DO FINANCIAL SYSTEMS IN EUROPE CONVERGE? EVIDENCE FROM ENTERPRISE FINANCIAL LIABILITIES COMPARING EUROZONE AND NON-EUROZONE COUNTRIES

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ABSTRACT. The study aims to investigate whether the European financial systems, thus access, efficiency, and use of financial services by enterprises have been subject to a convergence process. We focused on the important financing instruments – equity, bank loans, debt securities, and trade credit. The convergences were evaluated within separate geographical scopes; Eurozone countries and non-Eurozone countries. The results show that the countries converge primarily in equity and investment funds, secondarily in bank loans. Analyses of debt securities and trade credits result in moderate convergence, with the lowest convergences within trade credits. At the same time, differences

between companies in Eurozone and non-Eurozone countries are negligible. It suggests that policy aiming to integrate financial processes for all Member States seems to be successful in this respect. Our results also show that economic growth narrows convergence. We conclude that there is a degree of success in the integration of European financial systems; in particular, the outcome of the absolute convergence analysis in Europe is broadly confirmed.

KEYWORDS: convergence, financial systems, capital structure of enterprises.

JEL classification: G01, G03.

Introduction

One of the main objectives of the European Union is achieving financial integration between member states. The assumption is that greater financial integration streamlines the financial sector, increases macroeconomic stability, and leads to a more effective monetary policy (Trichet, 2006; Belas *et al*., 2019). Baele *et al.* (2004, p.4) define financial integration as "the market for a given financial instrument and/or service is considered fully integrated if all economic agents with the same relevant characteristics acting in that market face a single set of rules, have equal access, and are treated equally." Financial convergence is considered as a distinct aspect of integration. A growing literature deals with the relationship between financial systems, economic growth, and the convergence of financial structures (Wildowicz-Giegiel, 2019; Jakimowicz, Rzeczkowski, 2019). Here we aim to analyse Eurozone and EU financial systems by examining the changing capital structures of non-financial companies.

Myers' (1984) famous question on why firms select their particular capital structures, is, despite extensive research, still unanswered. Not even the most complex capital structure theories, such as trade-off theory (Myers, 1977) and its static (Bradley *et al.*, 1984), dynamic (Trezevant, 1992) or tax versions (Miller, 1977); pecking order theory (Myers, 1984; Quan, 2002); the free cash-flow model (Stultz, 1990); or market timing theory (Baker, Wurgler, 2002), were able to provide theoretical concepts that could be empirically satisfactorily confirmed.

Practical corporate financial management, however, truly reflects the situation on financial markets. In deciding capital structure, managers may take account of the country's legal environment, rules and financial instruments available on the financial market, as well as current trends – e.g. corporate governance principles, deregulation, economic integration or acceptance of free market policy (Shleifer, 2009). The fact that financial systems consistently converge, was confirmed by Rajan, Zingales (2003). They claimed that the European continental system had started to resemble the Anglo-Saxon model. In other words, financial systems converged to a model combining elements of the Anglo-Saxon and European models. They argued that the combined model retained those elements of its constituent models that maximised benefits.

However, it remains questionable whether financial convergence will occur along with real convergence (Kunitsyna *et al*., 2018; Knezevic, 2018). One way in which financial convergence could become a reality is by linking it to financial integration (ECB, 2007). In the EU context, however, financial integration was expected from the time of the creation of

the common market in 1993, and especially since the introduction of the euro in 1999 (Calcagnini, 2000). Mullineux *et al.* (2010) believed that the movement of EU Member States towards greater financial integration, through the harmonisation of institutions, would also ensure that companies face equal financing opportunities.

1. Literature Review

Several empirical studies have investigated the convergence of financial systems in Europe, from a range of different viewpoints (Belas *et al.*, 2018). Impact of selected characteristics of SMES on the capital structure. *Journal of Business Economics and Management*, 19(4), pp.592-608. Schmidt *et al.* (2001) examined the development of financial systems in Germany, France, and the UK in 1980-1988. Their assumption, that they would find convergence, was not confirmed. The German financial system remained bank oriented, whereas the British system was (securities) market-oriented. The French system was more difficult to classify, as it underwent substantial changes in the market organisation during the period.

Hartman *et al.*, (2003) compared the structure of the financial systems of the Eurozone, the USA, and Japan in the period 1995-2001. They found that the Eurozone system was still bank oriented, though banks played a decreased role in providing financial intermediation for institutional investors. Hackethal, Schmidt (2004) focused on financing patterns of companies in Germany, Japan, and the USA. They expected to find that internal financing provided the dominant part of companies' capital structure, that the financing patterns between countries do not differ significantly, and that existing differences were inconsistent with the common conviction that financial systems can be classified as being either bank-based or market-based. Their empirical study used gross flows of financing sources, and the results were largely consistent with their original assumptions, which were that differences in the countries' financial systems, and their corporate governance systems, affected their capital structure.

Murinde *et al.* (2004) examined the convergence in EU companies' financing over the period of 1972-1996. They found evidence of financial systems' convergence towards the Anglo-Saxon model. In this model, financing is significantly reliant on securities markets and trade credit. Bank loans are less important. Di Giacinto, Esposito (2005) studied the convergence of a wide range of financial indicators, using multidimensional data analysis techniques, to derive a small set of composite measures. After the introduction of the euro, the indicators show convergence across countries, except in the banking sector.

Mylonidis, Kollias (2010) focused on the dynamic process of convergence on capital markets in four of the most developed European countries: Germany, France, Spain and Italy. Their results suggested there was ongoing convergence. Bruno *et al.* (2012) investigated asset convergence in the OECD countries, focusing on the beta convergence and sigma convergence of selected financial instruments. The results showed strong evidence of beta convergence of shares and insurance. This confirms the growing importance of capital markets in developed market economies. However, the results for debt securities and deposits were clear cut. This may reflect the fact that banks' roles differ in certain countries.

Kılınç *et al.* (2017) aimed to study the convergence of financial development in EU countries from a broader perspective. Their objective was to verify an assumption about whether the transition from the European monetary system to a single currency has led to the integration of financial markets. Based on their research, the authors claim that both the bank

and securities markets tend to converge across the entire EU. Bahadir, Valev (2017) examined the convergence of household and business loans across 30 European countries, during 1995-2013. They showed the overall convergence for bank loans, but the process was considerably stronger for household loans than for corporate loans. The process of convergence was extremely rapid in former socialist countries, where its level was beginning to approach that of Western Europe.

Barucci, Colozza (2018) discovered that during the crisis, the balance sheets of non-financial companies showed a change in financing sources. In the pre-crisis period, 1999-2007, these companies relied more on bank loans, whereas the post-crisis period saw an increase in securities issues, as they became a preferred alternative source of finance, but a small drop in bank loans.

Given the research we have summarised above; we assume that the main convergence of the capital structures of the EU companies happened before 2008: that is pre-crisis. Because the impact of the crisis varied across economies, there is likely to be a greater dispersion in firms' sources of financing after 2009. But we also expect that now the process of convergence will again accelerate.

2. Methodology and Data

When measuring the convergence rate, we used the Gini coefficient, which is a characteristic indicator of sigma convergence. The Gini coefficient, according to Bellú and Liberati (2006) is expressed by the Lorenz curve, which is presented in *Figure 1*. The Gini coefficient is calculated using the formula:

$$G = \frac{A}{A+B} \qquad (1)$$

where:
A is a distribution where all contributors contribute identical shares
B is a distribution where contributors' contributions are ordered from the smallest upwards
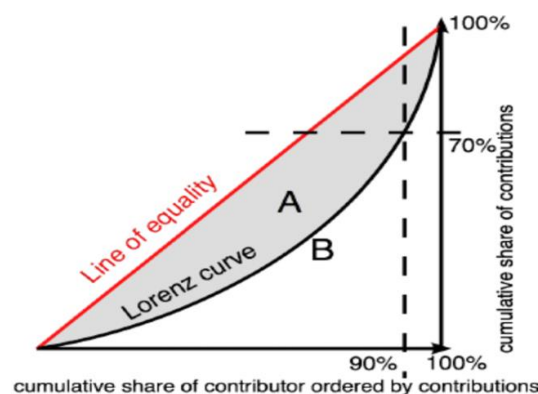
Source: own processing; from Bellú and Liberati (2006).

Figure 1. **Gini Coefficient Expressed by the Lorenz Curve**

The Gini index quantifies the difference between the empirical cumulative data distribution, and an ideal even distribution (*Figure 1*). The index is an analytical measure of concentration, and can take values from zero to one. Its minimum value of zero expresses perfect equality, and its maximum value of one reflects total inequality in the cumulative

frequency distribution. If the index takes a value near the upper limit of its interval, it means that there is very significant inequality and large disparities in the surveyed data.

We decided to use sigma convergence. Indeed, Quah (1993) and Friedman (1992) both suggest that sigma convergence is of greater interest because it speaks directly as to whether the examined distribution is becoming more equitable. Young *et al.* (2008) demonstrated that beta convergence is a necessary but not a sufficient condition for sigma convergence.

We also use cluster analysis to study the financial patterns in the EU countries. Data clustering is a technique that involves the division of the original data set into multiple subsets (clusters) in such a way that the data in each subset have several common characteristics (Abonyi, Fell, 2007). Cluster analysis uses various algorithms in order to find those subsets of objects which are the most similar to each other. In our paper, we used hierarchical agglomerative clustering, therefore the bottom-up approach. This algorithm treats each data set of an object (a country in our case) at a single cluster at first, and then successively agglomerate pairs of clusters until all clusters have been merged into a single cluster that contains data sets of all objects. The result is a graphical illustration, called a dendrogram. The more to the left the cluster is formed, the more dissimilarity there is between the objects. We performed this analysis for three years: at the beginning of the examined period in 2001; in 2008, since we were interested in the impact of the crisis on companies´ financial choices; and then in 2017, at the end of the examined period. We carried out cluster analyses by using Ward linkage method, which is the most commonly used method to measure distances between clusters. Cluster membership is estimated by calculating the total sum of squared deviations from the mean of a cluster.

Our general approach to measuring companies' financial choices is based on aggregate data from the Eurostat database. The data aggregation means that the data for all companies in each individual country were summarised on the national level. Specifically, for each country, we worked with one set of liability figures that should reflect the majority of the companies in that country. Data on national accounts in that database are governed by the regulation: The European System of National and Regional Accounts (ESA, 2010). Non-financial corporations are defined as those whose main activity is the production of goods, or the provision of non-financial services. That includes legally established companies, branches of non-resident companies, landowners, and residential non-profit institutions that are producers of goods or providers of non-financial services.

In the Eurostat database, financial liabilities appear in several accounts. For our analysis, we focused on those liabilities that constitute a significant part of total liabilities: namely, equity and investment funds, debt securities, bank loans, and trade credit. We tested for the convergence of companies' capital structure, by examining the ratio of individual financial accounts to the total financial liabilities. It is important to note that the total value of liabilities in our analysis is slightly lower than 100% because we have omitted accounts of insignificant value. In our paper, we calculate trade credit as the difference between payables and receivables in relation to the total liabilities. This figure could be negative.

3. Results and Discussion

The paper explores the convergence of corporate capital structure. In particular, we concentrate on those components that are significant within the structure – equity and investment funds, bank loans, debt securities, and trade credit. Convergence is quantified by the Gini coefficient as a measurement of sigma convergence. We define a value of the

coefficient in the interval <0; 0,3) as strong convergence. Values in the interval <0.3–0.7) indicate moderate convergence, and values between <0.7; 1> indicate weak or no convergence. The research results are depicted in *Figures 2–5*, where we compare the development over time of the Gini coefficient in two geographical areas – the Eurozone and the non-Eurozone countries of the EU. Thus, we also analyse the impact of the higher development stage of the European integration process on the financial systems of the countries concerned.
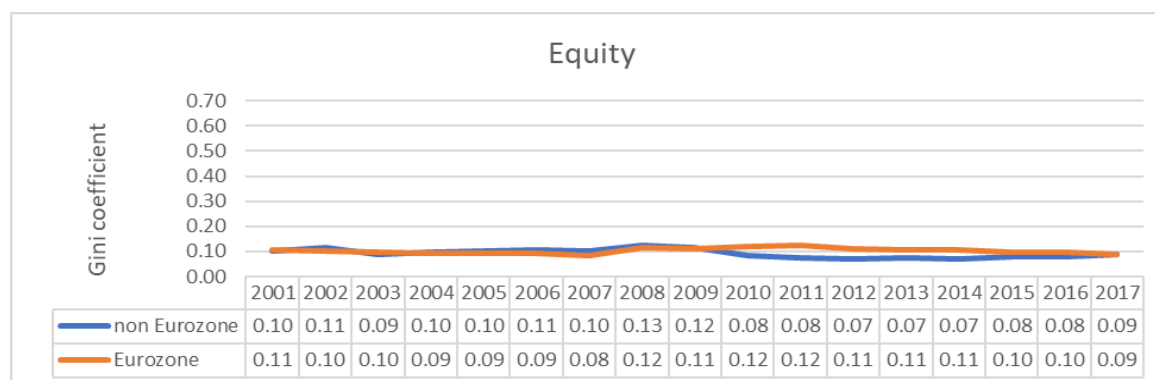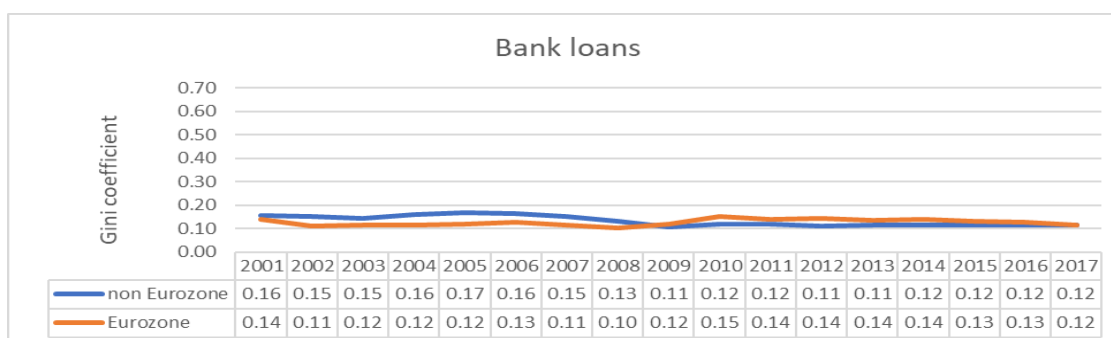

Source: created by the authors based on data from Eurostat.

Figure 2. **Convergence of Enterprises' Equity and Investment Funds in the Eurozone and non-Eurozone EU Countries, 2001-2017**

Figure 2 shows the convergence development of the ratio "equity to total capital", i.e. the convergence development of companies' own financial sources. Sigma convergence has, in this component of capital structure, its lowest value: which means that the ratios of equity to total capital across the EU countries exhibit the highest degree of similarity across countries among the four investigated areas. These results are in line with previous empirical research which suggested that the dominant part of companies' capital structure is internal financing and that the financing patterns in companies' internal financing between countries do not differ significantly (Mayer, 1988; Hackethal, Schmidt, 2004).

The relative importance of the four main sources of company finance in EU countries in 2001, 2008, and 2017 is shown in *Appendices 1-3*. In general, equity was the most important source of finance, followed closely by bank loans. Debt securities and trade credit are generally of only minor importance.

Differences between firms in the Eurozone and the non-Eurozone countries are very small, and for both groups the convergence is strong during the whole period. Interestingly, the results show that after the 2008 crisis, convergence among non-Eurozone countries is stronger than for those in the Eurozone. This may signal the success of the EU's policy aimed at integrating the financial processes in all member states, not just Eurozone ones.

Source: created by the authors based on data from Eurostat.

Figure 3. **Convergence of Enterprises' Bank Loans in the Eurozone and Non-Eurozone EU Countries, 2001-2017**

Together with the company's equity, bank loans represent the most important part of the capital structure of enterprises, based on aggregated Eurostat data *(Figure 3)*. As with equity, we can see strong convergence in the external funds represented by bank loans, as the Gini coefficient values are lower than 0.3 over the entire reporting period. However, it is important to note that convergence is weaker than it was with equity. The convergence of this debt instrument behaves exactly as expected. In the period shortly before the crisis, the convergence was fastest. During the crisis period, some differences in the use of bank loans by enterprises have emerged between the countries. At present, the convergence process is speeding up again and, interestingly, it has reached the same values in the Eurozone and the non-Eurozone countries in recent periods.
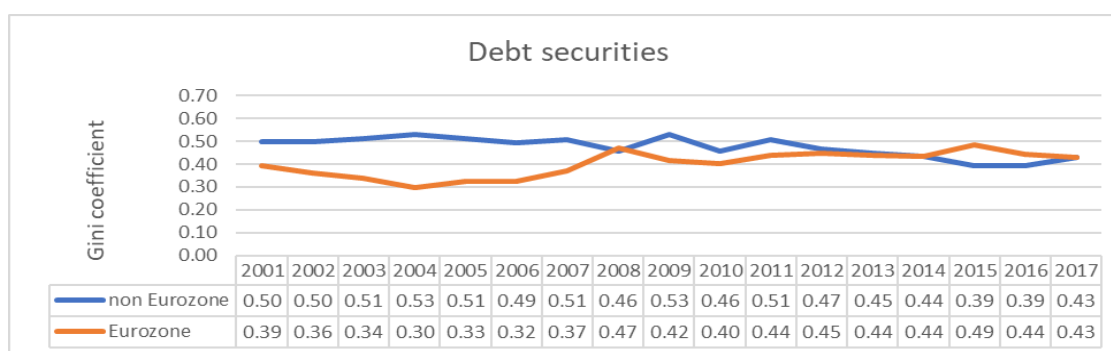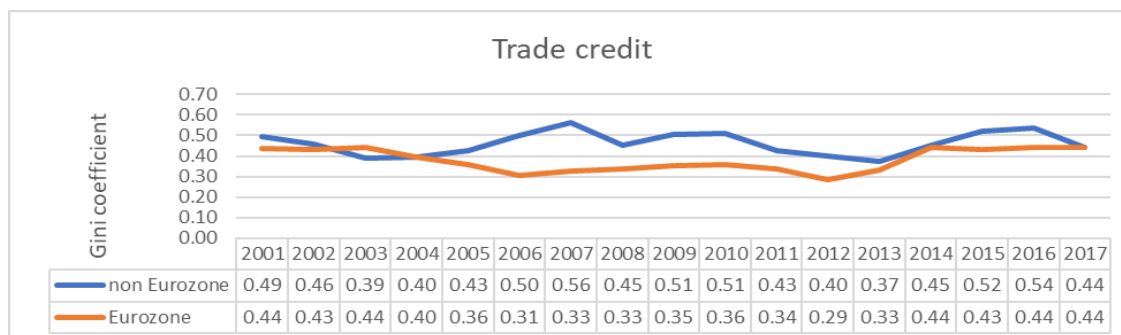

Source: created by the authors based on data from Eurostat.

Figure 4. **Convergence of Enterprises' Debt Securities in the Eurozone and non-Eurozone EU Countries, 2001-2017**

Based on *Figure 4*, which represents the development of the Gini coefficient from 2001 to 2017 in the debt securities of non-financial corporations, we see that the Gini coefficient is between 0.30 and 0.53, i.e. we can see moderate convergence. The situation on the financial markets during the reviewed period is also confirmed by the behaviour of companies in choosing this debt financial instrument. Convergence is weaker compared to bank loans, but its development is very similar. The convergence accelerated in the pre-crisis period. As the crisis hit different countries in different intensities, this was also reflected in the use of debt securities as a financial instrument in different countries. Thus, the variation between firms in different countries was most significant in the period of 2009-2011. Since

2012, the convergence process has been speeding up again, with Eurozone and non-Eurozone companies reaching very similar values in recent years.

Source: created by the authors based on data from Eurostat.

Figure 5. **Convergence of Enterprises Trade Credit in the Eurozone and non-Eurozone EU Countries, 2001–2017**

Trade credit is a source of financing for companies, which is theoretically more important for the countries of the Anglo-Saxon financial system. In continental Europe, bank loans have been used much more, especially in the past. At an aggregate level, trade credit is the least important component of the corporate capital structure that we examine. Trade credit is a source of external financing that is important for an enterprise but does not reach significant values for the aggregate sector. While other accounts payable represents an important part of companies' liabilities, especially in certain countries, the other accounts receivable is also a significant part of total assets. In other words, what is a payable for one company is a receivable for another. This means that after the aggregation across the whole corporate sector, trade credit is of diminished importance. In our paper, we calculate trade credit in net terms, as the difference between payables and receivables in relation to total liabilities. This figure could be negative.

In *Figure 5*, the values of the Gini coefficient for the period 2001-2017 in the trade credit of non-financial companies are between 0.31 and 0.56, which represents moderate convergence across countries. At the same time, however, the differences between the use of this instrument are most significant in individual countries. At the beginning of the reporting period in 2001, they amounted to more moderate convergence, which started to accelerate until the crisis period. As with the other components of the corporate capital structure, the convergence process has slowed considerably during the crisis, with re-convergence occurring since 2009. Taking into account recent developments in the financial markets reflected in the corporate capital structure, we could conclude that the EU policy of financial processes integration for all Member States seems to be successful in this regard.

To sum up, the most dominant financing sources for companies in both Eurozone and non-Eurozone countries are equity and bank loans. The Gini index in these parts of the capital structure reaches relatively low values, indicating strong convergence. These results are fully in line with previous empirical studies of convergence of financial systems (Mayer, 1988; Hackethal, Schmidt, 2004). Thus, the dominant part of companies' capital structure is internal financing. Financing patterns between countries do not differ significantly. Those differences that still seem to exist are not consistent with the common conviction that financial systems can be classified as being either bank-based or market-based. The differences in debt securities and trade credit are greater for both Eurozone and non-Eurozone country groups.

In our article, we also examine the components of capital structure based on the cluster analysis. When the input data are affected by collinearity, it can have a strong impact and affect the results of the analysis unless addressed. Therefore, we firstly verified if the assumption of the uncorrelation of input data is met. The results for each period are presented in *Table 1*.

Table 1. Collinearity statistics of input data sets

Collinearity Statistics 2001		Collinearity Statistics 2008		Collinearity Statistics 2017	
Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
,866	1.155	.858	1.166	.743	1.346
.318	3.141	.429	2.333	.468	2.136
.320	3.120	.396	2.526	.531	1.882
.905	1.106	.972	1.029	.852	1.174

Source: created by the authors based on data from Eurostat.

The variance inflation factor (VIF) quantifies the severity of multicollinearity. In general, when VIF is greater than 10 (commonly used is also cut-off of 5), then multicollinearity is high. VIF is the inverse of the tolerance value. In our results, it is clear that the collinearity between tested variables is low.
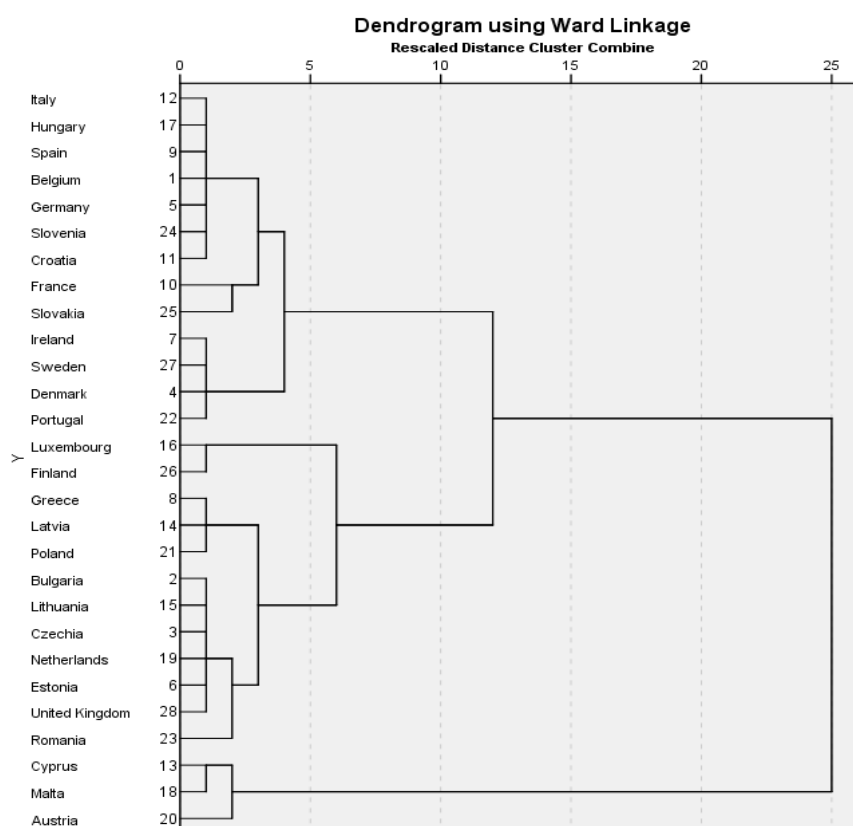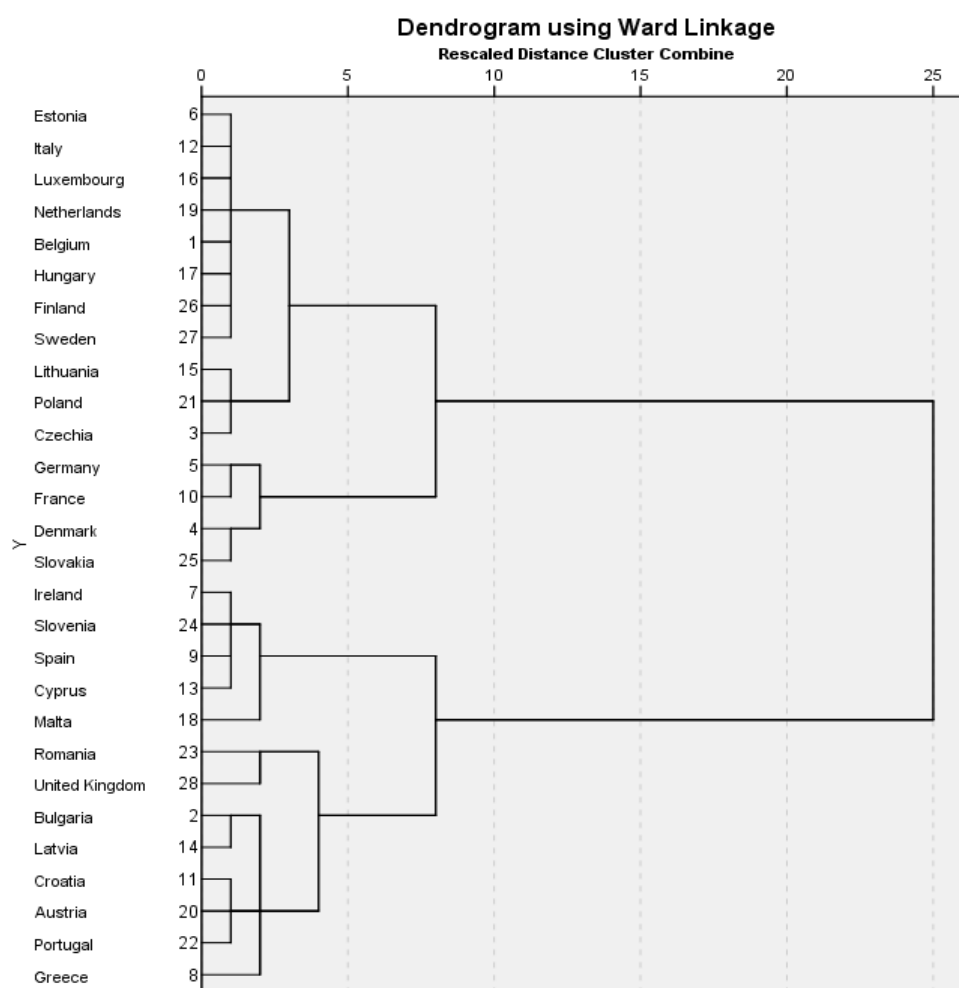

Source: created by the authors based on data from Eurostat using SPSS.

Figure 6. **Convergence of Enterprises Trade Credit in the Eurozone and non-Eurozone EU Countries, 2001–2017**

The first dendrogram (*Figure 6*) shows individual clusters of EU countries gradually evolving, for 2001. The more to the left the cluster is formed, the more similar the financial structure of companies in the countries. At a distance of 7 on the x-axis, we can deduce that we have three clusters. First, one includes Cyprus, Austria, and Malta. In this cluster, a relatively high 58% of non-financial companies' capital is bank lending. On the other hand, equity and investment funds, at 30%, account for the lowest proportion of capital amongst EU countries. Debt securities constitute an average of 4% and trade credits -1.2% of the total capital (*Appendix 1*).

The second cluster contains Portugal, Ireland, Denmark, Latvia, Greece, Romania, and Poland. Equity funds of enterprises in these countries were on average 45% of the total capital, and on average bank loans accounted for 36%. Securities accounted for 2% more of capital than in the first cluster. Trade credits accounted for 6% of the capital. The third cluster comprises Finland, Luxemburg, Slovakia, UK, France, Lithuania, Netherlands, Estonia, the Czech Republic, Bulgaria, Sweden, Hungary, Slovenia, Germany, Croatia, Belgium, Italy, and Spain. The third cluster's average capital structure is bank loans 29%: the lowest value of all clusters); equity and investment funds 57%; debt securities 3%; and trade credit only 1%.
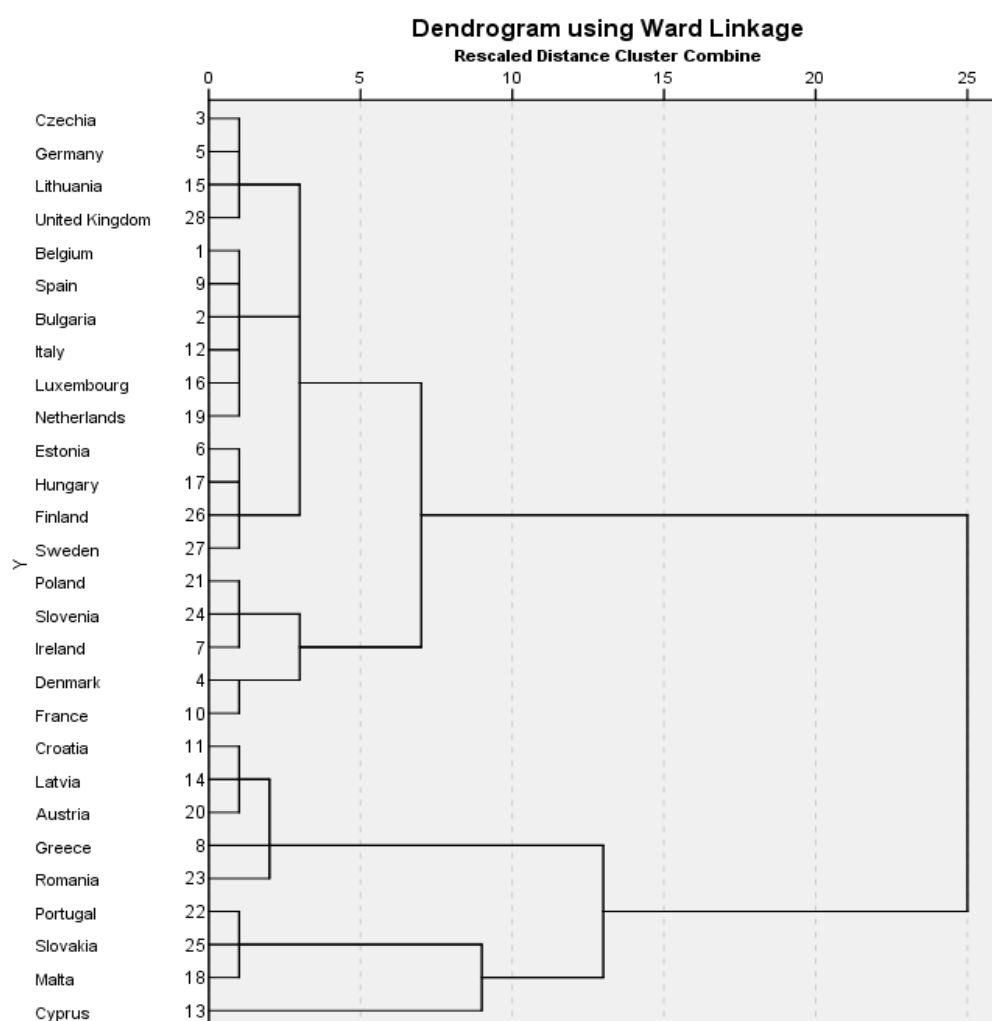

Source: created by the authors based on data from Eurostat using SPSS.

Figure 7. **Dendrogram Showing Clusters of the EU Member States Based on the Structure of Enterprises' Capital Structure 2008**

Figure 7 repeats the exercise, for the financial crisis year 2008. At level 6 it is clear there has been a change in cluster composition. It is important to note that there has been a change in countries within clusters. In addition to its original members; Malta, Austria, and Cyprus, it now also includes Denmark, Croatia, Spain, Slovenia, Ireland, Greece, and Portugal. In these countries, the largest part of capital comprises bank loans (49%), although their value declined compared to 2001 (58%). The next most important component of capital is equity, on average accounting for 36%, a 6% increase compared to 2001. The use of trade credits increased to zero from -1.2%, and debt securities remained constant at 4%.

Romania, Latvia, and Bulgaria are in the second cluster with a capital structure consisting mainly of bank loans (42%), followed by equity (38%), and interestingly, trade credits on average account for 14% of the total capital. The fourth capital component – debt securities – are not included in the capital structure of companies in this cluster.

The third cluster includes the Czech Republic, the Netherlands, Poland, Lithuania, Slovakia, France, Finland, UK, Germany, Sweden, Italy, Estonia, Hungary, and Luxemburg. The capital structure of companies in this cluster consists of bank loans (35%), equity (51%), and debt securities (3%). Trade credit is -1% (*Appendix 2*).

Source: created by the authors based on data from Eurostat using SPSS.

Figure 8. **Dendrogram Showing Clusters of the EU Member States Based on the Structure of Enterprises' Capital 2017**

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The dendrogram in *Figure 8* is based on the data describing the capital structure of European enterprises in 2017. Distances between countries are smaller, which implies increased convergence since 2001. At level 5, we can observe three clusters of countries, with the first cluster consisting only of Cyprus. The most important components of the capital structure are bank loans (61%), and equity (34%). Debt securities are not included, and trade credits amount to 0.1%.

The second cluster of countries includes Greece, Romania, Latvia, Croatia, Malta, Slovakia, and Portugal. For these countries, equity has an average value of 43%, and bank loans are 36%. The former is significantly larger than for Cyprus, the latter significantly less. The capital structure in these companies also contains debt securities (3%) and trade credits (5%).

The third cluster of countries comprises Ireland, Spain, Bulgaria, Luxembourg, Italy, Belgium, Poland, Slovenia, Austria, the United Kingdom, Lithuania, the Czech Republic, France, Germany, Denmark, Sweden, Finland, the Netherlands, Hungary, and Estonia. The largest part of their companies' capital is equity (57%). Bank loans only account for 29%, which is less than half that for Cyprus. Debt securities are 4%, and trade credits are, on average, 0%.

Our results are consistent with those of many other authors examining the development of financial systems in Europe. For example, there seems to be evidence of strong convergence, specifically in some of the components studied (Murinde *et al.*, 2004; Bruno *et al.*, 2012; Kılınç *et al.*, 2017; Bahadir, Valev, 2017). In our paper, convergence is determined by examining enterprises' financial liabilities. Equity and bank loans, the financial instruments that form the largest shares of the capital structure, provide evidence of strong convergence. Mixed results, probably pointing at slower convergence, are obtained for debt securities and trade credit. Similar results were also reported by Di Giacinto, Esposito (2005), and by Mylonidis, Kollias (2010). Therefore, the hypothesis of absolute convergence in European financial systems is broadly confirmed. Like Mullineux *et al.* (2010), we are inclined to believe that the EU Member States' greater financial integration, through institutional harmonisation, is ensuring the equalisation of companies' financing opportunities. As in recent periods, the convergence results for both the Eurozone, and for the EU non-eurozone countries are only minimally different, it looks likely that the policy aiming to integrate financial processes for all Member States has been successful, at least in this respect.

Conclusions

This study explores the issue of convergence in enterprises' financial liabilities, for 2001-2017, across both the Eurozone and the non-Eurozone EU. Specifically, the analysis is focused on those liabilities that constitute a significant part of total liabilities. Namely: equity and investment funds, debt securities, bank loans, and trade credit. The analysis's working assumption was that firms' capital structures, and changes in them, can provide important clues to explain the development of countries' financial systems.

We used the sigma convergence instead of the beta convergence because we examined values over a longer period. Beta convergence depends only on the initial and the final value. Sigma convergence, on the other hand, can show whether or not there has been a monotonic process during the given period, or whether there have been alternating periods of convergence and divergence.

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Our investigation of the chosen financial development variables broadly confirms absolute convergence across Europe. In particular, we present evidence of strong convergence in terms of equity to total liabilities, and bank loans to total liabilities. Furthermore, the results from the debt securities to total liabilities, and trade credit to total liabilities, provides evidence of mild convergence. These results may reflect economic, but also non-economic factors such as the culture, traditions, or habits, in the given countries.

Overall, the paper suggests that the convergence in financial systems across EU countries, indicates the effectiveness of EU financial integration policies. The policy implications of our results are that while a certain degree of EU financial integration has been achieved, the 2008 financial crisis slowed down the integration process. After that crisis, the convergence process slowly resumed, but even now is still weaker than it was in the pre-crisis period.

Our analysis has concentrated on financial instruments used by enterprises. It would be interesting to see if extending the time series back into the past supports this paper's findings. However, access, efficiency, and use of financial services by households may be even more relevant to measuring the development of financial systems. Future research could explore this conjecture, as well as extending this paper's convergence results.

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AR EUROPOS FINANSŲ SISTEMOS SUARTĖJA? ĮMONIŲ FINANSINIŲ ĮSIPAREIGOJIMŲ ĮRODYMAI LYGINANT EURO ZONOS IR NE EURO ZONOS ŠALIS

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SANTRAUKA

Šame darbe siekiama išsiaiškinti, ar Europos integracijos procesas prisidėjo prie realios finansų rinkos integracijos. Tyrimas grindžiamas sigma suartėjimu ir grupių analize. Visų pirma, tyrimą sudaro svarbiausių kapitalo struktūros dalių analizė. Pagrindinis dėmesys skiriamas didžiajai visų įsipareigojimų daliai (nuosavybės, banko paskolų, skolos vertybinių popierių ir prekybos kreditų). Buvo vertinami skirtingi suartėjimo būdai atskirose geografinėse zonose – euro ir ne euro zonos šalyse. Rezultatai rodo, kad šalys pirmiausia suartėja nuosavybės ir investicinių fondų srityse ir, antra, banko paskolų srityje. Vertybinių popierių skolos ir prekybos kreditų analizė padeda pasiekti nuosaikaus suartėjimo, o prekybos kreditų srities analizė – mažiausio suartėjimo. Be to, skirtumai tarp įmonių euro ir ne euro zonos šalyse yra nereikšmingi. Tai atskleidžia, kad politika, kuria siekiama integruoti finansinius procesus visose valstybėse narėse, šiuo atžvilgiu yra sėkminga. Ekonominės krizės poveikis labiausiai pastebimas skatinant suartėjimo plitimą. Naujausi rezultatai rodo, kad ekonomikos augimas apriboja suartėjimą. Apibendrinant galima teigti, kad ES valstybių narių judėjimas, siekiant didesnės finansinės integracijos ir pasitelkus institucijų harmonizaciją, užtikrina vienodas sąlygas įmonėms, atsižvelgiant į jų finansavimo galimybes.

REIKŠMINIAI ŽODŽIAI: suartėjimas, finansų sistemos, įmonių kapitalo struktūra.

Appendix

Appendix 1*:* Input data for cluster analysis 2001 EU

GEO/2001	Debt Securities	Bank Loans	Equity	Trade credit
Belgium	0.018	0,358	0.570	0.138
Bulgaria	0.006	0.294	0.558	-0.006
Czechia	0.030	0.269	0.545	0.057
Denmark	0.040	0.384	0.449	0.222
Germany	0.018	0.313	0.517	0.109
Estonia	0.018	0.325	0.532	0,016
Ireland	0,007	0.400	0.477	0.138
Greece	0.031	0.411	0.477	-0.033
Spain	0.012	0.366	0.552	0.104
France	0.094	0.254	0.586	0.143
Croatia	0.007	0.308	0.559	0.111
Italy	0.016	0.350	0.557	0.080
Cyprus	0.002	0.671	0.292	0.103
Latvia	0.001	0.355	0.473	-0.018
Lithuania	0.013	0.268	0.603	0.001
Luxembourg	0.008	0.235	0.710	0.013
Hungary	0.005	0.335	0.563	0.066
Malta	0.059	0.534	0.255	0.158
Netherlands	0.049	0.297	0.573	0.016
Austria	0.054	0.535	0.352	0.025
Poland	0.035	0.303	0.390	-0.031
Portugal	0.050	0.428	0.381	0.160
Romania	0.009	0.254	0.527	-0.138
Slovenia	0.005	0.320	0.516	0.133
Slovakia	0.026	0.228	0.471	0.243
Finland	0.038	0.210	0.721	0.048
Sweden	0.038	0.347	0.503	0.137
United Kingdom	0.078	0.224	0.556	0.006

Source: own calculations.

Appendix 2*:* Input data for cluster analysis 2008 EU

GEO/2008	Debt Securities	Bank Loans	Equity	Trade credit
Belgium	0.015	0.410	0.532	0.131
Bulgaria	0.009	0.471	0.381	-0.031
Czechia	0.025	0.258	0.558	0.022
Denmark	0.023	0.416	0.400	0.272
Germany	0.036	0.316	0.452	0.166
Estonia	0.021	0.383	0.528	0.069
Ireland	0.010	0.524	0.365	0.116
Greece	0.122	0.536	0.274	-0.012
Spain	0.006	0.542	0.401	0.065
France	0.076	0.322	0.528	0.192
Croatia	0.019	0.468	0.412	0.047
Italy	0.021	0.380	0.522	0.060
Cyprus	0.000	0.591	0.366	0.101
Latvia	0.001	0.445	0.338	-0.071
Lithuania	0.001	0.334	0.547	0.060
Luxembourg	0.016	0.418	0.511	0.064
Hungary	0.008	0.398	0.515	0.104
Malta	0.036	0.476	0.307	0.192
Netherlands	0.040	0.355	0.540	0.032
Austria	0.051	0.463	0.411	0.047
Poland	0.016	0.303	0.533	0.088
Portugal	0.083	0.433	0.331	0.061
Romania	0.001	0.340	0.408	-0.127

Slovenia	0.007	0.495	0.366	0.128
Slovakia	0.011	0.314	0.486	0.289
Finland	0.039	0.386	0.507	0.095
Sweden	0.047	0.394	0.466	0.117
United Kingdom	0.067	0.330	0.429	0.008

Source: own calculations.

Appendix 3*:* Input data for cluster analysis 2017 EU

GEO/2017	Debt Securities	Bank Loans	Equity	Trade credit
Belgium	0.045	0.348	0.566	0.038
Bulgaria	0.017	0.315	0.571	0.070
Czechia	0.050	0.243	0.550	0.059
Denmark	0.030	0.223	0.588	0.190
Germany	0.039	0.249	0.568	0.084
Estonia	0.025	0.262	0.633	0.062
Ireland	0.010	0.314	0.561	0.174
Greece	0.003	0.448	0.486	-0.034
Spain	0.012	0.364	0.569	0.040
France	0.110	0.239	0.564	0.191
Croatia	0.022	0.381	0.476	0.023
Italy	0.049	0.315	0.551	0.052
Cyprus	0.001	0.609	0.339	0.101
Latvia	0.004	0.354	0.440	0.014
Lithuania	0.010	0.250	0.568	0.027
Luxembourg	0.086	0.306	0.561	0.062
Hungary	0.008	0.275	0.623	0.101
Malta	0.035	0.362	0.336	0.215
Netherlands	0.046	0.301	0.615	0.035
Austria	0.063	0.352	0.504	0.042
Poland	0.036	0.294	0.517	0.122
Portugal	0.079	0.338	0.442	0.173
Romania	0.000	0.327	0.419	-0.096
Slovenia	0.016	0.338	0.497	0.150
Slovakia	0.057	0.315	0.409	0.234
Finland	0.059	0.281	0.620	0.116
Sweden	0.058	0.233	0.649	0.062
United Kingdom	0.070	0.230	0.510	-0.005

Source: own calculations.