1990), emphasises that human capital is seen as one of the key factors behind economic growth. In addition, Sveiby (1997), as well as Ahonen (2009), argues that the competence of human is the primary element of intangible assets, which also include internal and external structures of the firm. Lev and Schwartz (1971) suggested that the value of an employee is the present worth of their remaining earnings from employment. Flamholtz (1974), Morse (1973), Friedman and Lev (1974), Lau and Lau (1978) developed a stochastic valuation model to measure system dynamics and estimate expected service life. Moreover, Steffy and Maurer (1988), as well as Demartini and Paoloni (2011), suggested the replacement cost method, where costs incurred by recruiting, selecting, compensating, and training employees reflect the expected value of successful job performance.

Most of authors agree that the human capital can be defined as the value of the knowledge and talent which is embodied in people who make up the organisation, representing its know-how, the capacities, the knowledge, talent, competence, attitude, intellectual ability, creativity, and others (Bontis & Fitz-Enz, 2002; Davenport, Prusak & Wilson, 2003; Edmonson, 1999; Edvinsson & Malone, 1997; L.A.D.E.-C.I.C., 2003; Kaplan & Norton, 1999; Roos et al., 1997; Baron & Armstrong, 2008). Human capital management is sometimes defined more broadly without the emphasis on measurement (Chatzkel, 2004; Kearns, 2005; Pablos, 2002).

Based on research of Human Resource Accounting (Flamholtz & Lacey 1981), indicators have been developed to demonstrate the

economic value added by human resources (Friedman, Hatch & Walker 1998). Research has attempted to develop possibilities for the evaluation of human capital from a qualitative (Fitz-Enz, 2000; Sveiby, 1998; Edvinsson & Briuining 2000), as well as from a quantitative perspective (Scholz, Stein & Bechtel 2006). The available qualitative approaches provide indications for the evaluation, assessment and control of various corporate human capital aspects (Welpel, Lutz & Barthel, 2007).

## RESEARCH METHODOLOGY

The aims and objectives of this research is to investigate how personnel controlling is useful for companies listed on the Warsaw Stock Exchange to the human capital management.

The research methodology includes a literature review and empirical analysis of the information disclosed by listed companies. The research tool was a case study, which included a detailed description, followed by the validation of information accuracy, to increase the relevance of test results. The case study method (the case study research was based upon the proposal of Yin, see: Yin, 2015, pp. 49–51) made it possible to obtain information from numerous sources such as: stock market reports, companies' websites in investor relations, reports for the management board, and internal and external publications of companies as well as articles in the industrial press. A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident.

The adopted rules for obtaining information (Creswell, 2013, p. 180): enables a researcher to obtain the language and words of participants, can be accessed at a time convenient to researcher – an unobtrusive source of information, represents data which are thoughtful in that participants have given attention to compiling them, as written evidence – it saves a researcher the time and expense of transcribing. However, the method adopted also has limitations: not all people are equally articulate and perceptive, maybe protected information unavailable to public or private access, requires the researcher to search out the information – in hard-to-find places, requires transcribing or optically

scanning for computer entry, materials may be incomplete and the documents may not be authentic or accurate.

The companies for this research have been carefully selected, so that it would be possible to apply both a literal replication (where results confirm one another), as well as theoretical replication (where results differ, but for predictable reasons). These assumptions made it possible to conduct the collection of thoughtful and complete data as they originate from numerous sources and make triangulation possible. The amount of diagnosed case study repetition is discretionary and does not constitute any rule. The selection of cases was performed upon the basis of the subjective assessment of the companies in the aspect of similarity and competitiveness.

The data analysis in qualitative research was based upon the proposal of Creswell (see: Creswell, 2013, pp. 201–205). The starting point of this research was to organise and prepare the data for analysis – sorting and arranging the data into different types depending on the sources of information. Next, we analysed all the data to impression of the overall depth, credibility, and use of the information. The validation of the accuracy of information consisted of a number of stages. At the beginning, the data for the analysis were prepared by arranging the data from the selected case studies, and afterwards dividing them, depending on the source of information. The second step was to review all results to acquire general information and reflect upon the common meaning of individual information. This was followed by a detailed analysis, which had been preceded by explaining the information obtained in the context of previously posed research questions and the presentation of individual case studies. The above-mentioned procedure increased the accuracy of results because it combined information from various sources, and lead to allocation of data to specific categories in the human resources management. The obtained results have a flexible structure with an emphasis on individual interpretations of cases of the human capital valuation in the selected listed companies (Stuss, 2014; 2015).

The next stage of the research was to advance how the description and themes would be represented in the qualitative narrative. We used visual tables as adjuncts to the discussions.

In the last stage of the data analysis we interpreted the results. The adoption of the above-mentioned methodology made it possible to create a set of recommended good practices for the future.



## RESULTS

The companies included in this research have to meet two criteria: belong to WIG 20 and at the same time also be a part of WIG-energy. The WIG 20 index has been calculated since 16<sup>th</sup> April, 1994. It is based on the value of shares of twenty largest and most liquid companies listed on the Main Market of the Warsaw Stock Exchange. WIG 20 is a price-weighted index, the value of the index is generated by adding the prices of each of the shares in the index and dividing them by the total number of shares. The dividends are not taken into account in this index. No more than five companies from one sector may be included in the WIG 20 index. WIG-energy is a sub-sector index and its portfolio includes WIG companies that belong to the 'energy' sector (see: [www.gpw.pl](http://www.gpw.pl)). WIG-energy index base date is 31<sup>st</sup> Dec 2009. It is an income-based index and thus when it is calculated it accounts for both prices of underlying shares and dividend and pre-emptive rights (see: [www.gpw.pl](http://www.gpw.pl)).

The preliminary findings showed that energy companies use only basic economic and financial ratios, which do not account for the human factor in the valuation process and do not use personnel controlling to make decisions in the area of human resources management. In addition, there is no indication how the value of human capital impacts the share prices and the market position of the company. Finally, there is no knowledge in companies listed on the stock exchange how useful the information of personnel controlling would be for the board of directors.

The adopted research strategy allowed to investigate the current state of personnel controlling awareness and can lead to the development of good practices for companies.

This research focuses only on one selected company belonging to WIG 20 as a wider research of the Energy sector (all twenty companies) is part of currently carried parallel work in progress that will form a monograph. This firm is Poland's largest energy sector company with respect to sales revenues and net profit. Thanks to the combination of its own fuel resources, power generation and distribution networks supply power to over five million households, businesses, and institutions. The overall objective of company operations is to increase its shareholder value and the key role in ensuring Poland's energy

security by actively taking advantage of growth opportunities and developing new business models and business lines. Future strategic is to involve achieving an at least 40% share in Poland's electricity generation market beyond 2020.

In the analysed years the company carried out the first of strategic initiatives, the effect of which were regulations in the HR area at the Business Lines. Corporate Rules for Human Capital Management and new HR tools were introduced. The following documents were adopted: Corporate Rules for Cooperation in Human Capital Management Area, Corporate Rules for Training and Development, Corporate Rules for Systemic Management of Key Managers, Corporate Rules for Mobility, Corporate Rules for Employment, Corporate Rules for Social Relations, Corporate Rules for HR Oversight, and Corporate Rules for Workplace Architecture.

HR procedures and tools implemented by the company:

- Evaluation and directed development: procedure for training and development, adaptation procedure, procedures for competence and work performance assessment,
- Flexible employment: procedure for recruiting and hiring, procedure for internships,
- Key management: procedure for monitoring and developing top management, procedure for identifying key jobs, succession management,
- HR tools: workplace architecture with the MAP, SAP HRM, Competence Model.

Table 1 presents a three-year comparison of human capital valuation.

**Table 1.** The human capital tools used as part of personal controlling

RATIO/FACTOR	YEAR 1	YEAR 2	YEAR 3	CONCLUSION
STATEMENT OF FINANCIAL POSITION (in millions of PLN)				
Non-current assets	55,232	39,079	44,887	fluctuations in value indicating the processes of changes in the company
Current assets	12,230	5,572	4,744	significant decrease in value
Equity	42,679	34,638	39,144	low volatility, rather stable value
Non-current liabilities	17,002	8,932	7,775	decrease in liabilities resulting from the repayment of loans taken out by the company
Current liabilities	7,697	10,013	10,487	growing liabilities
THE COMPANY EFFICIENCY				
Sales profitability ratio	0.129971	0.106405	0.091343	the sales profitability ratio is decreasing, the asset profitability ratio also has a decreasing value, which indicates low investments in the company's assets. It should restore assets faster, but investment opportunities are limited by the need to allocate large funds for development
Profitability of assets ratio	0.055241	0.049546	0.038029	
Asset productivity index	0.425024	0.465642	0.416338	the index is of a step-by-step nature, however, its changes do not adversely affect the enterprise as it maintains stable financial liquidity
Financial liquidity indicator	1.929397	1.54404	1.740808	
Brand recognition and customer loyalty	– for a period of three years, the brand is valued at PLN 23.9 billion and is one of the largest Polish companies in terms of revenues and the strongest Polish brand, – is one of the largest producers and suppliers of electricity in Poland and one of the largest companies in the power sector in Central and Eastern Europe			
The ratio of income from human capital	7,038.24	7,341.65	7,302.12	the income per employee is slightly fluctuating but in the long run it remains within approx. – PLN 7 million

<b>CORPORATE SOCIAL RESPONSIBILITY</b>	
<ul style="list-style-type: none"> <li>- data on higher ethical standards</li> <li>- employee loyalty rate</li> <li>- number of employees who managed to implement career paths</li> <li>- data on the treatment of employees</li> </ul>	<ul style="list-style-type: none"> <li>- is a place for people with passion and motivation to work, provides employees with safe working conditions, stable employment and at the same time presenting them with interesting professional challenges,</li> <li>- in the top five largest employers in Poland</li> </ul>
Code of business	<ul style="list-style-type: none"> <li>- code of ethics,</li> <li>- RESPECT Index,</li> <li>- Global Compact certificate,</li> <li>- Silver CSR Leaf as a confirmation of a comprehensive approach to conducting responsible business</li> </ul>
	solutions are definitely the most advanced and exemplary compared to other companies
<b>THE CUSTOMERS</b>	
<ul style="list-style-type: none"> <li>- data on customer feedback and insights</li> <li>- customer satisfaction measure</li> </ul>	<p>won the emblem of the "Customer Friendly Company" – recognition for professionalism and solid, effective and courteous service. Customers have recognised the commitment to implementing solutions that are friendly to them. A good reputation of corporate customers who perceive the company as a reliable, safe, and reliable energy supplier also goes along with the recognition of individual customers. The data is based on an independent satisfaction survey among a randomly selected group of customers to verify the collected variables</p>
<b>DEMOGRAPHIC DATA</b>	
Number of employees	39,977      38,876      38,471
The age of employees	–      –      –
The number of women	8,065      232      5,678
The number of men	32,279      242      24,770
	<p>changes in the employment structure (decrease) were the result of mining restructuring processes with the share of energy</p> <p>it is difficult to assess the age structure of employees in years, because only in one year the data are complete. It can be assumed that most of the people are middle-aged</p> <p>due to the profile of activity, male gender dominates (women make up just over 20% of all employees)</p>

Level of education	the largest group consists of employees with secondary education, a comparable number of people with higher education, and vocational education		
<b>DEVELOPMENT OF EMPLOYEES</b>			
Number of training sessions	lack of information	37,689	37,165.58
<ul style="list-style-type: none"> <li>– data on training effectiveness assessment tools</li> <li>– expenditure on external training and internal training</li> <li>– frequency of training evaluation</li> </ul>	<ul style="list-style-type: none"> <li>– a functional strategy for the area of Human Capital Management for the years 2015–2020 was developed,</li> <li>– the company runs its own training and development programmes for employees,</li> <li>– the process of diagnosing the competences of SAP HRM employees</li> </ul>		data from two years show a similar number of training days
Functioning of the Talent Management concept			
<b>THE OPINIONS OF EMPLOYEES</b>			
Leadership research	management competence development programs and diagnosis of employee competencies		
Employee evaluation system	the company has programmes and assessment systems in individual SAP HRM companies, although not all employees are subject to them		
<b>HUMAN RESOURCE MANAGEMENT</b>			
Operating costs per one employee	11,906.84	18,391.80	12,866.83
Profit per one employee	136.40	45.47	41.53
average salary – average monthly salary	2,426.39	2,417.94	2,417.40
numerical data on recruitment and dismissals	668	808	1,176
dismissals	2,353	1,909	1,413
			it is of a fluctuating nature, a marked decrease compared to the previous year
			profit on employees over three years has a downward trend
			PLN 2,417 is the average salary per employee
			high dynamics of changes over the analysed years the company also implements a voluntary leave program

data on health and safety at work	–	–	–	–	lack of research in this area, also trade unions operating in the company do not have reports on this subject
number of accidents at work	–	–	–	–	
sickness absence (calendar days counted with the moment of obtaining a sick leave)	–	–	–	–	lack of information
data from the employees' opinions collected at the time of leaving work	–	–	–	–	lack of information
<b>MEASUREMENT OF HUMAN CAPITAL</b>					
economic value added of human capital	-29.44	-30.14	-43.43		human capital brings loss, does not work on itself and this amount has grown over time means overstaffing in relation to the current needs of the enterprise
value-added of human capital	401.20	194.61	393.28		the average employee's profitability is about PLN 400,000 and falls in the next year by more than half and increases again to the level of PLN 400,000
profitability of human capital investments	3,317.95	1,797.57	3,570.92		the profit received from each monetary unit invested in human capital is approx. PLN 3,000, after the decrease it increases to the amount above PLN 3,000
profitability of labour costs	756.51	721.54	605.61		the profitability of labour costs is falling, the company does not invest in human resources
profitability of human capital	3,570	1,797	3,310		the profitability of human capital is of an abrupt nature, it is the value of one employee as a component of human capital
indicator of total labour costs to income	17%	15%	15%		approx. 15% is a fixed part of the income allocated to labour costs

Source: own work.

## CONCLUSION

The investigation has led to the following conclusions:

- The company invests in the value of human capital, primarily through a very extensive training system and Talent Management concepts. The company has programmes and employee evaluation systems.
- The general value added of human capital is of a step-by-step nature, with a temporary breakdown in value, and in the following year the value has again risen to a similar level. This suggests a potential human capital as one of the tools to get out of the company's crisis.
- The company in the analysed years undertook a number of actions by investing in the so-called "Soft management of human resources". That is why various managerial competence development programmes and the diagnosis of employee competencies operate. The company strives to create comfortable conditions for employees to develop their skills and improve their qualifications. Employees are encouraged to actively take initiatives in the field of self-improvement and knowledge sharing, thanks to which the culture of the learning organisation is built.
- A functional strategy was developed for the area of Human Capital Management for the PGE Group for the years 2015–2020.
- The research has shown that despite the lack of regulated and formalized methods of human capital valuation the company intuitively makes indirect valuations however only using the qualitative approach and only when making strategic decisions.
- Diagnostic tests allowed to verify the proposed research tool. The general assumptions adopted – the three-stage process of testing human capital valuation – proved to be sound. However, when selecting specific measures, it should be recognised that the future list of measures will be supplemented by tools specific for particular sectors, as it needs to reflect the specifics of the sector/industry.
- Further research will be carried out firstly in listed companies in the same industry, in order to be able to compare the values of the individual ratio. But we suggest that in the future the

discussion should take place where additional aspect of human capital should be included such as: risk management related to human capital, human capital as a source of sustainable competitive advantage, and human capital for optimum performance.

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## CONTROLLING PERSONALNY – ZARZĄDZANIE KAPITAŁEM LUDZKIM. WYNIKI BADAŃ WYBRANEJ SPÓŁKI NOTOWANEJ NA GIEŁDZIE PAPIERÓW WARTOŚCIOWYCH W WARSZAWIE

### Abstrakt

**Tło badań.** Controlling personalny koncentruje się na budowaniu efektywności zarządzania zasobami ludzkimi, pełni funkcje motywujące i tworzy przejrzyste zasady i procedury planowania, monitorowania i kontroli oraz odnosi się do możliwości wykorzystania istniejących problemów w organizacji lub ochrony przed ich negatywnymi skutkami w perspektywie strategicznej.

**Cel badań.** Celem niniejszego artykułu jest przedstawienie wyników badań wybranej procedury controllingu personalnego polegającej na wycenie kapitału ludzkiego w spółce energetycznej notowanej na GPW (Giełda Papierów Wartościowych w Warszawie).

**Metodologia.** Zastosowana procedura badawcza łączy w sobie analizę literatury z badaniami empirycznymi i opiera się na poszukiwaniu odpowiedzi na pytania o to, jak istotne są informacje z zakresu controllingu dla procesów zarządzania zasobami ludzkimi w wybranej spółce giełdowej należącej do WIG 20.

**Kluczowe wnioski.** Badania wykazały, że pomimo braku regulowanych i sformalizowanych metod wyceny kapitału ludzkiego, spółka intuicyjnie dokonuje wycen pośrednich, jednak tylko z wykorzystaniem podejścia jakościowego i tylko przy podejmowaniu strategicznych decyzji.

**Słowa kluczowe:** controlling, controlling personalny, kapitał ludzki, zarządzanie zasobami ludzkimi, spółki giełdowe.