

Analysis of the Development of Ownership Structure in the Czech Merger Market

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Abstract

This paper presents the first results of a research project which has the aims to identify the problems appearing during the preparation of mergers in compliance with valid Czech regulations and to analyse economic causes and consequences of mergers. At the first stage it was necessary to compile a basic dataset in a structure needed for a statistical analysis. The aim of the study is to explore, both theoretically and empirically, how was developed the ownership structure of companies of the Czech market mergers. The temporal range of the study is the last 10 years, i.e. 2001–2010, when two financial crises occurred.

Keywords: company transformations, types of mergers, merger development, macroeconomic environment, regression and correlation analysis

JEL codes: E 30, F 01, G 30, M 21

1. Introduction

Historical development of companies is usually accompanied by their transformations which are conducted with the purpose of stabilizing their financial position and enhancing their financial performance. The final aim of transformations is the achievement of a higher economic asset for their owners. Transformations can happen in the form of internal (organic) growth of a business, such as reinvestments of incomes, building of new plants, implementation of advanced technologies, or they can be of an external character when the business combines with another or is divided into more businesses. The reason is mainly the assumption (Cassiman and Colombo, 2006) that transformations bring a potential to improve in comparison with the current situation and that the resulting form of the company will be stronger, more efficient and will use its advantages in available markets. By combining companies, a concentration of capital occurs accompanied by the creation of a stronger economic group, the ownership structure changes, new organization systems are created and developed as well as various projects in personnel policy, a global company culture and philosophy is born (Wirtz, 2003).

Trautwein (1990) in his publication defines seven theories of what motivates companies to combine within a process referred to as mergers and acquisitions (M&A):

1. Efficiency theory, which is based on a synergic effect in the form of net profit.
2. Monopoly theory, which represents the achievement of a higher market power and leads to the transfer of wealth from customers.
3. Raider theory, according to which wealth is obtained from stockholders of the target business.
4. Valuation theory, which sees an information asymmetry as managers' advantage in negotiating the purchase price of the target business.
5. Empire-building theory, according to which managers maximize their utility at the expense of the shareholders' value. This approach has its roots in the separation of ownership from control in a company and the underlying idea is discussed in managerial theories of the firm.
6. Process theory considers the actual M&A process to be of key significance for decision making which is not always completely rational. Cognitive simplification and other process factors can as a consequence affect mergers and acquisitions positively.
7. Disturbance theory considers mergers and acquisitions to be a macroeconomic phenomenon.

According to this theory, activities in the M&A field are influenced by disturbances in economy. With the exception of the fifth theory, all these motivation theories lead to the achievement of a higher value for the owner of the successor company (investors). A typical manifestation of these motivation

theories in practice is growth in business scale, expansion into adjacent business domains, acquisition of new technologies, restructuring of the existing business, diversification, conglomeration, or in a few cases, redefining the company's entire industry. History shows that in some periods external factors of business growth prevailed over the internal ones in dependence on the level of the economic environment, development of financial markets and mainly the ideas of bidders and target businesses about the price of takeovers.

First mergers and acquisitions started at the end of the 19th century, when larger investments in business were needed in the USA and there was an effort of some companies to strengthen their position in the market. There was mainly horizontal growth of monopolies inside an economic sector. At the beginning of the 20th century the interest shifted to oligopolies and vertical mergers were the predominant type (upstream or downstream mergers). Up to the end of the last century, business combinations were gradually motivated by an effort to penetrate unrelated fields and branches, combine businesses similar in field but differing by their production and, finally, to obtain a target business in another country. In the last decade, mergers and acquisitions have been motivated by globalization, support from the government and the growth of private equity funds. This uneven development of mergers and acquisitions referred to as merger waves has been a subject of a number of studies and publications analysing the causes and consequences of mergers. For more details see e.g. Bruner (2004), Martynova and Rennebook (2008) and Lipton (2006). Although we are able to explain and describe waves of mergers, we do not yet know what triggers them and we are unable to specify the moment when a new wave starts growing or diminishing (Brealey and Myers and Allen, 2006). In most cases, studies do not distinguish between mergers and acquisitions and for simplification use M&A. However, there are substantial process differences between the two types (legal, accounting related, tax related, social) and these have an economic impact on the participating companies (Skálová and Šouková, 2009).

As a merger is usually referred to an agreement on a combination of two or more enterprises into one, which thus gains more advantages than if the companies, did business separately. According to West's Encyclopedia of American Law (2011) is a merger or acquisition a combination of two companies where one corporation is completely absorbed by another corporation. The less important company loses its identity and becomes part of the more important corporation, which retains its identity. A merger extinguishes the merged corporation, and the surviving corporation assumes all the rights, privileges, and liabilities of the merged corporation. A merger is not the same as a consolidation, in which two corporations lose their separate identities and unite to form a completely new corporation.

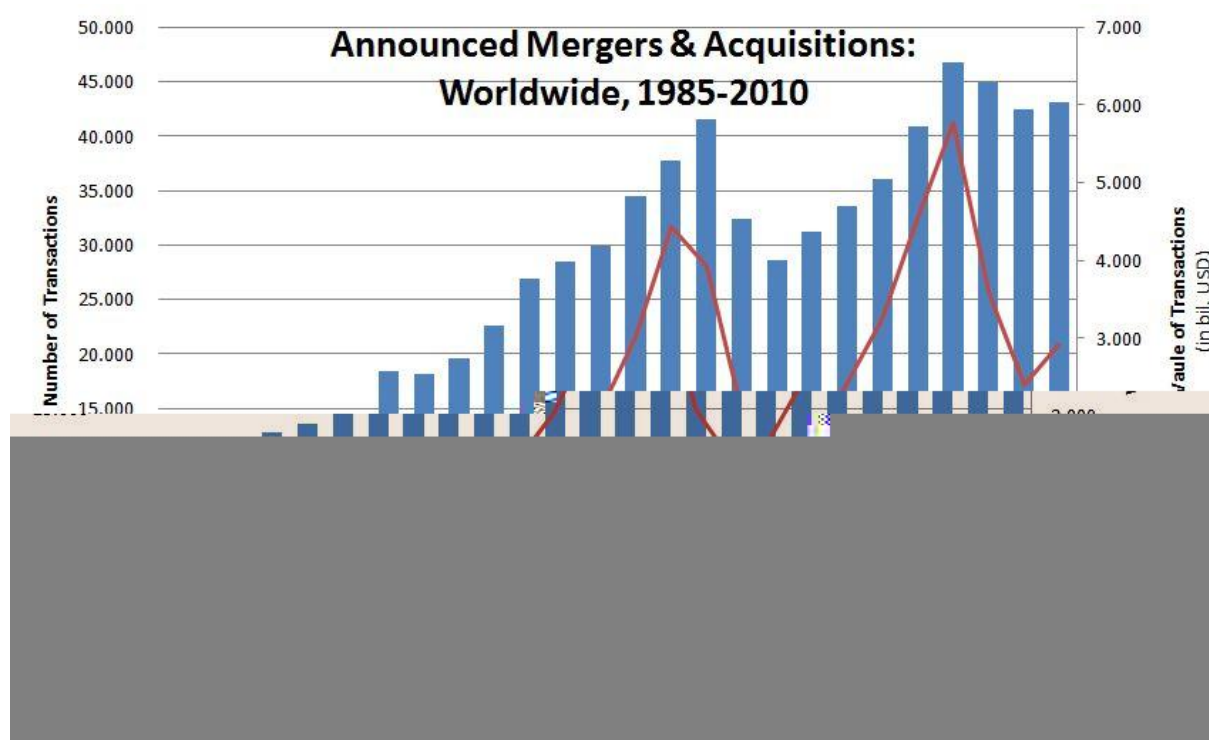
The Czech trade law defines a merger as a combination in which one or more companies cease to exist without liquidation and their equity, including rights and duties following from labour-law relations, are transferred to another existing or a newly established successor company. It means this is a legal combination which requires an agreement of all participating companies. On the other hand, an acquisition is a transaction in which one company (the bidder) gains a decisive share of the basic equity of another (target) business. The acquisition can have a character of a capital investment (capital acquisition) or a property acquisition, in which the entire company or its part is purchased. By this a group of companies connected by their capital arises and the legal position of individual companies does not change. Unless this is a hostile takeover, also a legal takeover can take place in case of property acquisition or capital acquisition by one owner. The differences between mergers and acquisition will mainly stand out in accounting procedures (Bohušová, 2011). Similarly, the European law (Directive 2005/56/EC of the European Parliament and of the Council of 26 October 2005 on cross-border mergers of limited liability companies) defines a merger as a process in which one or more companies, on being dissolved without liquidation, transfer all their assets and liabilities to another existing or a new company, in exchange for the issue of securities or shares representing the capital of the successor company and, if applicable, a cash payment not exceeding 10 % of the nominal value of those securities or shares.

The aim of our research is to analyse the development of mergers in the Czech Republic during the past ten years as regards changes in the ownership structure of the successor company and the sector it operates in. The analysis will show whether the development of activities in the local M&A market corresponds to the development in global markets and whether Czech businesses are attractive targets for foreign investors (bidders).

2. Methods

In agreement with conclusions of studies conducted by global auditing companies and legal organizations, we can assume that the Czech M&A market behaves similarly to markets in developed countries. A motivation for an increase in M&A activity is probably growing markets with products, goods, services and capital when purchase intensity grows. Analysing the progress of activities in the field of global mergers and acquisitions presented in Fig. 1, we can see that it corresponds to the progress of the economic cycle, both concerning the number of announced transactions and their volume in billion USD. The greatest drop in the activities comes in the middle of the bank crisis in the USA (2001–2003) and then in the period of the global financial crisis which started in the USA in February 2007 (Bank of America, 2007) and ended in the form of global economic recession in June 2009 (NBER, 2010). The same correlation appears from the graphical analysis of the progress in the M&A market in Europe or in developed countries such as Germany, Austria, Sweden, etc. In the USA, the activities in the M&A market culminated in 1999 and then in 2007 (for further details see IMAA, 2011).

Figure 1: Development of Announced M&A: Worldwide, 1985-2010



Source: IMAA Institute (2011)

To compare the development trend of the number of M&A in the Czech Republic with the development in Belgium and Austria we used the method of regression and correlation analyses. Three temporal series of relative increment (marginal) indices of interannual changes in implemented M&A in the mentioned countries in individual years of the period 2005–2010 were analysed using equation (1). To describe the development trend of the temporal series we chose a linear regression function (2). The dependence between the calculated indices is measured by Pearson correlation coefficient (3).

$$\Delta_j = 100 \cdot (X_{t+1} - X_t) / X_t \quad (1)$$

where: Δ - change in quantity in %

j - quantity sign

X - absolute value of the monitored quantity

t - temporal period (year) for which the quantity is reported

$$y = b_0 + b_1 x \quad (2)$$

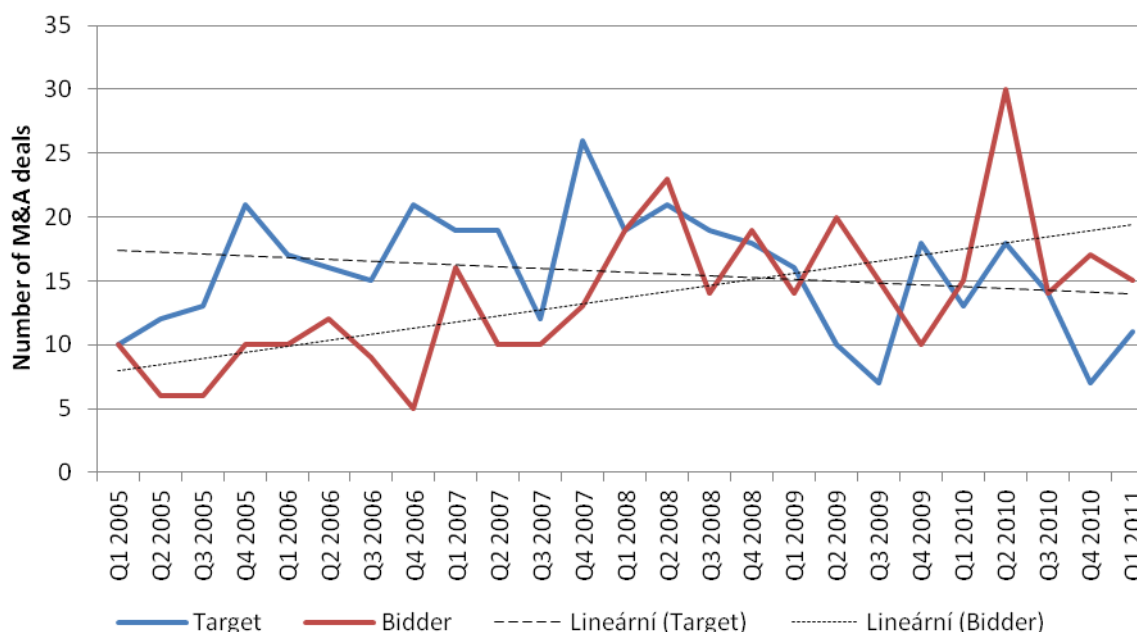
where: $b_{0,1}$ - parameters of the theoretical regression function

$$r_{xy} = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 \sum_{i=1}^n (Y_i - \bar{Y})^2}} \quad (3)$$

where: r_{xy} - selective correlation coefficient (Pearson)
 X, Y - random quantities
 i - number of random quantities $i \in \{1, n\}$

The regression and correlation analyses will allow us to confirm or deny the first hypothesis which assumes that the development in the Czech M&A market is similar to markets of developed European countries. This is substantiated by the fact that the Czech market responds positively to macroeconomic development just as markets in developed countries and also the fact that the Czech economy is evaluated as a transitional market between an emerging and a mature M&A market (Cass Business School, 2010). On the one hand, it should attract foreign investors as a suitable target, on the other hand, it should try to gain suitable target companies or share their control. The input data for testing the first hypothesis were taken from Ernst & Young (2011) and the IMAA Institute statistic (2011). The development trend of the M&A activities in the Czech Republic as a dominant country is presented at Fig. 2.

Figure 2: Number of M&A Deals in the Czech Republic (Dominant Country), 2005-2010



Source: Ernst & Young (2011)

Let us also form the second hypothesis about the development of the ownership structure assuming that the proportion of foreign owners of successor companies in the Czech merger market will grow at the expense of local owners. To describe the development trends we will use our own database comprising all company transformations in the territory of the Czech Republic from which one continuing entity (successor company) remained and one or more participating companies ceased to exist (dissolved company or companies). The second hypothesis will be tested using data from 2001–2010 summarized in Table 1.

Table 1: The development of ownership structure of companies merging in 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Domestic owner	53	117	138	125	43	182	209	263	219	280
Foreign owner	15	21	53	58	37	108	81	139	150	153
Total mergers	68	138	191	183	80	290	290	402	369	433

Source: authors' database

The development of mergers implemented by foreign owners will be compared with mergers of local owners by means of regression analysis. Two temporal series will be analysed: the first one, based on the number of implemented combinations in individual years by a local owner and the second one for the same but with a foreign owner. To measure the trend, the proportions of both types of mergers will be calculated out of the total number of combinations implemented in the monitored period. Based on the empirical analysis, a specific regression function suitable for the description of the dependence of both quantities is chosen. The highest quality of agreement with the data has been found for logarithmic function

$$y = b_0 \ln(x) + b_1 \quad (4)$$

where: $b_{0,1}$ – parameters of the theoretical regression function

The means to achieve a higher company performance, strengthen its position in the market and gain new markets with high efficiency of the activity in the sense of motivation theories are top technologies, restructuring and implementation of new knowledge obtained through science and research. M&A activities focus on new processes, up-to-date production industries and progressive sectors of economy which will guarantee a faster return of investments in comparison with traditional sectors. Foreign studies (Mergermarket, 2010 and Allen & Overy, 2011) use the term progressive for sectors where fast development is expected: telecommunications, information and computing technologies and services. According to our hypothesis, the Czech economy absorbs new knowledge with a slight delay and therefore the Czech merger market will be found to have been more active in other, less attractive sectors during the monitored period. To verify the third hypothesis we will use the data from the database created by authors within the project framework; the database makes it possible to distinguish the sectors of transforming companies. Percentage proportions of merging companies as divided into sectors of economic activity will be compared for years 2001–2010.

2. Results

Development trends of activities in M&A markets in selected European countries measured by relative increment indices of interannual changes are presented in Fig. 3. To balance the trends curves of linear regression functions are added. The calculated equations of regression functions (5–7) indicated some similarity of curves. The calculated standard coefficients of multiple determination R^2 refer to the level of agreement of the model with the data.

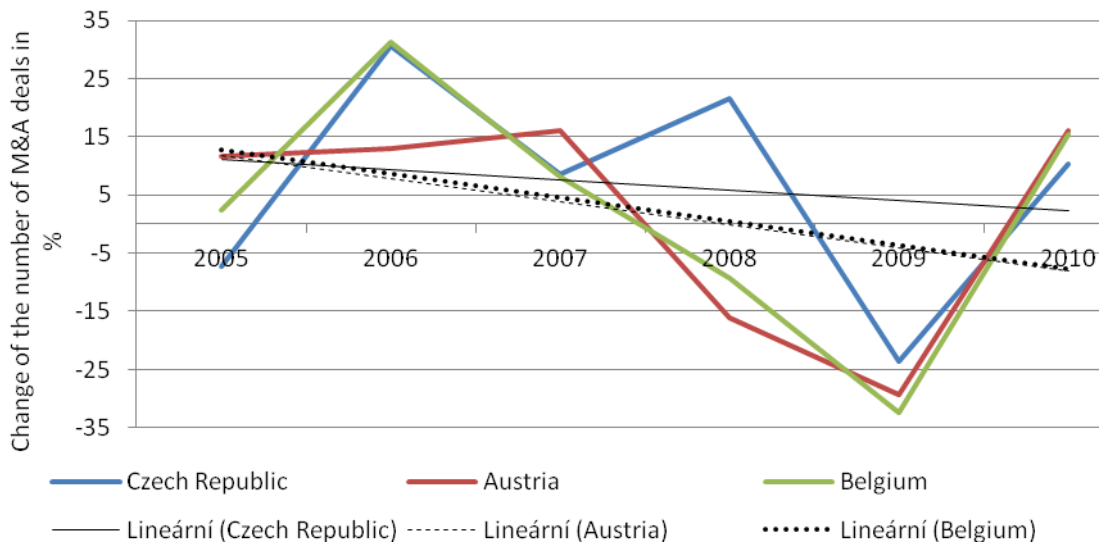
$$y = - 1.7606x + 12.872; R^2 = 0.028; \text{Czech market} \quad (5)$$

$$y = - 3.9297x + 15.627; R^2 = 0.141; \text{Austrian market} \quad (6)$$

$$y = - 4.0971x + 16.950; R^2 = 0.123; \text{Belgian market} \quad (7)$$

The coefficient of the correlation between the development of the Czech and Austrian M&A markets in the monitored period indicates medium dependence $r_{xy} = 0.462740409$. The Czech and Belgian market correlation has the value $r_{xy} = 0.761262986$, which means a correlation of high level. A very high correlation was found between the activities in the Belgian market and the Austrian market $r_{xy} = 0.881288233$.

Figure 3: Development of M&A Deals in the Czech, Austrian and Belgium market, 2005-2010



Source: Ernst & Young (2011), authors' database

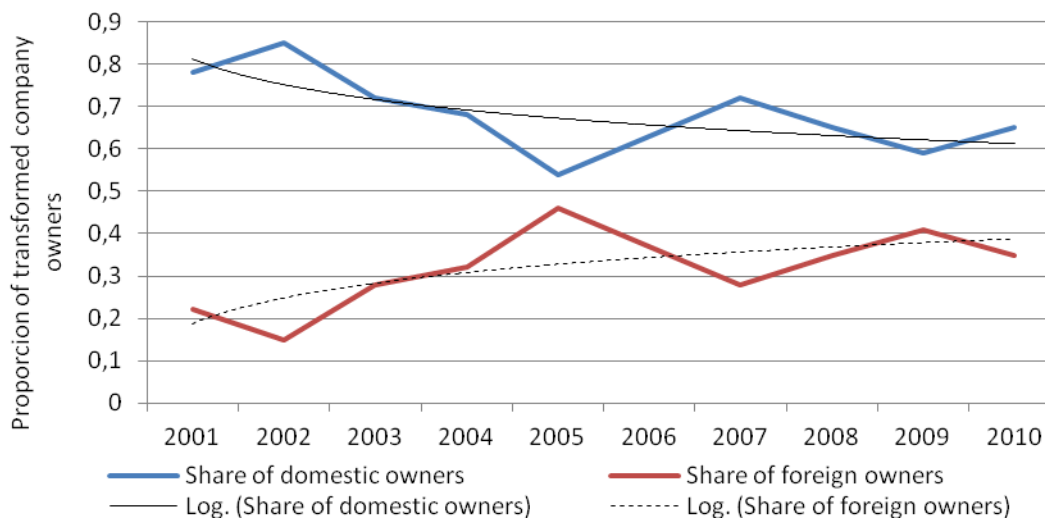
The results of calculations of regression functions describing the development trend measured by the number of mergers implemented in the monitored period by local companies are contained within equation (8), the same for foreign owners is contained in equation (9). To evaluate the agreement of the logarithmic regression model with the data we calculated the standard coefficient of multiple determination R^2 , which shows a higher agreement with data than in a linear or power model.

$$y = -0.087\ln(x) + 0.8121; R^2 = 0.4914 \quad (8)$$

$$y = 0.0868\ln(x) + 0.1879; R^2 = 0.4914 \quad (9)$$

Regression functions clearly show a positive development of the number of mergers implemented by foreign companies, and by contrast, a negative development in the number of mergers implemented by local companies. Putting both curves in a graph (Fig. 4), it is obvious that both curves converge and the positive slope of the curve of cross-border mergers (from the perspective of the acquiring company) documents a faster growth when compared with the development of local mergers. Therefore, the second hypothesis has been verified.

Figure 4: The development of the proportion of transformed company owners in the total number of mergers in the CR



Source: authors' database

To verify the third hypothesis, Table 2 was created. It contains percentage proportions of merging companies in separate sectors of economic activities in 2001–2010. The sectors are in a descending order according to the number of mergers implemented in the Czech Republic during the last year of the monitored period. The mergers which were implemented outside the listed fields are contained within the residual item of Other business.

Table 2: The development of fields of companies which implemented mergers in 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Real estates	14.71	4.35	12.00	11.48	13.75	17.24	21.38	19.9	21.95	21.48
Manufacturing industry	30.88	20.29	23.60	26.78	17.50	19.66	20.34	18.70	19.51	20.79
Trade	8.82	13.77	16.20	15.30	15.00	17.93	16.90	18.70	18.43	19.40
Public services	1.47	1.45	2.09	1.64	2.50	3.79	3.79	3.98	4.34	6.70
Agriculture	8.82	3.62	2.62	2.19	2.50	3.79	3.79	2.99	3.25	4.62
Building industry	5.88	5.07	3.14	2.73	5.00	5.17	3.45	5.47	5.15	4.39
Software, databases	5.88	7.25	6.28	5.46	8.75	5.52	5.17	7.71	7.86	4.16
Financial intermediation	4.41	2.90	7.33	9.29	1.25	1.03	2.41	1.99	1.90	3.23
Transport and storage	4.41	5.07	5.24	6.01	5.00	2.76	4.14	4.98	4.34	3.00
Telecommunications	2.94	3.62	2.62	1.64	2.50	3.45	2.41	3.73	3.25	2.54
Health care	0.00	0.00	1.05	1.09	2.50	2.07	0.34	1.49	1.36	2.54
Electricity, gas, water	4.41	3.62	2.62	2.19	1.25	1.03	2.07	3.48	3.25	2.31
Others	5.88	24.64	11.50	17.49	18.75	8.62	10.69	2.74	2.71	2.08
Accommodation, food providing	1.47	2.90	1.05	0.00	2.50	3.79	3.10	2.24	1.63	1.15
Raw material extraction	0.00	1.45	1.57	1.09	1.25	2.76	0.00	1.24	1.08	0.92
Education	0.00	0.00	1.05	0.00	0.00	1.38	0.00	0.75	0.00	0.69

Source: authors' database

3. Discussion

As the graphs in Fig. 1 and partially Fig. 3 show, the M&A market behaves in harmony with the motivation theory of economy disturbances, at least as regards the bank and financial crisis in the past 10 years, although we would find examples defying the theory. The last financial and economic crisis even turned the slope of regression curves into a negative development trend. As developed European countries manifested a similar development, we measured the correlation between activities in the Czech, Austrian and Belgian M&A markets, which proved to be very close for both developed economies. The Czech market, which lies on the edge between a transitional and a developed economy, is closer to the Belgian market (high correlation measured) than to the Austrian one, with which it manifests a medium dependence. Considering the regression curves presented in Fig. 2, we can assume further growth in the position of the Czech Republic as a bidder and a decrease in the role of target businesses.

The Czech Republic is considered a suitable target for mergers by foreign companies (investors). This is confirmed by the positive development of the regression function expressing the number of mergers implemented by foreign companies (Fig. 3). The negative development of the number of mergers conducted by local businesses leads to the convergence of both curves. Our assumption concerning the faster growth of mergers performed by foreign companies at the expense of local owners has been confirmed.

The third hypothesis regarding the development of mergers in the Czech market according to their lines of business assumed a different structure of preferred sectors than in developed economies. Although the Czech catalogue of sectors does not completely correspond to the foreign classification of economic sectors, we can at least for rough information make a comparison with e.g. the market in

North America. Table 3 shows the differences in the five most represented fields as regards the number of mergers in 2010.

Table 3: The percentage of M&A in selected areas of economic activity in 2010

Field of economic activities NA	%	Field of economic activities CR	%
Technology, media, telecommunications	19,50	Software, databases, telecommunications	6,70
Business services	14,50	Real estates	21,48
Manufacturing industry	14,10	Manufacturing industry	20,79
Energy and raw material extraction	12,30	Electricity, gas, water, raw material ext.	3,23
Financial intermediation	11,20	Financial intermediation	3,23

Source: Mergermarket (2010)

The table shows that mergers in the Czech market have a substantially lower proportion in TMT fields, energy and raw material extraction and financial services when compared with North America. On the other hand, the proportions in real estate activities and the processing industry are much higher. The reasons are probably the specifics of both compared territories; however, in TMT fields and financial mediation we would expect a higher proportion of mergers. The third hypothesis has also been confirmed.

4. Conclusions

Our research has examined the activities in the Czech M&A market in the past ten years. We are presenting theoretical arguments for the development of activities in the field of company transformations as well as empirical analyses. The graphical analysis has confirmed that the global M&A market was negatively affected by the economic development in 2001–2003 and 2008–2010. The motivation theory of economic disturbances was also valid for the European market where the last financial and economic crisis led to a negative slope of regression model curves. When the Czech M&A market, was compared to two developed European countries, we found a medium up to high correlation.

Our assumption about a faster growth of mergers implemented by foreign companies at the expense of local owners has been confirmed. The Czech merger market is still considered a suitable target by foreign businesses, which corresponds with the market being classified as a transitional one, the one on the edge of a developed market.

The third hypothesis assumed a different structure in the development of mergers in the Czech market according to sectors of economic activity than in developed economies. When economic sectors where most mergers occurred were compared with North America, the results showed that the focus of transformations of Czech companies is gradually shifting from traditional sectors to more up-to-date ones which promise better economic profitability. Examples would be information technologies, media, telecommunications, financial services, and services of real estate agencies.

Further research and analyses of the Czech M&A market should be made possible by the database which is currently being created at the Faculty of Economics and Administration, Masaryk University, Brno.

5. Acknowledgements

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