

TRENDS IN DEVELOPMENT AND DETERMINANTS OF CROSS-BORDER MERGERS AND ACQUISITIONS IN THE EUROPEAN AREA

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Annotation. Cross-border mergers and acquisitions (M&As) represent an important phenomenon of globalisation affecting the competitiveness of entire states (regions) and redistributing economic forces in the world. The driving forces underlying the trend to cross-border M&As are complex and vary by sector. The aim of the paper is to identify the impact of economic integration processes and the functioning of the European Monetary Union on the development of the volume and number of cross-border mergers and acquisitions in the countries of the European area. In the paper, based on the theoretical considerations of selected scientific studies, we analyse the influence of our selected predictors on cross-border mergers and acquisitions carried out in 19 source and 28 target countries of the European area and in Turkey in the period from 1998 to 2021 by modelling using structural equations. Our study provides a comprehensive overview of the trends and drivers of this surge in M&A activity in the EU, contributes to its better understanding and is complementary to already conducted research.

Keywords: European Union, European Monetary Union, cross-border mergers, cross-border acquisitions, sustainability, structural equation modelling.

JEL classification: F15, F21, F23.

Introduction

M&As represent, in recent decades, one of the most crucial activities in corporate finance and have become an essential tool for corporate growth, development and sustainability, not only on a European but also on a global scale. M&As, primarily as cross-border transactions, thus, represent important phenomena of globalisation affecting the competitiveness of entire states (regions) and redistributing economic forces in the world. There is no doubt that the driving force behind the increase in the number and volume of M&As in a long-term trend in Europe has been the process of economic integration in the European Union together with the efforts of the European Commission to support standardization and increase transparency in the development of a single market for M&As in Europe. Specifically, evidence about the greater importance of cross-border M&As in Europe suggests that the European Commission partially succeeded in creating a homogeneous market for takeovers in the region. This fact is also confirmed by several published research studies (for instance, Moschieri, Campa, 2009; Moschieri *et al.*, 2014; McCarthy, Dolsma, 2015). Another factor that contributes to the harmonization of the cross-border mergers and acquisitions market in Europe is the various types of controls and evaluations of the antitrust consequences and the effects of these transactions on competition. The European Commission, together with the national competition authorities in the individual Member States of the Union, are increasingly active in this direction, acquiring significant investigative and decision-making powers while having the decisive say in all mergers and acquisitions that have EU dimensions (i.e. transnational transactions). These activities are also related to the key elements of the implementation of the updated EU industrial strategy, through the support of a fair and competitive single market, which will create suitable conditions for the prosperity of European industry in the future. Recently, the attention of the European Commission has been focused primarily on the area of public health and the related economic vulnerability of the Union in order to protect businesses, national security and critical assets in the EU and to prevent the outflow of technology, especially to China, as well as draft laws on digital services and digital markets, which aims to ensure a fair digital market in the Union. However, tools that would protect the European market from foreign companies that draw state subsidies are still missing. Companies with such support have an unfair competitive advantage in the European market and have disruptive effects on the single market.

The recent megatrend has been the growth of transactions aimed at sustainability, both in terms of traditional mergers and acquisitions, as well as non-traditional ones such as partnerships, alliances and new ecosystems. The pursuit of sustainability and the fight against climate change, decarbonisation, the use of alternative sources of energy and raw materials, the transformation of the global supply chain, etc. is becoming an increasingly frequent topic in many economies of the world, especially in the manufacturing sector and energy. In their strategies, the world's key industry organisations appeal to sustainability as a key element of the future success of the industries through various initiatives and programs. This naturally and subsequently leads global players to focus on mergers and acquisitions transactions, alliances, and initiatives that support the initiative of a sustainable world, new technologies, and products, as well as increase the attractiveness of individual industries for investors. Enterprises increasingly also seek to exploit intangible assets (Civelek *et al.*, 2023a) such as technology (Civelek *et al.*, 2023b, Krajcik *et al.*, 2023, Bednárová *et al.*, 2023a), and human resources (Kuděj *et al.*, 2023, Civelek *et al.*, 2024a; Rózsa *et al.*, 2023), brand equity (López-Rodríguez *et al.*, 2024), employer branding (Plaikner *et al.*, 2023), brand engagement (Ballester *et al.*, 2023), and marketing brand names – through geographical diversification and acquisition of complementary assets in other countries (Civelek *et al.*, 2024b). Consumers and employees (Rozsa *et al.*, 2022; Geldress-Weiss *et al.*, 2024) also play an equally important role. Their demands for ESG-friendly products, driven by personalised ESG communication (Rózsa *et al.*,

2024), force entire industries to make changes in raw materials and production processes, taking steps to reduce their environmental footprints by divesting sites that are struggling to meet environmentally friendly production standards.

The aim of the paper is to identify the impact of economic integration processes and the functioning of the European Monetary Union on the development of the volume and number of cross-border mergers and acquisitions in the countries of the European area, focusing on the details for the most active markets in M&As. In the paper, based on the theoretical considerations of selected scientific studies, we analyse the influence of our selected predictors on cross-border mergers and acquisitions carried out in 19 source and 28 target countries of the European area and in Turkey in the period from 1998 to 2021 by modelling using structural equations. To achieve these goals, we used a dataset of all completed M&A between 1998 and 2021 involving acquiring and targeting companies located in European countries and Turkey. The key position in the set of used information sources belongs to statistical data from the Zephyr and Orbis databases (Bureau van Dijk, 2022). Further necessary data were obtained from Eurostat (European Commission, 2022) and Freedom House (Freedom House, 2022). The total database used contained 117,561 M&A records. For each deal, we collected information about the target and the acquirer company (e.g., name, nation, industry) and information about the deal itself (value of the transaction).

1. Literature Review

This literature review illuminates the current research and gaps in the literature. It is often argued that forming a monetary union increases financial integration and leads to a more efficient allocation of capital across member countries. There existed two main views during the preparations for the establishment of the EMU on the possible effects of the euro on financial integration. According to the first view, financial integration should support better capital allocation, higher efficiency and higher economic growth. According to this view, financial markets should be an important source of insurance against asymmetric shocks (this view is also known as the 'Mundell II' argument; see Mundell (1973)). If monetary unification strengthens financial integration, it will endogenously improve insurance against asymmetric shocks, thereby reducing the cost of giving up direct control over the exchange rate. According to the second view, a higher degree of financial integration makes production specialization more attractive, resulting in less symmetrical macroeconomic fluctuations.

Significant attention has been attracted by the substantial increase in direct and portfolio investment flows between the euro area and abroad since the end of the 1990s. However, there has also been a less well-documented increase in direct and portfolio investment flows within the euro area. Intra-euro area Foreign Direct Investments (FDIs) have grown considerably since the launch of the euro. Such FDIs –which also include M&A activity – accumulate over time and contribute to reshaping Europe (Mongelli, 2008). Since the 1990s, the increase in cross-border mergers and acquisitions between the member states of the European Union and subsequently the European Monetary Union has intensified, with temporary fluctuations in periods of financial crises (Weitzel *et al.*, 2014; Lipták *et al.*, 2015; Rao, Reddy, 2015; Aquaro *et al.*, 2021).

According to Findlay and Chunlai (2003) M&As can be even more valuable for host economies when they preserve potentially profitable assets that are under threat. This is especially relevant in the context of privatisation-related cross-border M&As in transition economies and in financially distressed developing economies. Benefits from such M&As are increasingly intangible and found in economy-wide spillover

effects. They can help revitalise ailing firms and local economies and create jobs through the restructuring process, acquisition of technology and productivity growth (Johansson, Kang, 2000).

Although firms' motivations are the primary determinant of decisions to undertake cross-border M&As, changes in quality of institutional environment (Bekaert *et al.*, 2007; Papaioannou, 2009), in trade policy, the tax system, various restrictions on the cross-border movement of capital, the protection of certain industries (Hečková *et al.*, 2014; Bednárová *et al.*, 2023b), investor protection (Rossi, Volpin, 2004; Bris, Cabolis, 2008; John *et al.*, 2010; Širá, Pukala, 2020), political stability (Wan, Wong, 2009; Cao *et al.*, 2019; Bonaime *et al.*, 2018) and cultural proximity to the target and source countries (Ahern *et al.*, 2015; Dubravská *et al.*, 2015; Lim *et al.*, 2016; Siganos, Tabner, 2019) represent other significant determinants affecting the implementation of cross-border M&As.

Despite the significant progress that has been achieved in the European Union towards an integrated economic area, significant differences and a lack of harmonization in tax, insolvency and labour law, consumer protection, regulatory approaches, ownership structures and business practices in individual European countries still persist. These differences partly stem from the reluctance of European countries to homogenize and unify the legal requirements for mergers and acquisitions. This lack of convergence to a standardised legal framework thus contributes to already existing cultural differences that often hinder the implementation and completion of transactions in Europe. Differences, for example in the choice of takeover techniques, arise not only from the legal regulations that set the requirements for the initiation of public bidding and/or the limits and size of such bids but also from the structural characteristics of the business environment, such as the ownership and management structure of companies and the degree of dependence on banks in financing corporate transactions.

According to European Central Bank (European Central Bank, 2022), while there has been modest progress in consolidation since the establishment of the banking union, M&A activity appears to have gained momentum over the past few years. Several factors can act as a brake on mergers and acquisitions: tax regimes, in the absence of harmonisation, can be a contributing factor; differences in national legislation (competition law, credit law, customer protection, etc.) can also hamper projects. Harmonisation should, therefore, be pursued to the greatest extent possible, including for rules that do not form part of banking regulations *per se*. Even though fully fledged bank mergers and acquisitions are still predominantly domestic, some of the more targeted consolidations at the level of business lines feature a cross-border dimension and, hence, are also contributing to financial integration within the EU.

The reallocation of capital through the implementation of cross-border mergers and acquisitions is one of the most significant phenomena of recent decades. The aim of the research of the authors Coeurdacier *et al.* (2009) was to assess the impact of the European Union and the European Monetary Union on capital reallocation through cross-border mergers and acquisitions within the member countries of these integration groupings. Their effort was to confirm or refute the theoretical arguments of Neary (2007), namely that trade liberalization and deeper integration of the European market correlate with an increase in the number of realized cross-border mergers and acquisitions. From a macroeconomic point of view, mergers and acquisitions represent an important determinant of the growth of basic macroeconomic variables (for instance, GDP growth Di Giovanni, 2005; Pegkas, 2015; Lobanova *et al.*, 2018; Krizanova *et al.*, 2023), transfers and subsequent distribution of production from one state to another, etc. They also have a significant impact on the field of research and development, because research and development itself is mostly not transferred between individual states, which favours economically advanced but more

expensive economies. It is precisely the research and development-intensive industries that are currently dynamically growing (Rovňák, 2020; Aquaro *et al.*, 2021). Moreover, a role of the circular economy aspects has arisen in the recent period in this field (Skare *et al.*, 2023; Šimková *et al.*, 2023; Prokop *et al.*, 2024). Regional analysis according to McCarthy and Dolsma (2015), shows that interregional mergers and acquisitions also have an indirect effect on European competitiveness and the growing geographical expansion of trade and connections with increasingly distant locations as well as in the specific economy sectors (Juhászová *et al.*, 2023), especially due to the increase in the number of target companies in peripheral regions.

2. Research Methodology

Structural equation modelling (SEM) is a statistical methodology that uses a confirmatory analysis approach to a certain phenomenon under investigation. Typically, this theory represents 'causal' processes that generate observations of multiple variables. The term structural equation modelling expresses two important aspects of this procedure, namely:

1. causal processes based on the study are presented using a series of structural, i.e. regression equations,
2. these structural relationships can be modelled by a picture to allow a better conceptualization of the theory under investigation.

The assumed model can be statistically tested in a simultaneous analysis of the entire system of variables and thus determine to what extent the model matches the existing data. If the fit is adequate, the model confirms the plausibility of the postulated relationships between the variables. In the event that the fit of the model to the data is inadequate, the credibility of the relationships is rejected. There are several aspects that distinguish SEM from the older generation of multivariate procedures. First, as mentioned above, SEM requires confirmation of a hypothetical model rather than an exploratory approach to data analysis, although this approach can also be used very effectively in SEM. In contrast, most other multivariate procedures are essentially descriptive in nature, making hypothesis testing difficult, if feasible at all. Furthermore, while traditional multivariate procedures are unable to do either, SEM provides explicit estimates to assess or correct for parameter measurement error as well as estimates of error variance. Alternative methods (e.g. those embedded in regression analysis or in the general linear model) assume that the error(s) in the explanatory variables, i.e. independent variables are not considered. Using these methods in the case of an error in the explanatory variables is tantamount to ignoring the error, which can ultimately lead to serious inaccuracy – especially if the errors are large. These problems can be avoided by using appropriate SEM analyses. Furthermore, although data analysis using classical multivariate methods is based only on observed measures, SEM procedures can include both unobserved (latent) and observed variables. Finally, there are no widely and easily applied methods for modelling multiple relationships or for estimating point or interval indirect effects. These important features are available using the SEM methodology. Due to these facts, SEM has become a popular methodological procedure, which is widely used to solve research problems that also include non-experimental research.

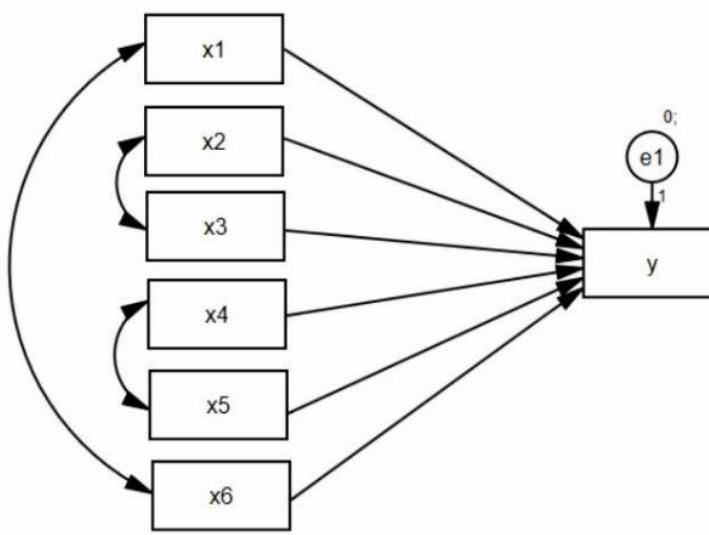
For modelling the decision-making of multinational business companies on the localisation of their cross-border mergers and acquisitions, we used the scientific studies of Head and Ries (2005, 2007), McFadden's discrete choice (McFadden, 1974) and the study of Hečkova *et al.* (Hečková *et al.*, 2016).

2.1 Data

The database that was analysed for the purposes of the study contains 117,561 samples on realised cross-border M&As in the countries of the European area and in Turkey in the period from 1998 to 2021 (19 source countries (*i*): Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Spain, Sweden, Turkey, United Kingdom a 28 target countries (*j*): Austria, Belgium, Bulgaria, Cyprus, Czech republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom). Statistical data from the Zephyr and Orbis databases (Buerau van Dijk, 2022) and Eurostat (European Commission, 2022) have a key position in the set of used information sources. In the first step, we excluded an extreme value with a capitalisation volume of 204.73 million euros between the United Kingdom as a source country and Germany as a destination country in 2000. In order to quantify the impact of the considered predictors on the volume of cross-border mergers and acquisitions, structural equation modelling (SEM) was used in view of the above facts. The MS Excel, IBM SPSS Statistics 26 and Statistica 13.5 programs were used to process the research results.

$M\&A_{ij,s,t}$ represents the total value of cross-border assets acquired through mergers and acquisitions by source country *i*, in target country *j*, in sector *s*, and at time *t*. An important predictor that affects the volume of cross-border mergers and acquisitions can be considered the value of the gross domestic product of the source (*i*) and target country (*j*), in sector *s* and at time *t* ($GDP_{j,s,t}$, $GDP_{i,s,t}$). Using the logarithm of their product eliminates their different elasticity and does not affect the overall result. The variables of proximity of countries, specificity of their culture and relatedness of language were also included in the model. The proximity of the source and target countries are quantified by the $distance_{ij}$ of their capitals, denoted as $distance_{ij}$, the sharing of a common border is quantified by the binary variable $border_{ij}$, which takes Value 1 in the positive case and Value 0 in the negative case. The binary variable $language\ relatedness_{ij}$ takes Value 1 in the case of the same official language and Value 0 otherwise, was considered to quantify the influence of language relatedness on the volume of cross-border assets.

The goal is to estimate the weights of the considered predictors on the total value of assets purchased through mergers and acquisitions $M\&A_{ij,s,t}$ by source country *i* in target country *j* in sector *s* and at time *t*. The other predictors in the considered model represent dummy variables that relate to the membership of the source and target countries in the European Union and in the European Monetary Union, namely $EU_{i,t}$, $EU_{j,t}$ takes on Value 1 if the source country *i* as well as the target country *j* was a member of the European Union at time *t*, otherwise it takes on Value 0. The variable $EMU_{i,t}$, $EMU_{j,t}$ acquires Value 1 if the source country *i* as well as the target country *j* was a member of the European Monetary Union at time *t*, otherwise it acquires Value 0. The regression weights are estimated on the basis of the defined model (Figure 1). We used basic and recommended indicators to test the suitability of the verified model. The basic recommended evaluation indicators (Torun, 2020) and their realistically achieved values on the model are listed in Table 1.



Note: y - M&A_{ij,s,t}, $x1$ - $\log(HDP_{j,s,t} \cdot HDP_{i,s,t})$, $x2$ - $\log(\text{Distance})$, $x3$ - $\text{Border}_{i,j}$, $x4$ - $\text{ComLang}_{i,j}$, $x5$ - $\text{EU}_{i,t} \cdot \text{EU}_{j,t}$, $x6$ - $\text{EMU}_{i,t} \cdot \text{EMU}_{j,t}$.

Source: created by the authors.

Figure 1. Analysed Structural Model of Influence of Predictors on Total Value of Cross-Border Assets

Table 1. Model Fit

Fit Indicies Used	Perfect Fit Indicies	Acceptable Fit Indicies	CFA Results	References
χ^2/df	$0 \leq \chi^2/df \leq 2$	$2 \leq \chi^2/df \leq 3$	1.881	Hu and Bentler (1998)
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$	0.964	Jöreskog and Sörbom (1993), Marsch, Balla, and McDonald (1988), Schermelleh-Engel and Moosbrugger (2003).
$AGFI$	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$	0.959	
CFI	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$	0.972	Bentler and Bonett, (1980), Bentler (1980), Marsch, Hau, Artelt, Baumert and Peschar, (2006)
NFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$	0.961	
TLI	$0.97 \leq TLI \leq 1.00$	$0.95 \leq TLI \leq 0.97$	0.983	
$RMSEA$	$0.00 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$	0.032	Browne and Cudeck (1993), Byrne and Campbell (1999), Hu and Bentler (1999), Schermelleh-Engel and Moosbrugger (2003)
$SRMR$	$0.00 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$	0.047	
$p - value$	$p > 0.05$		0.094	

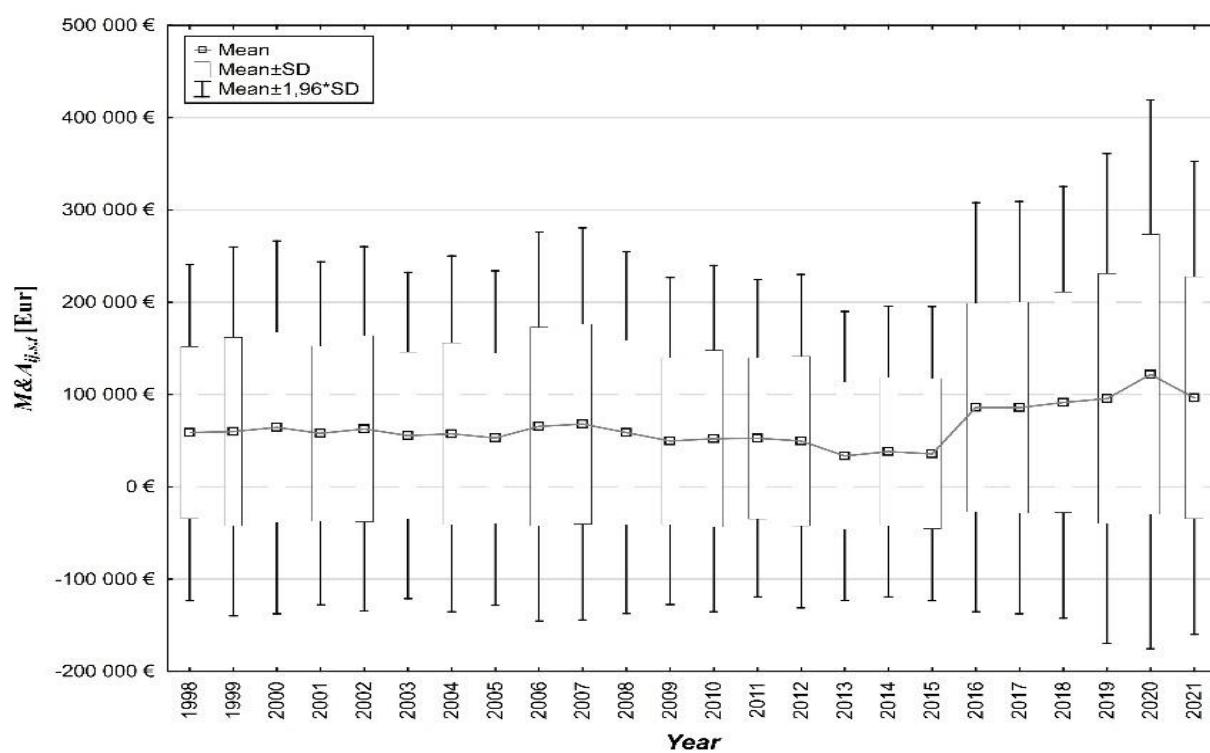
Note: χ^2 - Chi-square, df - Degrees of freedom, GFI - goodness of fit index, AGFI - adjusted goodness of fit index, CFI - comparative fit index, NFI - The Bentler-Bonett normed fit index, TLI - Tucker-Lewis coefficient, RMSEA - root mean square error of approximation, SRMR - standardised root mean square residual, p - probability level.

Source: own calculations.

It is clear from *Table 1* that the recommended indices evaluating the factor model (*Figure 1*) are acceptable and entitle us to conclude that the created hypothetical model presents a perfect degree of agreement with real data and is applicable in this form.

3. Results

The basic analysis of the database of cross-border mergers and acquisitions in the period from 1998 to 2021 points to the fact that the average value of the market capitalisation of cross-border mergers and acquisitions is $\text{€}330,098.2 \pm \text{€}40,272.1$. The lower quartile represents a value of $\text{€}5,000$, and the upper quartile $\text{€}120,278.7$. The value of the lower decile (10%) of the market capitalisation of the analysed mergers and acquisitions represents a value of $\text{€}1,500$, and the value of the upper decile (90% percentile) represents a value of $\text{€}530,000$. Based on the mentioned facts, for further analysis, we exclude 10% of the values exceeding the value of the upper quartile. Thus, the database represents 6,762 data. We implement this step in order to homogenise the research sample. After excluding the mentioned values, the average value of the market capitalisation of cross-border mergers and acquisitions is $\text{€}62,375.01 \pm \text{€}2,475.56$. The value of the lower quartile in the monitored period is $\text{€}4,084.02$, and the value of the upper quartile is $\text{€}67,388.70$. At the same time, after excluding data where the market capitalisation is higher than $\text{€}530,000$, the value of the lower decile (10%) is $\text{€}1,361.05$, and the value of the upper decile (90%) is $\text{€}200,103$. From the further analysis shown in *Figure 2* and *Figure 3*, it follows that the highest number of cross-border mergers and acquisitions was realized in 2014, while the total number represented 458 with an average market capitalization of $\text{€}38,248.34 \pm \text{€}7,367.83$ with a total value of $\text{€}17,517$ million.

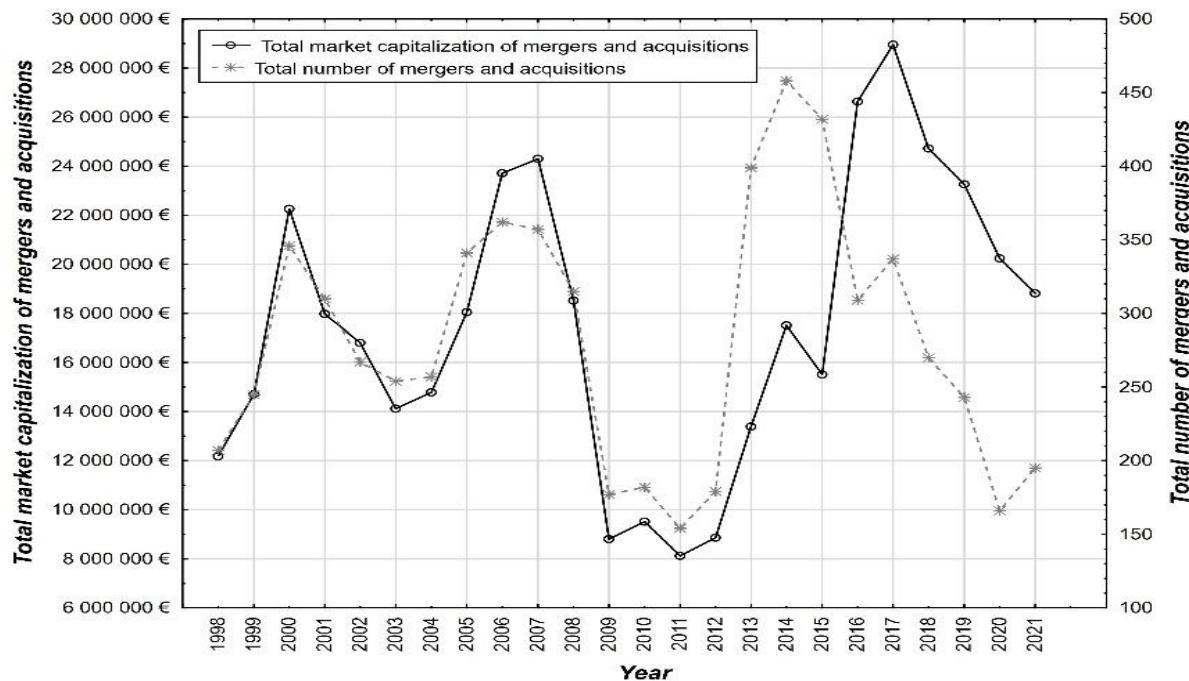


Source: created by the authors.

Figure 2. Average Value of Cross-Border Mergers and Acquisitions for the Monitored Period, 1998-2021

Figure 2 shows that the average value of the market capitalisation of cross-border mergers and acquisitions between 1998 and 2012 is at approximately the same level, from $\text{€}58,834.41 \pm \text{€}12,734.72$ in 1998 to $\text{€}49,506.59 \pm \text{€}13,584.23$ in 2012. The maximum average value in this observed period is in 2007 and reaches $\text{€}68,081.23 \pm \text{€}11,278.14$. In the following period, from 2013 to 2015, there was a sharp decrease in the average value of the market capitalization of cross-border mergers and acquisitions to the value of $\text{€}33,561.50 \pm \text{€}7,857.30$ in 2013, $\text{€}38,248.34 \pm \text{€}7,367.83$ in 2014, and $\text{€}35,901.97 \pm \text{€}7,687.58$ in 2015. Over the years, the average value of cross-border mergers and acquisitions has more than doubled, to the value of $\text{€}86,215.75 \pm \text{€}12,654.76$ in 2016 to its maximum value of $\text{€}121,932.59 \pm \text{€}23,252.30$ in 2020, with a subsequent decrease to the value of $\text{€}96,544.28 \pm \text{€}18,463.38$ in 2021.

From the point of view of the total value of the market capitalisation of cross-border mergers and acquisitions, as well as from the point of view of their total number for the individual years of the monitored period 1998 to 2021 (Figure 3), it is possible to notice an almost perfect copying of the courses of both monitored variables until 2012. The first maximum was observed in 2000, when the total number of cross-border mergers and acquisitions reached 346 with a total capitalization of €22,267 million. In the following three, there is a decrease in the number and volume of cross-border mergers and acquisitions, while in 2003, there were 254 of them with a total volume of €14,123 million. In the following period from 2004 to 2007, we again observe a rapid growth of the monitored variables, and, at the same time, in 2007, a new maximum in the value of 357 realized cross-border mergers and acquisitions with a total volume of €24,304 million. The period of economic crisis, especially between 2009 and 2012, also affected the evaluated area. In 2009, there was a sharp drop in the number of mergers and acquisitions transactions, from 315 in 2008 to 177 in 2009 with a total volume of €18,520 million in 2008 to €8,799 million in 2009. We observe this negative trend until 2012 (179; €8,861 million). In the following period, an increase in both the number of cross-border mergers and acquisitions and their total financial volume is evident in Figure 3. At the same time, a temporal shift in both monitored parameters is evident. This shift is significant especially in 2014 and 2017. In terms of the total number of cross-border mergers and acquisitions, there was a sharp growth of more than 123% between 2012 and 2013, from 179 in 2012 to 399 in 2013. However, the total volume of cross-border mergers and acquisitions only reached a growth of 51,112%, namely from the value of €8,861 million in 2012 to €13,391 million in 2013. In terms of the total number of cross-border mergers and acquisitions, the maximum value in the entire monitored period is in 2014 (458), with a gradual decrease until 2020 (166) and a subsequent growth of 17,470% (195) in 2021. From the point of view of the total financial volume of cross-border mergers and acquisitions, the maximum was reached in 2017 with a total value of €28,957 million. The following period, from 2018 to 2021, is characterised by a gradual reduction of the total financial volume of cross-border mergers and acquisitions to €18,826 million in 2021 due primarily to the global COVID-19 pandemic.



Source: created by the authors.

Figure 3. Total Volume and Number of Cross-Border Mergers and Acquisitions for the Monitored Period, 1998-2021

From the point of view of both the source country (*i*) and the target country (*j*), the analysis shows that the highest number of cross-border mergers and acquisitions was directed from the United Kingdom, with a total number of 1,513 and a total financial volume of €58,871 million. However, the highest financial volume came from France, namely €80,666 million, with a total of 917 completed mergers and acquisitions. France implemented cross-border mergers and acquisitions primarily in Spain (158; €18,241 million), the Netherlands (102; €11,881 million), Italy (118; €10,248 million), Great Britain (189; €9,609 million), Germany (92; €8,882 million) and Belgium (81; €7,628 million). Great Britain, as the country with the largest number of cross-border mergers and acquisitions, directed its intentions primarily to Germany (332; €12,806 million), France (369; €12,319 million), the Netherlands (212; €8,634 million), Spain (120; €5,876 million) and Italy (128; €5,748 million). Another important source (*i*) countries of cross-border mergers and acquisitions are the Netherlands, with a total number of 717 mergers and acquisitions with a total volume of €49,779 million, and Germany, with a total of 660 cross-border mergers and acquisitions with a total financial volume worth €44,786 million.

From the point of view of the target country (*j*), the most important country where cross-border mergers and acquisitions were implemented is France, with a total financial volume of €56,250 million. In France, mergers and acquisitions were carried out primarily from Great Britain (369; €12,319 million), Spain (77; €7,570 million), Belgium (97; €6,902 million), Germany (89; €6,825 million) and of the Netherlands (63; €6,052 million). The second most important country in terms of completed cross-border mergers and acquisitions is Germany, with a total volume of funds of €54,951 million (905). In Germany as a target country, mergers and acquisitions were carried out primarily from Great Britain (322; €12,806 million), France (92; €8,882 million), Italy (80; €5,984 million), the Netherlands (82; €5,653 million). € and

Luxembourg (51; €5,140 million). The third most important country in terms of completed cross-border mergers and acquisitions is Spain, with a total volume of funds of €48,091 million (616). In Spain, as a target country, mergers and acquisitions were carried out primarily from France (158; €18,241 million), Italy (91; €7,590 million), Great Britain (120; €5,876 million) and the Netherlands (50; €4,315 million). Other target countries (*j*) in terms of the total volume of cross-border mergers and acquisitions are the Netherlands (626; €46,966 million), Italy (568; €39,849 million), Great Britain (689; €34,133 million), Portugal (250; €22,342 million) and Belgium (322; €21,871 million).

In the next part, we present the analysis of the model (Figure 1). It is clear from Table 2 that the value of the market capitalisation of cross-border mergers and acquisitions does not have a significant effect at the significance level $\alpha = 5\%$ of the variable x_3 , which represents the existence of a common border $Border_{i,j}$ between the source (*i*) and the target (*j*) country with the level reached significance level $p = 0.193$, as well as the variable x_4 , which represents the existence of a common official language ($ComLang_{i,j}$) between countries with a significance level of $p = 0.087$.

Table 2. Analysis of the Model for the Entire Data Set

Relationship			Estimate	Std. Estimate	Std. error	t -statistic	p- value
const.			3.523		0.130	27.118	0.000*
y	<---	x_1	0.129	0.246	0.006	21.142	0.000*
y	<---	x_2	-0.148	-0.050	0.036	-4.053	0.000*
y	<---	x_3	-0.032	-0.016	0.024	-1.301	0.193
y	<---	x_4	-0.074	-0.020	0.043	-1.712	0.087
y	<---	x_5	-0.244	-0.069	0.041	-6.009	0.000*
y	<---	x_6	0.332	0.183	0.021	15.737	0.000*

Note: * – significant at the level of significance $\alpha = 0.05$, Estimate – estimate, Std. Estimate – standardised regression weight, Std.error – standard error, t – t-statistic, p – probability level; y – $M\&A_{ij,s,t}$, x_1 – $\log(GDP_{j,s,t} \cdot GDP_{i,s,t})$, x_2 – $\log(Distance_{i,j})$, x_3 – $Border_{i,j}$, x_4 – $ComLang_{i,j}$, x_5 – $EU_{i,t}EU_{j,t}$, x_6 – $EMU_{i,t}EMU_{j,t}$.

Source: own calculations.

The analysis of the model (Figure 1, Table 2) also shows that the constant of the model, which includes all neglected input variables that we did not consider in the analysis, is significant at the significance level $\alpha = 0.05$ and on the resulting value of the market capitalisation of cross-border mergers and acquisitions affects 35.185%. The most significant considered influence on the value of the market capitalisation of cross-border mergers and acquisitions is the variable x_1 ($GDP_{j,s,t} \cdot GDP_{i,s,t}$), i.e. the product of the GDP of the source and target countries. The influence of this factor is 27.431%. Furthermore, it can be said that as the value of the product of the source and the target country's GDP increases, so does the conditional value of the market capitalisation of cross-border mergers and acquisitions. The second most significant considered influence on the change in the value of the market capitalisation of cross-border mergers and acquisitions is the membership of both the source and target countries in the European Monetary Union (x_6 ; $EMU_{i,t}EMU_{j,t}$). If both countries (source and target) are members of the European Monetary Union, the value of the standardised regression weight is at the level of 0.183 ($p = 0.000$), while the influence of this variable on the change in the value of the market capitalisation of cross-border mergers and acquisitions is 20.419%. At the same time, it should be noted that if both countries are members of the European Monetary Union, the value of the market capitalisation increases. In terms of significance, the next significant predictor is the fact that both countries (source and target) are part of the European Union (x_5 ;

$EU_{i,t}$, $EU_{j,t}$) with the value of the standardised regression weight at the level of -0.069 ($p = 0.000$). The influence of this predictor on the change in the conditional value of the market capitalisation of cross-border mergers and acquisitions is 7.797%. The last significant predictor at the significance level $\alpha = 0.05$ with a 5.259% influence on the change in the value of the market capitalisation of cross-border mergers and acquisitions is the distance between the source and target countries ($x2$; $Distance_{i,j}$). The value of the standardised regression weight of this predictor is at the level of -0.050.

Subsequently, analyses were carried out in subsets of the basic set, namely for the production sector and the service sector. The aim of this analysis is a mutual comparison of the significant impacts and their significance on the total value of the market capitalisation of cross-border mergers and acquisitions for both sectors. The analysis is based on the basic model (Figure 1).

Table 3. Suitability of Partial Models for the Manufacturing Sector and the Service Sector

Fit Indicies Used	CFA Results - Manufacturing sector	CFA Results - Service sector
χ^2/df	2.334	1.999
GFI	0.927	0.955
$AGFI$	0.891	0.943
CFI	0.935	0.986
NFI	0.927	0.973
TLI	0.959	0.988
$RMSEA$	0.078	0.043
$SRMR$	0.072	0.039
p - value	0.066	0.097

Source: own calculations.

For individual partial models, namely the model for the manufacturing sector and the service sector, the suitability of the model is shown in Table 3. If we compare the calculated values of the individual indicators of the suitability of the models with the reference values listed in Table 1, we can conclude that all evaluation indicators are within the range of acceptable values. For this reason, both partial models, namely the model for the manufacturing sector (Table 4) and the model for the service sector (Table 5), can be considered correct, and the conclusions can be used to analyse the evaluated sectors.

If we analyse the first partial model for the manufacturing sector (Table 4), we see that the variable $x2$ ($Distance_{i,j}$) does not have a significant effect on the value of the market capitalization of cross-border mergers and acquisitions at the selected level of significance $\alpha = 0.05$ ($p = 0.515$) with a 2.002% influence. Another predictor that does not have a significant impact on the conditional value of the market capitalisation of cross-border mergers and acquisitions at the selected level of significance with a 0.763% impact is the variable $x4$ ($ComLang_{i,j}$), i.e. the existence of a common official language between the source (i) and the target (j). The achieved level of significance for this predictor is $p = 0.804$, with the value of the standardised regression weight at the level of 0.056. At the same time, the third predictor, which does not have a significant impact on the change in the value of the market capitalisation of cross-border mergers and acquisitions with a 4.835% impact, is the variable $x3$ ($Border_{i,j}$) between the source (i) and the target (j) country with a significance level of $p = 0.116$. The value of the standardised regression weight for this predictor is at the level of -0.035.

Table 4. Analysis of the Model for the Manufacturing Sector

Relationship		Estimate	Std. Estimate	Std. error	t -statistic	p- value	
const.		3.205		0.223	14.403	0.000*	
y	<---	x ₁	0.084	0.188	0.009	9.025	0.000*
y	<---	x ₂	0.042	0.015	0.064	0.651	0.515
y	<---	x ₃	-0.063	-0.035	0.04	-1.572	0.116
y	<---	x ₄	0.019	0.005	0.078	0.248	0.804
y	<---	x ₅	0.162	0.056	0.059	2.741	0.006*
y	<---	x ₆	0.135	0.081	0.035	3.872	0.000*

Note: * – significant at the level of significance $\alpha = 0.05$, Estimate – estimate, Std. Estimate – standardised regression weight, Std.error – standard error, t – t-statistic, p – probability level; y – $M\&A_{i,j,s,t}$, x_1 – $\log(GDP_{j,s,t} \cdot GDP_{i,s,t})$, x_2 – $\log(Distance_{i,j})$, x_3 – $Border_{i,j}$, x_4 – $ComLang_{i,j}$, x_5 – $EU_{i,t}EU_{j,t}$, x_6 – $EMU_{i,t}EMU_{j,t}$.

Source: own calculations.

From the analysis of the model (Figure 1) for the production sector (Table 4), it follows that the constant of the model, which includes all neglected input variables that we did not consider in the analysis, is significant at the level of significance $\alpha = 0.05$. The resulting value of the market capitalisation of cross-border mergers and acquisitions affects 44.301%. The most significant investigated predictor, which affects the market capitalisation of mergers and acquisitions with 27.759%, is the predictor x_1 ($GDP_{j,s,t}$, $GDP_{i,s,t}$), i.e. the product of the GDP of the source and target countries. Furthermore, it can be stated that as the value of the product of the source and the target country's GDP increases, so does the conditional value of the market capitalisation of cross-border mergers and acquisitions. The value of the standardised regression weight for this predictor is 0.188. The second most significant considered influence on the change in the value of the market capitalisation of cross-border mergers and acquisitions is the membership of both the source and target countries in the European Monetary Union (x_6 ; $EMU_{i,t}EMU_{j,t}$). If both countries (source and target) are members of the European Monetary Union, the value of the standardised regression weight is at the level of 0.081 ($p = 0.000$). In contrast, the influence of this variable on the change in the value of the market capitalisation of cross-border mergers and acquisitions is 11.909%. At the same time, it should be noted that if both countries are members of the European Monetary Union, the value of the market capitalisation increases. In terms of significance, the next significant predictor is the fact that both countries (source and target) are part of the European Union (x_5 ; $EU_{i,t}EU_{j,t}$) with a standardised regression weight value of 0.056 ($p = 0.006$). The influence of this predictor on the change in the conditional value of the market capitalisation of cross-border mergers and acquisitions is 8.431%.

When analysing the partial model (Figure 1) for the service sector (Table 5), we see that the variable x_3 , which represents the existence of a common border $Border_{i,j}$ between the source (i) and the target (j) country with a significance level of $p = 0.238$, as well as variable x_4 , which represents the existence of a common official language ($ComLang_{i,j}$) between countries with a significance level of $p = 0.231$.

Table 5. Analysis of the Model for the Service Sector

Relationship			Estimate	Std. Estimate	Std. error	t -statistic	p- value
<i>const.</i>			3.645		0.159	22.905	0.000*
<i>y</i>	<---	<i>x</i> ₁	0.155	0.275	0.008	19.756	0.000*
<i>y</i>	<---	<i>x</i> ₂	-0.232	-0.078	0.044	-5.310	0.000*
<i>y</i>	<---	<i>x</i> ₃	-0.036	-0.017	0.03	-1.179	0.238
<i>y</i>	<---	<i>x</i> ₄	-0.062	-0.016	0.052	-1.199	0.231
<i>y</i>	<---	<i>x</i> ₅	-0.453	-0.113	0.055	-8.314	0.000*
<i>y</i>	<---	<i>x</i> ₆	0.400	0.213	0.026	15.303	0.000*

Note: * – significant at the level of significance $\alpha = 0.05$, Estimate – estimate, Std. Estimate – standardised regression weight, Std.error – standard error, t – t-statistic, p – probability level; *y* – $M\&A_{i,j,s,t}$, *x*₁ – $\log(GDP_{j,s,t} \cdot GDP_{i,s,t})$, *x*₂ – $\log(Distance_{i,j})$, *x*₃ – $Border_{i,j}$, *x*₄ – $ComLang_{i,j}$, *x*₅ – $EU_{i,t}EU_{j,t}$, *x*₆ – $EMU_{i,t}EMU_{j,t}$.

Source: own calculations.

The analysis of the model (Figure 1, Table 5) also shows that the constant of the model, which includes all the neglected input variables that we did not consider in the analysis, is significant at the significance level $\alpha = 0.05$ and on the resulting value of the market capitalisation of cross-border mergers and acquisitions affects 30.967%. The most significant considered influence on the value of the market capitalisation of cross-border mergers and acquisitions is the variable *x*₁ ($GDP_{j,s,t} \cdot GDP_{i,s,t}$), i.e. the product of the GDP of the source and target countries. The influence of this factor is 26,710%. Furthermore, it can be stated that with the increasing value of the product of the GDP of the source and target country, the conditional value of the market capitalisation of cross-border mergers and acquisitions also increases with the value of the standardised regression weight at the level of 0.275. The second most significant considered influence on the change in the value of the market capitalisation of cross-border mergers and acquisitions is the membership of both the source and target countries in the European Monetary Union (*x*₆; $EMU_{i,t}EMU_{j,t}$). If both countries (source and target) are members of the European Monetary Union, the value of the standardised regression weight is at the level of 0.213 ($p = 0.000$), while the influence of this variable on the change in the value of the market capitalisation of cross-border mergers and acquisitions is 20.689%. At the same time, it should be noted that if both countries are members of the European Monetary Union, the value of the market capitalisation increases. In terms of significance, the next significant predictor is the fact that both countries (source and target) are part of the European Union (*x*₅; $EU_{i,t}EU_{j,t}$) with the value of the standardised regression weight at the level of -0.113 ($p = 0.000$). The influence of this predictor on the change in the conditional value of the market capitalisation of cross-border mergers and acquisitions is 11,240%. The last significant predictor at the significance level $\alpha = 0.05$ with a 7.179% influence on the change in the value of the market capitalisation of cross-border mergers and acquisitions is the distance between the source and target countries (*x*₂; $Distance_{i,j}$). The value of the standardised regression weight of this predictor is at the level of -0.078.

From the mutual comparison of both partial models, namely for the production sector (Table 4) and the service sector (Table 5), it is clear that the first most significant difference between the models is the statistical significance of the predictor *x*₂ ($Distance_{i,j}$), i.e. the distance between the source (*i*) and target (*j*) country. While for the manufacturing sector, this predictor is not significant at the significance level $\alpha = 0.05$, in the service sector, we observe its statistical significance ($p = 0.000$) for the change in the value of the market capitalisation of cross-border mergers and acquisitions with a 7.179% impact. Another

significant difference is the percentage of the influence of substantial predictors on the change in the value of the market capitalisation of cross-border mergers and acquisitions. With the constant, which as mentioned above includes the influence of all 'neglected' influences, it is clear that if the influence of the constant is at the level of 44.301% for the manufacturing sector and 30.967% for the service sector, the assumed model for the manufacturing sector will explain 55.699% of the variability of the market capitalisation of cross-border mergers and acquisitions and almost 70% of this variability in the service sector. However, it follows from this that it is necessary to analyse both sectors further and look for other significant predictors. The influence of the variable $x6 (EMU_{i,t} EMU_{j,t})$, i.e. the membership of the source and target countries in the European Monetary Union, contributes to the change in the variability of the market capitalisation value of cross-border mergers and acquisitions in the manufacturing sector by 11.909%. In the service sector this influence is 73.721% higher and reaches 20.689% influence.

4. Discussion

The results of our research presented in this paper confirm that the most significant considered influence on the value of the market capitalisation of cross-border mergers and acquisitions is the product of the source and target country's GDP variable. As the value of the product of the source and the target country's GDP increases, so does the conditional value of the market capitalisation of cross-border mergers and acquisitions. A similar result is also confirmed by scientific studies by authors Di Giovanni (2005), Erel et al. (2012), Pegkas (2015) and Lobanova et al. (2018). The second most significant considered influence on the change in the value of the market capitalisation of cross-border mergers and acquisitions is the membership of both the source and target countries in the European Monetary Union. At the same time, it should be noted that if both countries are members of the European Monetary Union, the value of the market capitalisation increases. Regarding significance, membership in the European Union is the next significant predictor. The last considerable predictor is the distance between the source and target countries. Findings gained through analysis of changes in the average distance between the source and the target country are in line with Coeurdacier et al., 2009 and Uddin & Boateng, 2011 which suggest that while the overall volume of M&A realised at a greater distance decreases the average size of realised M&As to more distant countries. Still, we also expect the value of M&As to grow as the distance between countries grows. The matter of geographical closeness was also documented in Erel et al. (2012, pp. 1045-1082) study, where evidence of the theorem about shorter distances between two countries and a higher likelihood of acquirers from one country to the other is presented. The common boundary determinant has an impact on increasing the chances of M&A volume growth, which is in conjunction with Hečková et al. (2016; 2018), which suggests that there is an expectation of an increase in M&A volume, not in the number of neighbouring countries.

From the mutual comparison of both partial models, namely for the manufacturing sector and the service sector, it is clear that the first and most significant difference between the models is the statistical significance of the predictor distance between the source and target countries. While this predictor is not important for the manufacturing sector, we observe its statistical significance for the service sector. Another critical difference is the percentage of the influence of substantial predictors on the change in the value of the market capitalisation of cross-border mergers and acquisitions. It follows from this that it is necessary to analyse both sectors further and look for other significant predictors. The influence of the variable membership of the source and target countries in the European Monetary Union is significantly higher in the service sector compared to the manufacturing sector.

Conclusions

This paper looks at how European integration has affected M&A activity and the key characteristics of M&As in Europe in the period 1998–2021. It also contributes to the extant literature on M&A activity in Europe. The current wave of mergers and acquisitions in Europe, starting at the beginning of the 21st century, has some unique characteristics. The developments of M&A deals were particularly noteworthy regarding the deepening of the single integrated market, a more homogeneous regulatory framework, the emergence of the European Monetary Union, changes in the European business environment, size and geographical dispersion. The introduction of the euro common currency, liberalisation of trade and investment regimes, the deregulation of the services sector, technological innovations, privatisation, and industry consolidation as well as the rapid development of financial markets and the increase in liquidity reflected in a higher proportion of cross-border deals in the European area in the last two decades.

The presented results can point to interesting implications in the field of business strategy because economic integration is the key to effective cross-border allocation of capital. This paper also indicates possible future trends of the European M&A market - the energy transition and the move towards decarbonisation and a more circular economy are also bound to rise in focus as companies shape their M&A strategies for beyond.

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TARPVALSTYBINIŲ SUSIJUNGIMŲ IR ĮSIGIJIMŲ PLĖTROS TENDENCIJOS IR LEMIAMI VEIKSNIAI EUROPOS ZONOJE

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Santrauka. Pastaraisiais dešimtmečiais įmonių susijungimai ir įsigijimai yra viena svarbiausių įmonių finansų veiklos rūšių ir tapo svarbia įmonių augimo, plėtros ir tvarumo priemone ne tik Europos, bet ir pasaulio mastu. Straipsnio tikslas – nustatyti ekonominės integracijos procesų ir Europos pinigų sajungos veikimo įtaką tarpvalstybinių įmonių susijungimų ir įsigijimų apimties ir skaičiaus raidai Europos šalyse. Straipsnyje, remiantis teoriniais samprotavimais pasirinktuose moksliniuose tyrimuose, modeliuojant struktūrines lygtis, analizuojama pasirinktų prognostinių veiksnių įtaka tarpvalstybiniams susijungimams ir įsigijimams, vykdytiems 19 kilmės ir 28 tikslinėse Europos erdvės šalyse, taip pat Turkijoje 1998–2021 metais. Tyime išsamiai apžvelgta šio staigaus įmonių susijungimų ir įsigijimų aktyvumo augimo ES tendencijos ir veiksniai. Tuo tyrimas papildo jau atliktus tyrimus. Šiame darbe pateikti tyrimo rezultatai patvirtina, kad svarbiausia laikoma įtaka tarpvalstybinių susijungimų ir įsigijimų rinkos kapitalizacijos vertei yra kilmės ir įsigijamos šalies BVP kintamojo sandauga. Didėjant kilmės ir tikslinės šalies BVP sandaugos vertei, didėja ir santykinė tarpvalstybinių susijungimų ir įsigijimų rinkos kapitalizacijos vertė.

Reikšminiai žodžiai: Europos Sajunga; Europos pinigų sajunga; tarpvalstybiniai susijungimai; tarpvalstybiniai įsigijimai; tvarumas; struktūrinių lygčių modeliavimas.