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Geography, ownership and uneven trends in the economic performance of small banking centres in Europe during the financial crisis

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Abstract

The current phase of intensive globalisation, digitisation, the expansion of fintech companies and the overall impacts of the recent crisis seem to spur further concentration in the banking sector in terms of both the number of banks in operation and the number of banking centres. This research is motivated by the fact that, in contrast to leading financial and banking centres that attract considerable research attention, small banking centres have remained under-researched, despite their large number and the important role they play in their host communities and regions. This paper deals with the recent evolutionary dynamics of 199 small European banking centres and is based on an analysis of the economic performance of individual banks aggregated at the city level where they have their headquarters. The analysed indicators cover size, profitability and the level of risk of particular banks over the 2004–2015 period. In addition, the data were analysed for three basic European macro-regions (western Europe, southern Europe and central and eastern Europe) and in terms of the ownership of the banks headquartered in particular centres (foreign versus domestic). Our investigation shows that, even though a significant decline has been observed in the number of these centres, the financial performance of banks headquartered in small financial centres differs widely, depending significantly upon the European macro-region (a decisive number of defunct banking centres was concentrated in southern Europe) and the ownership structure.

Keywords

European banking centres, foreign capital, European macro-regions, financial geography, global financial crisis

Introduction

Financial geography is one of the most vigorously expanding research streams in contemporary economic geography. This is a highly desirable phenomenon due to the crucial role of ever-shifting modes of operation in the circuits of financial capital in a

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modern, highly globalised economy. Accordingly, current research deals with issues such as the shifting global hierarchy of financial and banking centres and related financial flows (Gemici and Lai, 2020; Van Meeteren and Bassens, 2016; Wójcik et al., 2018), thus complementing detailed studies of evolutionary trajectories of particular financial centres (recently, e.g., Blažek and Bečicová, 2016; Dörry, 2015; Gál, 2015; Hall and Wójcik, 2018, Zademach and Musil, 2014). Another stream of recent research endeavours to link financial geography with the investigation of global production networks, representing a major research arena within contemporary economic geography (Coe et al., 2014; Dörry, 2015; Sokol, 2013).

The recent financial and economic crisis represented a major disruption of the global financial and banking system, which should not be conceptualised as a one-off episode, but rather as a result of the on-going and interlinked plethora of processes of economic globalisation (Derudder et al., 2011), including changes in the regulatory frameworks (Marshall, 2013). The crisis and the subsequent events spurred the debate about the fundamentals of the global financial and economic system (e.g. Engelen et al., 2010; Lee et al., 2009; Marshall, 2013; Martin, 2011; Smith and Swain, 2010; Sokol, 2017; Wójcik, 2013) and about the uneven impacts upon particular regions (Wainwright, 2013). Moreover, turbulence in the financial system induced by the crisis and its repercussions has combined with rapid technological and organisational progress commonly referred to as a fintech revolution, and the swiftly expanding fintech companies that alter the pillars of the traditional banking system are attracting growing attention from researchers (e.g. Arner et al., 2015; Langley and Leyshon, 2017; Riggio, 2016).

While the predominant attention paid by researchers to the evolution of an overall financial system as well as to major financial and banking centres is fully justified, given their key role in the global system (Lee et al., 2009), the evolution of lower-tier banking centres, despite their large number, has remained largely under-researched. However, given the recent developments in the global financial system, as well as the latest technological advances as epitomised by a massive digitisation and a surge of fintech companies and services, it seems likely that at least some of the lowest-tier banking centres might face tremendous challenges if not disappearance (Blažek et al., 2020; Blažek and Bečicová, 2016; Grote, 2008). The disappearance of small banking centres would not only hinder the local economic development of affected towns and cities but might even strengthen capital outflow from poor to rich regions as has been confirmed by recent studies (e.g. Hakenes et al., 2014).

Consequently, this article aims to complement the recent study of changes in the overall banking system of Europe during the global economic crisis and its aftermath, which paid special attention to the largest European banking centres (Blažek et al., 2020). In this paper, we investigate the turbulent evolutionary dynamics of about 200 of the smallest banking centres in Europe located below the cut-off point identified with the help of a hierarchical cluster analysis based on total assets of banks headquartered in a given city. Although these centres represent 10.8% of the total assets of European banking centres, this set of banking centres encompasses profoundly different types of cities – from small regional cities in western and southern Europe (some of which boast a centuries-long banking tradition) to capital cities in central and eastern Europe. The investigation covers the 2004–2015 period and is based upon data extracted from The Banker Database. It will be shown that the smallest European banking centres represent a highly diverse category in terms of tradition, ownership structure and focus/function, with a distinctive geography in terms of basic European macro-regions (western Europe, southern Europe and central–eastern Europe), which is reflected in the major differences in their economic performance and most likely also in their differing prospects in the future.

The article unfolds in the following way. First, the theoretical framework for the study is outlined; second, the methodological approach is explained; third, the key findings of the empirical investigation are presented and discussed; and, finally, the conclusions summarise the most important findings and suggest possible directions for future research.

The diversity of challenges of European lower-tier banking centres before and during the crisis

Banking systems are subject to powerful centralisation tendencies driven by the sheer market power of the largest banking groups, by advanced information and communications technologies with power multiplied due to widespread digitisation, by massive economies of scale and by the growing spectrum and complexity of services provided. In addition, the banking sector, or, more precisely, some of the traditional functions of the banking sector, such as credit provision, payments or currency exchange, are being challenged by a swiftly expanding fintech sector (Arner et al., 2017). As a result, the number of banks has declined in recent decades (Hakenes et al., 2014). Moreover, according to Cassis and Collier (2010), the prime factor driving the emergence of major financial centres is the existence of strong and large economies. Thus, considering the vast differences in the size and strength of economies of particular countries, it follows that the number of such centres is bound to be limited, which contrasts with the all-encompassing nature of the global financial circuits. Nevertheless, even smaller banking centres have a role to play, provided they either intensively engage with a particular region (such as numerous German and Austrian saving banks; see, e.g., Flögel, 2017) or, less frequently, specialise in the provision of selected services. Therefore, unsurprisingly, positive effects of small banks upon local economic development, including the prevention of capital outflow from poor to rich regions, have been confirmed by recent studies (e.g. Hakenes et al., 2014).

It is needless to stress that the European Union (EU) countries rely heavily on bank-based finance and currently command the largest banking system in the world (Langfield and Pagano, 2016). Nevertheless, the EU banking system has been badly hit by the crisis. The scale of the crisis within the EU banking system can be documented by the fact that between August 2008 and February 2014, the European Commission received 440 requests from the EU member states to provide state aid to banks, of which 413 have been approved (Langfield and Pagano, 2016). According to these authors, this 'lack of exit' enabled by public support to distressed banks led to a further increase in Europe's 'bank bias', as well as to bank concentration. However, it should be emphasised that a significant variety in the nature of banks and in their business models exists, even within particular countries. Banks differ according to numerous dimensions, such as size, activities, income model, capital and funding structure, ownership, corporate structure and geographic scope, which have, moreover, evolved substantially over time (Liikanen, 2012). For example, in Germany, public sector banks (either *Sparkassen* owned by municipalities or by counties or regional banks called *Landesbanken*) represent nearly half of all bank assets and, importantly, they frequently perform nationwide or even international operations (Langfield and Pagano, 2016). Thus, traditional simple labels such as 'investment bank', 'retail bank', 'saving bank' or 'universal bank' are nowadays inadequate as banks operate quite differently from how they operated some 30 years ago (Liikanen, 2012). Therefore, unsurprisingly, no particular business model fared particularly well, or particularly poorly, in the financial crisis (Liikanen, 2012). Generally, factors such as low capital adequacy ratio, high reliance on short-term market funding, aggressive credit growth, excessive volume of real-estate-related lending and, obviously, involvement in trade with 'toxic assets' are considered as determinants deteriorating banks' resilience (Liikanen, 2012).

From a macro-regional perspective, before the crisis, flows of capital were closely interconnected with vast expansions of credit and housing market bubbles in the European periphery. Namely, core country capital flowed into Spain, Ireland and Greece, funding housing and/or consumption booms in these countries, while capital also flowed from Germany, Austria and Italy to fund a similar boom in several central and eastern European (CEE) countries (Langfield and Pagano, 2016). While the traditional modernisation approach underlines the key role of foreign capital upon institutional transformation, stability and the financial depth of the banking sector concerned, and also upon its growing integration into the global economy, an alternative view considers the declining profitability of banks in already highly financialised economies of western

Europe as the main motive for the expansion of foreign capital to CEE countries (Gál, 2015). Thus, according to Raviv (2008), international capital, which entered the EU periphery, was able to become a powerful rentier, extracting profits far in excess of the levels common in their countries of origin.

While there is no space to elaborate on the key factors and specifics leading to the spreading of the crisis into particular European countries, at least a brief summary of key specifics related to the banking systems of southern Europe and CEE countries should be provided as they are important for the interpretation of our empirical results. Despite the fact that southern Europe has been during the crisis and afterwards often looked upon as a group of countries that were all hardly hit by the crisis, in reality, the factors leading to economic and banking malaise differed considerably among these countries (Quaglia and Royo, 2015). For the sake of brevity, we largely focus on the specifics of the banking systems belonging to only two of the largest of these economies (Italy and Spain). First, Spain has a dual banking system of large private commercial banks and smaller public saving banks (*cajas*), typical of their strong links to local and regional governments, which are, moreover, largely outside of the supervision of the Bank of Spain (Otero-Iglesias et al., 2016). In contrast, a segment of small Italian saving banks with traditional links to local politicians was reformed during the 1990s, when their merges were facilitated and political ties were cut (Quaglia and Royo, 2015). Second, a crucial difference between Spanish and Italian banks is that Spanish banks borrowed mostly short-term on the international market and, especially, *cajas* aggressively invested capital to the construction sector, thus inducing a massive construction boom (Quaglia and Royo, 2015). The subsequent collapse of the real-estate market led to heavy losses for *cajas* and, as a result, their number dropped from 45 to nine (Quaglia and Royo, 2015), mostly via mergers, which only intensified the problem by creating large weak entities lacking the trust of investors (Otero-Iglesias et al., 2016). Italian (and Greek) banks did not fuel a property bubble and, instead, lent predominately to services and industry; when the crisis broke, they restricted credit to the real economy, which worsened the recession, but did not induce major losses for banks (Quaglia and Royo, 2015). Thus, the prime problem for Italy was low economic growth before the crisis, which lead to challenges with the sustainability of debt-financing (Quaglia and Royo, 2015) and to a steep growth in the share of non-performing loans during and after the crisis (Cucinelli, 2015).

In contrast to traditional and mostly domestically owned small banking centres in most of the western or southern European countries, the nature of banking centres in central and eastern Europe is profoundly different (needless to say, all banking centres in CEE countries, except for Moscow, fit into our category of small banking centres). Under state socialism, banks were not only nationalised and centralised, but the whole banking structure was transformed into a sort of cash dispenser, charged with the execution of the state plan approved by the Communist Party, thus disregarding any standard economic and financial criteria that would be applied within the credit provision procedure in market systems (Blažek and Bečicová, 2016; Flögel, 2017; Flögel and Zademach, 2017; Weill, 2003). In the same vein, the spectrum of services provided was restricted to very basic banking services (thus, e.g., mortgages were not available in some CEE countries). Moreover, the whole banking system was underdeveloped vis-a-vis market economies, as the command economies were based upon state-owned monopolies, and, therefore, the number of clients in these economies was incomparably lower. Given this context, the banking sector in CEE countries had to be developed from scratch in many aspects after the collapse of state socialism. The revival of the market-based banking sector was a cumbersome and painful process leading to vast losses in public finance due to the need for repeated recapitalisations of the majority of the newly (re)established banks. Consequently, the huge losses that accumulated within the banking sector during the first years of the transition in the early 1990s made the CEE governments willing to sell those banks to international banking groups – obviously, only after clearance of their balance sheets with substantial amounts of public money (see Bárta and Singer, 2006).

The specific nature of the CEE banking centres vis-a-vis their western and southern European counterparts can be explained by the very nature of these 'dependent market economies' (Nölke and Vliegenthart, 2009). Dependent market economies are typified, inter alia, by the massive role of foreign investors lured by the low-cost advantage or market-penetration motive, as well as by 'internationalisation of the financial sector, cheap credit and increasing reliance upon export' (Smith and Swain, 2010: 1) – namely, the share of total assets of foreign banks represents 94.9% in Czechia, 94.3% in Estonia, 90.1% in Lithuania, 89.0% in Slovakia, 83.3% in Romania, etc. (Liikanen, 2012). This contrasts with the situation of the banking sector in western and southern European countries, which is only exceptionally largely owned by foreign banks (77.9% in Finland, 51.5% in Belgium), while the share of total assets controlled by foreign banks represents, for example, a mere 0.4% in Sweden, 3.3% in France, 5.2% in Germany, 7.9% in Spain, 8.5% in Italy, 11.2% in the Netherlands, 19.2% in Greece and 22.2% in Portugal (Liikanen, 2012). Thus, the banking sector in CEE countries is, nowadays, dominated and controlled by international banking groups based primarily within the western European financial centres (Csomós and Derudder, 2014; Gál, 2015; Karreman, 2009; Raviv, 2008). As a result, on the one hand, this internationalisation helped to integrate these banking centres into the world-city network and, on the other hand, an extreme external dependency of CEE banking centres prevents their development into fully fledged financial centres that offer a broad spectrum of functions and services (Gál, 2015).

An overview of the key parameters of the overall banking sector in European macro-regions is provided in Table 1.

One of the fundamental features of lending patterns of foreign-owned banks in CEE countries has been a dramatically growing volume of credit provided to households (Blažek and Bečicová, 2016; Pósfai et al., 2018). With an inevitable simplification, one might say that foreign banks introduced CEE households to the use of various sorts of credit or, alternatively, they introduced new cultures of debt. It has to be emphasised that a large part of household debt was denominated in foreign currencies, thus increasing the vulnerability of debtors towards fluctuations or even turbulences in foreign-exchange markets (Gál and Schmidt, 2017a, 2017b; Marer, 2010). Pósfai et al. (2018) devised the concept of 'dependent financialisation' to encompass the fact that the differences in how financialisation unfolds in particular places are not haphazard, but mirror systematic patterns of unevenness and dependency, linked to the position of given places in the global economy. Thus, according to these authors, the excess capital from the core often flows to the periphery into state or household debt, safeguarding less risk and higher return than long-term financing of productive activities (Pósfai et al., 2018).

Thus, even though we acknowledge the diversity of particular banking centres according to numerous dimensions (such as tradition, structure of services provided, etc.), which are likely to influence their economic performance, overall, we expect that the trajectories of these centres in each of the three European main macro-regions would reflect differences in macroeconomic development, ownership structure and structural features of lending markets (Liikanen, 2012). Therefore, we foresee distinctive evolutionary trajectories of small banking centres in each of these macro-regions.

Consequently, in this study, we aim to seek answers to the following research questions. First, what was the overall evolution among small European banking centres in terms of their number, their size, profitability and the level of risks entailed? Second, what are the key differences in the economic performance of small European banking centres according to the three basic European macro-regions? Third, do banking centres with particular types of ownership (predominately foreign, predominately domestic and mixed) differ in their economic performance?

Methodological approach

The methodological approach broadly follows the methodology used in our previous study (Blažek et al., 2020), which was, to a large extent, inspired by Derudder et al. (2011). However, several important adjustments were needed, given the specifics of small banking centres. First, the data were excerpted from The Banker Database (2016), which offers a

Table 1. Evolution of key parameters of the overall banking sector in European macro-regions.

	Total assets (10^{12} €)		Loans (10^{12} €)		Deposits (10^{12} €)		Staff (mil. persons)	
Region	2009	2015	2009	2015	2009	2015	2009	2015
All macro-regions	44.0	48.4	17.9	26.2	17.4	25.0	3.3	3.1
Index of change	100%	110%	100%	146%	100%	144%	100%	93%
Western Europe	34.4	38.4	12.7	20.0	13.1	18.6	2.1	2.0
Index of change	100%	112%	100%	158%	100%	142%	100%	96%
Central and eastern Europe	1.6	2.3	0.9	1.6	0.8	1.5	0.5	0.4
Index of change	100%	146%	100%	171%	100%	185%	100%	96%
Southern Europe	8.1	7.7	4.3	4.7	3.5	4.9	0.7	0.6
Index of change	100%	96%	100%	108%	100%	140%	100%	83%

Note: data on staff do not include Russia because of missing data for 2009.
Source: European Banking Federation (2010, 2016).

wide range of indicators encompassing, inter alia, size, profitability, the level of risks of particular banks, and ownership (foreign/local). We have to acknowledge that The Banker Database, despite its extensive coverage, does not provide data for all existing banks. For example, small local banks, as well as numerous co-operative banks are not included. However, existing studies showed that European cooperative banks have not been largely affected by the crisis and remained efficient even though gradual consolidation of this banking segment has been observed (Akinsoyinu, 2015). Second, following Derudder et al. (2011), the data on particular banks were aggregated at the city level according to the location of their headquarters. The location of the headquarters was checked for all banks, because sometimes, for example, quarters of large cities are provided instead of the city itself. Likewise, in rare cases, where the bank's headquarters were located in the hinterland of a major city, the headquarters of these banks were assigned to these major cities.

Consistent with our previous study (Blažek et al., 2020), to capture the evolutionary dynamics of particular banking centres, the 2004–2015 period was split into four sub-periods to cover particular phases of the evolution of the crisis and its aftermath. These sub-periods were delineated on the basis of the evolution of gross domestic product (GDP) and unemployment in European countries, and, consequently, the whole period was divided into: (i) the pre-crisis period 2004–2006, (ii) the period of acute crisis 2007–2009, (iii) the period of emerging recovery (2010–2012) and (iv) the post-crisis recovery (2013–2015).

As the majority of small banking centres encompass the headquarters of only a few banks, an effort was made to include not only all banks with a complete dataset covering the whole period, but also to gather information for those banks that had reported data for at least one year in each sub-period. Consequently, 178 banks had to be excluded from our analysis due to missing data (compared to 467 banks covered by our analysis). Moreover, special attention was paid to banks for which data reporting had been discontinued after a specific point in time. Such non-availability of data for these banks can result from bankruptcy, a merger or an acquisition, and, therefore, we checked these cases individually to find out whether each bank still exists. In cases where the bank still exists, but no recent data were available, the bank was excluded from the analysis. However, if banks reported data until they ceased to exist, such banks were included in our analysis, as their withdrawal from the market signals a weakening of particular banking centres. Cases of merges and acquisitions were checked individually and included in our analysis if data for the newly formed or continuing banks were available.

Overall, we identified 242 European cities that contained at least one headquarters of a bank. Then, two-step cluster analysis (hierarchical cluster

Table 2. Economic indicators used in the analysis.

		Indicator	Short description	Definition
Size	TA	Total assets	Standard indicator of bank size	Total assets held on the balance sheet
Structure	LTA	Loans-to-assets ratio	Indicates extend to which the bank is focused on lending	Gross total loans / total assets
Profitability	ROA	Return on assets	Describes how effectively bank's assets are used for profit generation	Pre-tax profits / total assets
	NII	Net interest income ratio	Higher ratio indicates bank is prone to interest rate changes	Net interest income / (net interest income + net non-interest income)
Risk	LLP	Total impairment charges and provisions on assets	Growth indicates higher risk in portfolio	Total impairment charges and provisions / total assets

Source: Blažek et al. (2020).

analysis, cluster method 'between group linkage', using binary Euclidean distance in the statistical program SPSS) was applied to these centres, ranked according to the size of total assets of the banks headquartered in particular centres in the first sub-period (i.e. 2004–2006). Cluster analysis allowed us to identify the cut-off point for assigning individual centres into the category of the smallest European banking centres (i.e. all centres with an annual average of total assets lower than US$113b in the 2004–2006 period). As a result, 199 small European banking centres were included for subsequent analysis; the largest of these was Warszaw (US$113b), while Newcastle-upon-Tyne (US$141b) has been already considered as a large centre.

In addition to key indicators of bank performance to cover their size, profitability and the level of risks, ownership (foreign, domestic and mixed) was also investigated, because small banking centres differ fundamentally according to this important indicator. Namely, we believe that differences in ownership can have important implications for the strategic focus of their services and, thus, also for their economic indicators and their future trajectory. An overview of the indicators used in the analysis is provided in Table 2.

The size of banks is analysed via a standard indicator of a bank's size – the volume of total assets. This indicator is supplemented by a structural indicator – the ratio of loans to assets (LTA) that captures the extent to which the bank's strategy is oriented toward credit provision. Importantly, shifts in loans-to-assets ratios can be one of the factors explaining change in the size of total assets. The profitability of the banks is captured by the return on assets (ROA) as well as by the net interest income ratio. Risk was investigated via the capital adequacy ratio and by total impairment charges and provisions on assets. An increase in total impairment charges and provisions on assets indicates the growing riskiness of a bank's portfolio. Last, the ownership of the banks was explored to identify the geography of foreign ownership of banks and to investigate the extent to which the economic performance of the banks depends upon the type of ownership. As explained above, all these indicators were aggregated at the level of a particular banking centre. Relative indicators were weighted by the volume of total assets of particular banks in a given period.

Subsequently, maps depicting values of ROA in all small banking centres were elaborated for each of our sub-periods to visualise the evolutionary dynamics according to this indicator. Finally, the values of all indicators were calculated in accordance with the three basic European macro-regions of western Europe, southern Europe (including Istanbul) and central and eastern Europe.

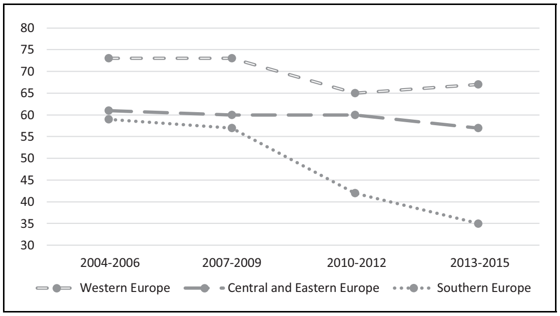

Figure 1. Evolution of number of small banking centres in Europe.

Evolution of key economic indicators in small banking centres in Europe

In this section, the key results of our analysis of economic performance of small banking centres is provided. The section is structured into three main parts. First, the evolution of an overall number of small banking centres is scrutinised, followed by an investigation of selected indicators of their economic performance in the second part. Third, the role of domestic versus foreign ownership in economic performance of small banking centres is examined.

Evolution of the number of small banking centres of Europe

To start with, the number of small banking centres in each European macro-region was relatively balanced. Western Europe contained 77 such centres, 62 small banking centres were located in central and eastern Europe and 60 were in southern Europe (Figure 1). Nevertheless, the distribution of small banking centres among countries is highly uneven – for example, in France there is no banking centre categorised as small, because all banks covered by our database are headquartered in Paris. On the other hand, the fragmented structure of banking systems is reflected by a higher number of small banking centres in Germany, Spain, Italy and Switzerland (Figure 2).

The first trend we followed comprised the emergence and disappearance of small banking centres. The number of defunct banking centres vastly exceeded the number of new ones. Most banking centres that ceased to exist were based in southern Europe, especially in Spain and Italy (Figure 2). In the case of Spain, 28 banking houses were merged or acquired by larger banking houses, while one bank went into bankruptcy, making the number of defunct banking centres the highest in Europe. This is largely attributable to heavy losses suffered by the Spanish *cajas* due to their over-exposure to the inflated real-estate market, which were (unsuccessfully) tackled by their mergers (Otero-Iglesias et al., 2016). In Italy, the number of merged or acquired and bankrupt banks was much lower (four mergers and three bankruptcies). By contrast, the number of banking centres in central and eastern Europe stagnated, while in western Europe it declined slightly (Figure 2).

Economic performance of small banking centres in Europe

Western European centres held the highest share of total assets of small European banking centres in the first period (41.9%); southern European centres followed with 39.0%; and CEE centres encompassed only 19.1%, which accords with the overall weakness in these countries of the then still-emerging modern banking sector and its high dependency on foreign capital (Smith and Swain, 2010). However, in terms of the growth rate of total assets, the fastest growth was documented in the case of CEE small banking centres, reflecting rapid expansion of services provided by these centres, which was largely orchestrated by foreign investors. The swift evolution of banks in CEE countries led to relatively balanced shares of all macro-regions in terms of total assets controlled by small banking centres in the 2013–2015 period. Thus, in this period, the distribution of these shares changed to 32.1% for western Europe, 37.4% for southern Europe and 30.5% in central and eastern Europe.

Overall, the amount of total assets in all three macro-regions grew by 35% during the period studied. The overall growth in total assets accompanied by the high number of defunct small banking centres epitomises significant concentration tendencies within the segment of small banking centres. In small

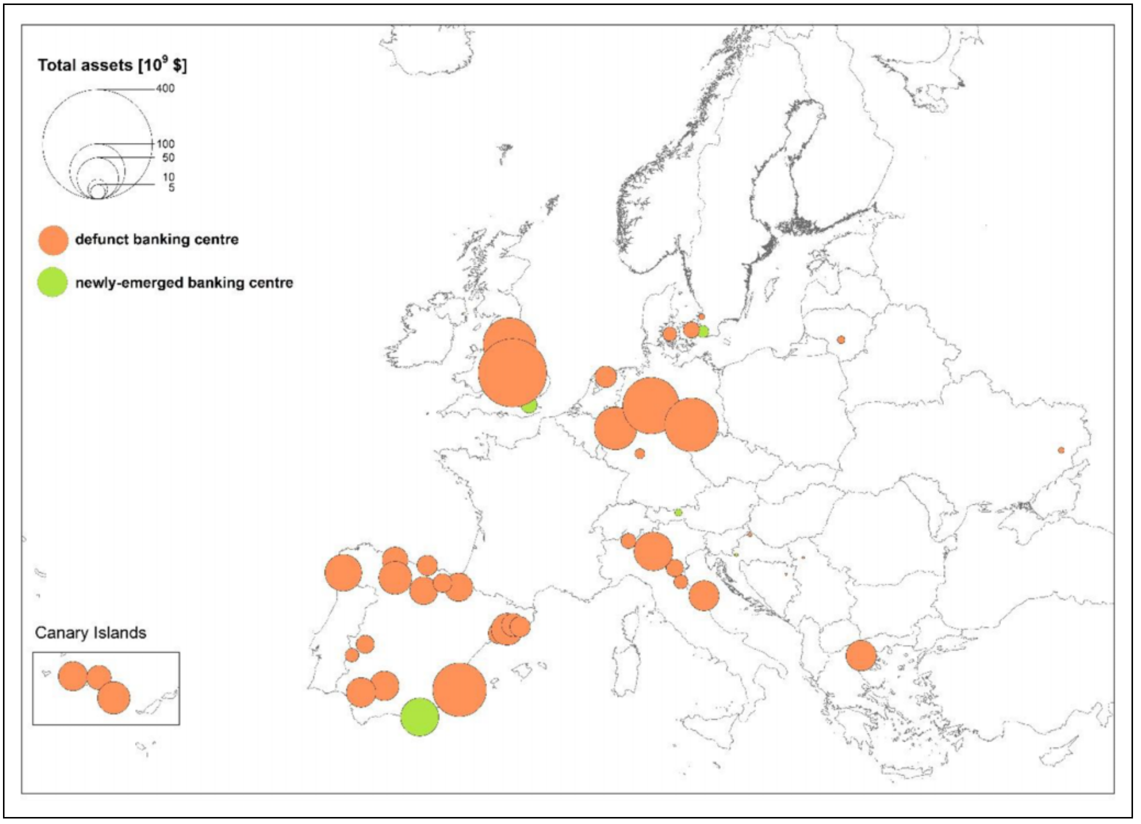

Figure 2. Defunct and newly emerged banking centres. Source: authors' calculation and visualisation based on The Banker Database (2016).

western European banking centres, the volume of total assets stagnated – they grew and then returned to the pre-crisis level. On the other hand, small banking centres in central and eastern Europe experienced growth in all of the sub-periods examined, reflecting their above-mentioned transformation performed by foreign capital, and, consequently, in the last period the amount of total assets was more than twice the size that it had been in the first (i.e. pre-crisis) period (Table 3). The southern European banking centres experienced significant growth in total assets (up to 161% in the second period of acute crisis) and then declined to 129% of the first period.

With regard to the profitability of small banking centres, it has declined in line with expectations in all macro-regions over the period studied (Table 3). Overall, the ROA declined from 1.18% to a mere 0.24%, while the lowest value was recorded in the third period –0.07%). The profitability of small banking centres in western Europe dropped from 0.80% to 0.35% – that is, to 43% of the value of the first period (Table 3). The greatest drop in profitability was reported by the banking centres in southern Europe (from 1.17% to –0.12%), with the lowest value reached in the third period (–1.20%), reflecting especially vast losses suffered by Spanish *cajas* after the real-estate bubble implosion (Quaglia and Roya, 2015). Small banking centres in CEE countries, which were practically not involved in trade with obscure derivates, but, instead, were largely oriented towards the provision of standard services to local businesses and especially to households (Blažek and Bečicová, 2016), exhibited a relatively strong performance concerning the ROA over the whole period –

Table 3. Development of total assets (TA) and ROA in small banking centres according to European macro-regions.

	TA (10^{12} US$)				ROA			
Region	2004–2006	2007–2009	2010–2012	2013–2015	2004–2006	2007–2009	2010–2012	2013–2015
All macro-regions ($n = 199$)	3.5	5.4	5.1	4.7	1.18%	0.76%	–0.07%	0.24%
Index of change	100%	156%	146%	135%	100%	64%	–6%	21%
Western Europe ($n = 77$)	1.4	1.9	1.5	1.5	0.80%	0.45%	0.50%	0.35%
Index of change	100%	132%	102%	103%	100%	56%	62%	43%
Central and eastern Europe ($n = 62$)	0.7	1.3	1.5	1.5	2.00%	1.22%	1.03%	0.56%
Index of change	100%	195%	213%	214%	100%	61%	52%	28%
Southern Europe ($n = 60$)	1.3	2.2	2.2	1.7	1.17%	0.74%	–1.20%	–0.12%
Index of change	100%	161%	160%	129%	100%	63%	–103%	–10%

Note: 100% stands for values for the 2004–2006 period.
Source: authors' calculation based on The Banker Database (2016).

starting at 2% in the first period (2.5 times more than the respective figure for western Europe) and ending with the value of 0.56% (which is only 30% of the value in the first period, but still significantly higher than the corresponding value in western Europe for the same period).

Overall, in the first period (2004–2006), all the small banking centres were in the green according to ROA. Geographically, the acute phase of the financial crisis manifested vigorously in the second period (2007–2009) in some small banking centres in Germany, the UK, Ukraine, Latvia, Lithuania, Austria, Slovakia, Denmark and Spain. Nevertheless, surprisingly, given the scale of the crisis, only 12 small banking centres plunged into the red (Figure 3).

In the following period (2010–2012), the crisis spread massively to southern Europe, especially to Spain, Cyprus and selected centres in Italy, but also to Slovenia, Hungary and the UK. Thus, geographically, the impacts of the crisis were widespread in the third period (see Figure 4). In the last period (2013–2015), the impacts of the crisis (re)concentrated in small banking centres in particular countries within each of the European macro-regions, reflecting various idiosyncratic features of the banking sector in individual countries – that is, in the UK in western Europe, in northern Italy and Cyprus in southern Europe (both Italy and Cyprus were suffering from a sharp growth of non-performing loans; 18.1% in Italy and a staggering 47.7% in Cyprus in 2015; www.data.worldbank.org), and in Slovenia, Croatia, Hungary and Ukraine in central and eastern Europe (Figure 5). Small banking centres in Spain have already experienced a recovery, as all of them reported green figures in the last period.

The small centres with a (relatively) healthy banking sector (i.e. those whose ROA remained in the green over the whole period studied) were located in Switzerland, Austria (except Klagenfurt, which is related to the infamous scandal of Hypo Alpe Adria Bank owned by the Austrian state of Carinthia; see Jakab and Kochenov, 2017), Czechia (Prague), Poland, the Balkans (except for Croatia and three banking centres in Montenegro, Romania and Macedonia), Belarus, Russia, Norway, Sweden and Estonia (Figures 3–5). This illustrates how uneven the impacts of the global financial crisis were across Europe.

The indicator of LTA reflects the extent to which banks are focused on loan provision. In western Europe and in central and eastern Europe, the changes were only moderate, while the LTA declined remarkably in southern Europe. In the pre-crisis period, the southern European small banking centres were oriented towards lending much more than the small banking centres in the other two macro-regions (as indicated by the LTA ratio of nearly 86%, which subsequently dropped to 67% in the last period;

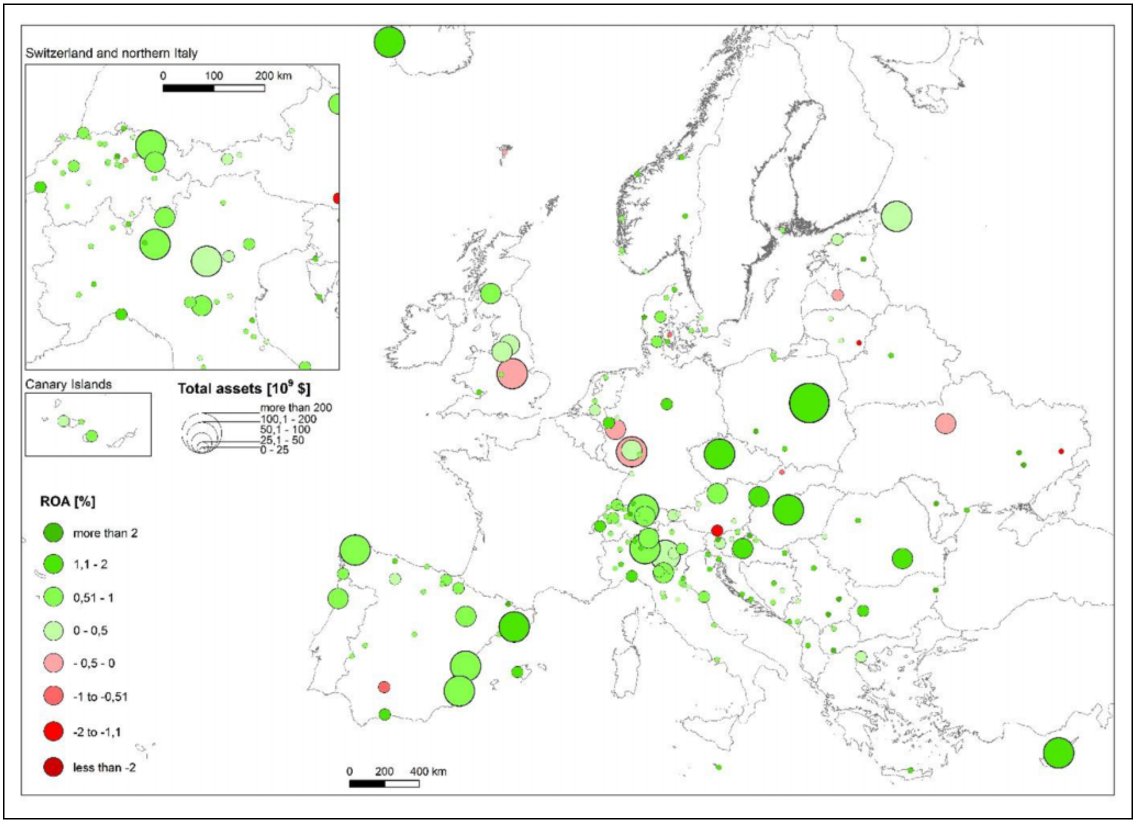

Figure 3. Return on assets in small European banking centres in the period of acute crisis (2007–2009).
Source: authors' elaboration based on The Banker Database (2016).

see Table 4). This indicates that, as part of their post-crisis recovery strategy, southern European banks tried to re-focus on other banking services to lower their high dependency on loan provision. In line with this trend, and in contrast with the other two macro-regions, small southern European banking centres experienced a drop in the net interest income indicator, which reflects declining sensitivity to changes in interest rate.

With regard to risk (LLP [total impairment charges and provisions on assets]), a portfolio of small banking centres proved to be 'safest' in western Europe (Table 4). LLP in small centres in southern Europe more than tripled, indicating the harsh impacts of the crisis on the banking sector in these countries. CEE countries also experienced a large increase in this indicator (Table 4). In this case, the worsening situation was caused predominately by the poor performance of the banking sector in selected countries, especially in Hungary (Budapest) and Ukraine (Kiev), which was predominately induced by a large share of loans denominated in foreign currencies before the crisis.

The role of foreign versus domestic ownership of banking sector

This part of empirical analysis focuses on the role of foreign versus domestic ownership in the performance of banks in small banking centres. Importantly, in terms of macro-regions, banking centres dominated by foreign owners are strongly concentrated in CEE countries (Figure 6). This finding confirms the persistence of the highly dependent nature of these banking

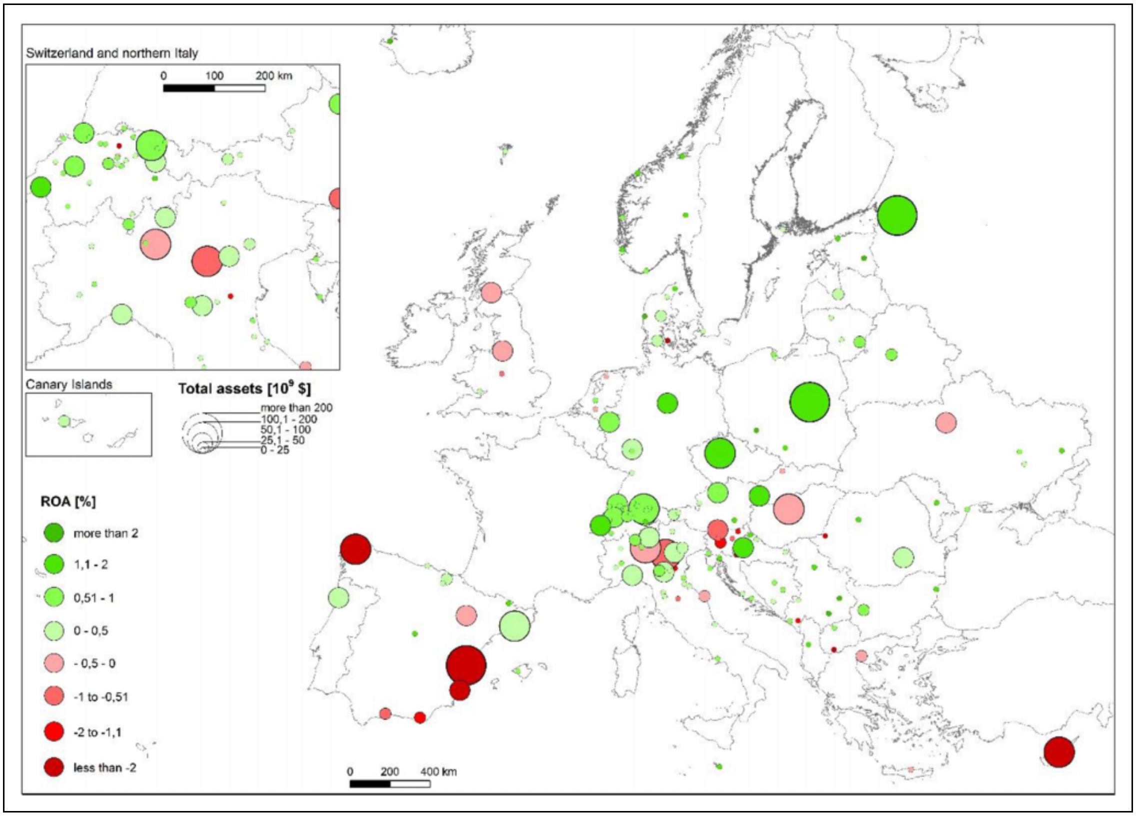

Figure 4. Return on assets in small European banking centres in the years 2010–2012. Source: authors' elaboration based on The Banker Database (2016).

centres, which was documented a decade ago by Smith and Swain (2010) and Karreman (2009).

Overall, in terms of growth of volume of total assets, the banking centres with a significant share of foreign capital clearly outperformed the centres where domestic capital played a greater role (Table 5). The most vigorous growth in the volume of total assets was observed in banking centres with a 51–75% share of foreign ownership, where the volume of total assets jumped to 236% of the 2004–2006 level; in centres with a 76–100% share of foreign ownership, the volume of total assets grew to 171% of the value in the first period.

Similar patterns can be observed in terms of profitability, as banking centres with a majority of foreign capital proved to be more profitable than centres relying predominately on domestic capital (Table 5). Banking centres with the lowest share of foreign capital (up to 25%) suffered a severe drop in ROA to less than one fifth of their value for the first period (2004–2006) (Table 5). On the other hand, the efficiency of the small banking centres with a share of more than 50% of foreign capital clearly outperformed the average values, and even though their profitability also declined, the decline was relatively modest. The differences in profitability between centres with less and more than 50% of foreign capital have become statistically significant in the last two sub-periods, as confirmed by the Kruskal–Wallis test (Significance 0.007 for years 2010-2012 and 0.021 for 2013-2015 period).

Finally, we focused our investigation on the economic performance of small banking houses that were fully owned by foreign investors. First, it should be emphasised that a remarkably high share of banks fully owned by foreign investors were

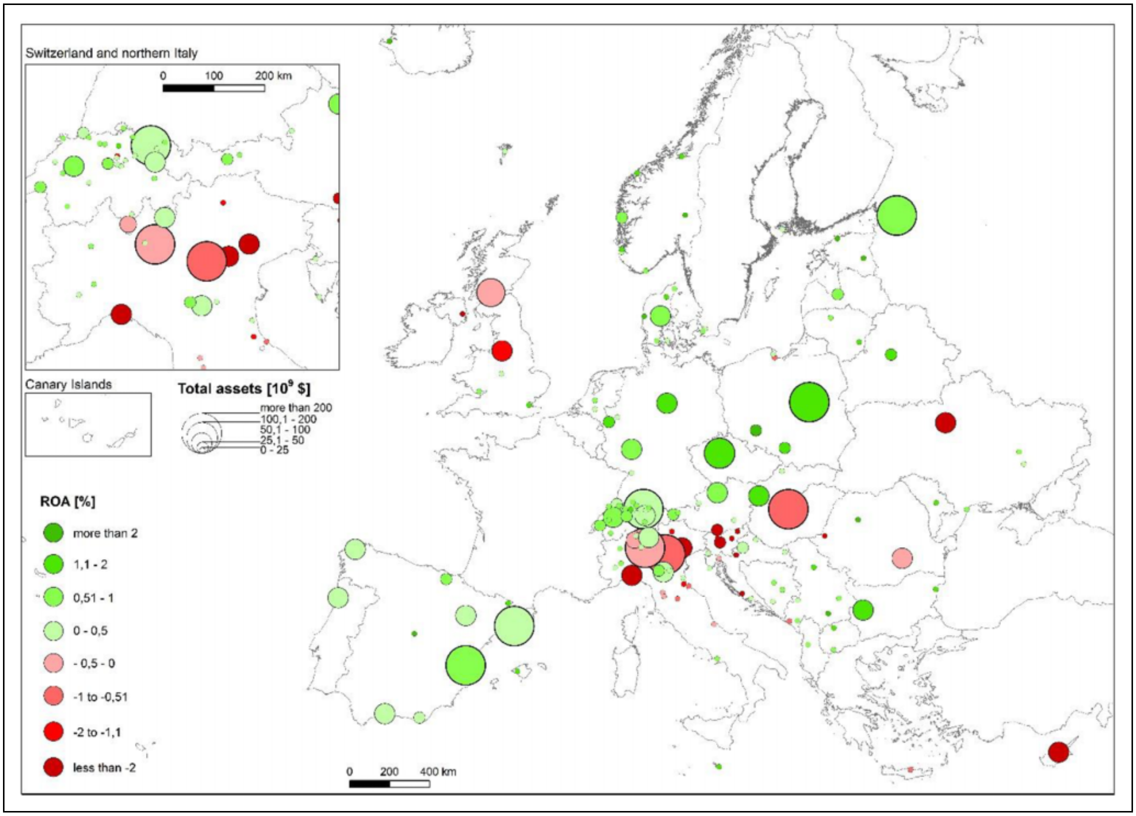

Figure 5. Return on assets in small European Banking centres in the years 2013–2015. Source: authors' elaboration based on The Banker Database (2016).

located in small centres in central and eastern Europe (152 banks, i.e. 93.3%; see Table 6). The total assets of foreign banks in central and eastern Europe grew strongly in the second period and then practically stagnated during the third and fourth periods, when they reached 171% of the value in the first period. A similar development occurred in western Europe, where the amount of total assets of banks fully owned by foreign capital was more than double that in the first period. By contrast, while foreign banks in southern Europe also experienced strong growth of total assets in the second and third periods, this was followed by a dramatic decline to a mere 79% of the value of the first period, reflecting a strong need to clean-up their portfolio.

The development of ROA of banks fully owned by foreign capital is also worth attention. Not surprisingly, the ROA of these banks dropped in all three macro-regions over the period studied. The initial average values stood at 1.50% in western Europe, 1.83% in CEE countries and 1.32% in southern Europe (Table 6). The ROA of fully foreign-owned banks in western Europe and in central and eastern Europe dropped steadily in each subsequent period, while the foreign banks in southern Europe experienced noticeable growth in the last period. Overall, the foreign banks in western Europe experienced the highest drop in ROA (the final value is a mere 22% of the value in the first period), followed by the foreign-owned banks in CEE countries (the final value represents 47% of the value in the first period). In southern Europe, foreign banks remained profitable throughout the whole 2004–2015 period and, in the last period (2012–2015), their final value of ROA was particularly strong given the post-crisis circumstances (1.08%, which is 82% of the initial value;

Table 4. Development of LTA and LLP in small banking centres according to European macro-regions.

Region	LTA 2004–2006	LTA 2007–2009	LTA 2010–2012	LTA 2013–2015	LLP 2004–2006	LLP 2007–2009	LLP 2010–2012	LLP 2013–2015
All macro-regions ($n = 199$)	77.96%	71.98%	73.35%	71.45%	0.53%	0.85%	1.22%	1.08%
Index of change	100%	92%	94%	92%	100%	161%	231%	205%
Western Europe ($n = 77$)	73.42%	69.04%	75.21%	78.36%	0.63%	0.43%	0.37%	0.30%
Index of change	100%	94%	102%	107%	100%	69%	59%	48%
Central and eastern Europe ($n = 62$)	70.64%	69.18%	72.25%	70.77%	0.62%	1.51%	1.09%	1.44%
Index of change	100%	98%	102%	100%	100%	243%	175%	232%
Southern Europe ($n = 60$)	85.75%	76.09%	72.94%	66.97%	0.40%	0.69%	1.67%	1.21%
Index of change	100%	89%	85%	78%	100%	174%	420%	306%

Note: 100% stands for values for the 2004–2006 period.
Source: authors' calculation based on The Banker Database (2016).

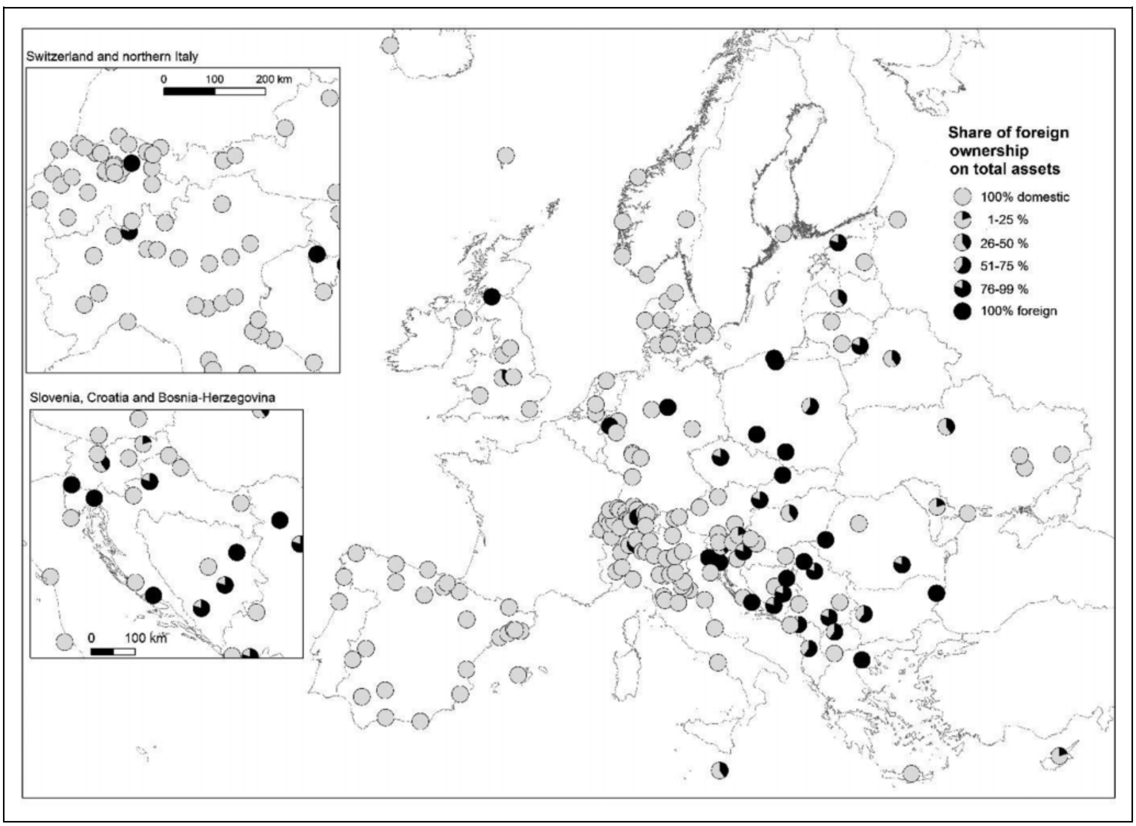

Figure 6. Distribution of small banking centres according to their share of foreign capital in 2013–2015.

Table 5. Economic performance of small banking centres (BC) according to share of foreign capital.

	TA (10^6 US$)				ROA			
Share of foreign ownership in BC	2004–2006	2007–2009	2010–2012	2013–2015	2004–2006	2007–2009	2010–2012	2013–2015
BC 0% (*n* = 156)	2,674,722	3,916,667	3,570,789	3,286,880	1.00%	0.57%	−0.33%	0.19%
Index of change	100%	146%	134%	123%	100%	57%	−33%	19%
BC 1–25% (*n* = 3)	65,929	136,495	130,937	67,302	0.87%	1.17%	−3.13%	−2.95%
Index of change	100%	207%	199%	102%	100%	135%	−359%	−339%
BC 26–50% (*n* = 7)	171,460	328,457	302,418	267,052	1.88%	0.92%	−0.04%	−1.46%
Index of change	100%	192%	176%	156%	100%	49%	−2%	−78%
BC 51–75% (*n* = 4)	137,595	268,538	301,556	324,262	1.93%	1.72%	1.48%	1.29%
Index of change	100%	195%	219%	236%	100%	90%	77%	67%
BC 76–99% (*n* = 12)	281,806	503,030	488,562	466,282	1.92%	1.28%	1.24%	1.03%
Index of change	100%	179%	173%	165%	100%	66%	65%	54%
BC 100% (*n* = 17)	147,060	259,505	295,853	282,116	1.69%	1.13%	0.66%	0.74%
Index of change	100%	176%	201%	192%	100%	67%	39%	44%
Total % (*n* = 199)	3,478,572	5,412,692	5,090,115	4,693,894	1.18%	0.76%	−0.07%	0.24%
Index of change	100%	156%	146%	135%	100%	64%	−6%	21%

BC: banking centre.
Note: 100% stands for values for the 2004–2006 period.
Source: authors' calculation based on The Banker Database (2016).

Table 6. The performance of banks fully owned by foreign capital in three European macro-regions.

	TA (10^6 US$)				ROA			
Foreign-owned banks	2004–2006	2007–2009	2010–2012	2013–2015	2004–2006	2007–2009	2010–2012	2013–2015
Total (*n* = 163)	546,408	1,024,855	1,022,740	951,529	1.77%	1.21%	0.91%	0.74%
Index of change	100%	188%	187%	174%	100%	68%	51%	42%
Western Europe (*n* = 5)	64,421	125,998	154,899	139,649	1.47%	1.02%	0.12%	0.02%
Index of change	100%	196%	240%	217%	100%	69%	8%	1%
Central and eastern Europe (*n* = 152)	469,129	859,383	826,575	801,668	1.83%	1.27%	1.09%	0.87%
Index of change	100%	183%	176%	171%	100%	69%	59%	47%
Southern Europe (*n* = 6)	12,858	39,475	41,266	10,212	1.32%	0.63%	0.45%	1.08%
Index of change	100%	307%	321%	79%	100%	48%	34%	82%

Note: 100% stands for values for the 2004–2006 period.
Source: authors' calculation based on The Banker Database (2016).

see Table 6). These results contrast with the performance of domestic banks in southern Europe, whose average ROA plunged into the negative in both the 2010–2012 and 2013–2015 periods (reflecting, inter alia, the vast impact of the implosion of the real-estate bubble on Spanish *cajas*; Otero-Iglesias et al., 2016). In the case of CEE countries, the profitability of foreign banks, due to their predominant orientation upon less risky households loans, declined less than profitability of domestic banks, even though we should note that their profitability at the initial period was lower than the average

(1.77% in the case of foreign banks compared to 2.00% for all banks). Moreover, in the last period, the ROA of foreign banks in CEE countries (0.87%) stood already above the average for all banks (0.56%). Therefore, in terms of profitability, the foreign-owned banks played a stabilisation role in southern Europe and partly also in CEE countries (Tables 3 and 6).

Conclusions

The current era of a highly globalised and digitalised economy seems to be subject to ever-stronger concentration tendencies, especially in industrial branches dependent on advanced technologies, and modern business models found in sectors such as banking. Moreover, while the banking sector has been traditionally widely dependent upon powerful agglomeration economies, nowadays, due to ever-changing market and regulatory contexts as well as intensive cost-based (and innovation-based) competition, reaping agglomeration advantages appears to be indispensable for the operation of modern banking houses. Altogether, this suggests only bleak perspectives for small banks and for small banking centres in particular. On the other hand, the EU is home to the world's largest banking system (in relation to its GDP), which is largely attributable to the enormous expansion of banks since 1990, leading to Europe's 'bank bias' (Langfield and Pagano, 2016). Thus, it seems that such a massive banking system can accommodate a diversity of banks in terms of size, ownership, business model and many other dimensions. Therefore, this research has scrutinised recent evolutionary tendencies among 199 of the smallest European banking centres, based on data on the economic performance of individual banks. Our research attention was focused primarily upon the investigation of the overall evolution of the number of these small banking centres, and, latterly, on the evolution of the economic performance of banks headquartered within them, according to dimensions such as macro-region and ownership.

Importantly, and contrary to our expectations, we did not identify a general and powerful trend towards a reduction in the overall number of small European banking centres. Instead, our findings suggested a much more complicated pattern. First, the number of banking centres that became defunct over the 2004–2015 period amounted to 40 – that is, 20.1%. While this seems to be in line with our propositions, the regional breakdown reveals otherwise. Namely, a decisive number of these defunct banking centres were concentrated in southern Europe, whereas the decline in the number of banking centres in western Europe and central and eastern Europe was negligible. The concentration of defunct banking centres in southern Europe can be attributed to a combination of a gradual loss of competitiveness since these countries joined the Economic and Monetary Union (Quaglia and Roya, 2015) and of numerous specific features such as the enormous real-estate bubble in Spain (Otero-Iglesias et al., 2016) or a large share of accumulated non-performing loans, especially in Italy (Gros and De Groen, 2016). Thus, when the global economic crisis hit southern Europe, it led to a manifestation of problems that were already mounting in these economies and in their banking sectors well before the crisis, but they became fully exposed during the crisis and its aftermath. Therefore, we have to acknowledge that the role of intensive competition, standardisation and customisation of services via advanced technologies has, so far, not resulted in a general decline in the number of banks headquartered in small banking centres. The most likely explanation might lie not only in the numerous specificities of path dependency of particular small banking centres, but also in the variegated evolutionary trajectories of particular banking houses in terms of their ability to (re)orientate towards a specific market segment or region.

The analysis of economic performance revealed that in terms of size, measured by the volume of total assets, the banking centres in central and eastern Europe were the most dynamic, more than doubling the volume of total assets, even though from a very low base, while in southern Europe the growth of total assets over the whole period was only modest and western Europe experienced stagnation. Analysis of ROA, as a principal indicator of profitability, showed that the small banking centres in CEE countries performed the best, even though the profitability of these banks dropped significantly over the 2004–2015 period. This is attributable to the cleaning-up of the balance sheets of these banks with public money before their privatisation to foreign investors, which was mostly completed around the turn of the new millennium – that is, before the investigated period. Foreign investors achieved relatively high profitability, even throughout the crisis turmoil, as they often based their expansion in new countries on the mere localisation of their existing information technologies and business models, and who, moreover, refocused their strategy towards the less risky segment of household loans (Blažek and Bečicová, 2016). Banks headquartered in small western European centres recorded a significant drop in profitability, yet their figures remained in the black. By contrast, the profitability of banks in small centres in southern Europe was higher than those in western Europe in the 2004–2009 period, but plunged into the red in the subsequent period (2010–2015). This reflects not only the problems accumulated in southern Europe before the crisis, including the vast exposure of banks toward overblown real-estate markets in countries such as Spain, but also the tight connection between banking system and macroeconomic performance (Langfield and Pagano, 2016), moreover in countries with particularly high bank lending to firms (57% of GDP in Italy, 86% in Spain, compared to 36% in Germany or 43% in France; De Bonis et al., 2011). While the banks in small centres in western Europe as well as in CEE countries generally increased their focus upon loan provision, as documented by LTA values over the 2004–2015 period, the banks in southern Europe, which were by far the most orientated towards loan provision before the crisis, decreased their LTA values significantly in their quest to limit the share of non-performing loans. Finally, with regard to risk (measured by LLP charges), CEE and southern European small banking centres proved to be much more vulnerable than their counterparts in western Europe. This is attributable to the high level of risks faced by banks in centres such as Kiev (reflecting poor economic performance and even military conflict in Ukraine) and Budapest (due to a large share of loans before the crisis denominated in foreign currencies, which led to a soaring rate of non-performing loans during and after the crisis).

Overall, our analysis showed that the impacts of the crisis manifested in substantially different forms in small banking centres in each European macro-region (as well as in particular countries). Therefore, we concur with Quaglia and Royo (2015), who observed that massive capital inflow from banks in core European countries, even though serving different goals (e.g. the purchase of Italian and Greek public bonds versus real-estate investment in Spain), fuelled macro-economic imbalances in debtor countries in the periphery and, therefore, banks within as well as outside debtor countries played a major, even though largely different, role in the crisis. Thus, the liberalisation of capital flows, evolution of new technologies and instruments resulting, inter alia, in a securitisation frenzy was running far ahead of the capabilities and competences of diverse supervisors and regulators (Otero-Iglesias et al., 2016).

Therefore, our investigation has not revealed a general trend towards a reduction in the number of small banking centres, but rather a highly uneven pattern. This reflects the fact that small banking centres differ in their ownership (public, domestic private, foreign), employ different business models in (inter)national markets and are embedded in particular macro-economic and institutional as well as regulatory contexts. Thus, one can foresee significantly different needs and capabilities to take-up new opportunities or to respond to challenges, including those emanating from vastly expanding fintech technologies. As a result, one can also foresee diverse trajectories of these banks and centres in the future.

From a broader perspective, our research has not only documented the envisaged stable position of small banking centres in western Europe compared to their counterparts in other European macro-regions, but also revealed a strong mutual dependency in the (co)evolution of banking centres in all three macro-regions. Foreign-owned banks grew rapidly (in terms of their total assets) and generally surpassed their domestically owned competitors, and specifically in terms of their profitability; moreover, their lead in profitability increased significantly over the last two sub-periods (2010–2015). Thus, during and after the crisis, internationalisation and even globalisation increased, even among small European banking centres, motivated by the banks' quest for higher profit margins, their efforts to mitigate risks through the diversification of their business activities and their geographic expansion. The recent upsurge of fintech companies, which encroaches on the traditional core business of the banks, has further intensified competition within the financial sector and made the search for new markets that would sustain or enhance their profit margins even more pressing. Consequently, further internationalisation/globalisation of the banking sector is anticipated in the future. Our results support those of Wójcik et al. (2018), who also observed continuing financial globalisation (in their case of investment banking) in contrast to the widespread expectation during the financial crisis of declining financial globalisation.

Consequently, our proposals for future research would encompass detailed (comparative) case studies unravelling the specific strategies employed by the banks headquartered in small European banking centres (including their modes of engagement with a variety of fintech technologies and companies) that allow them to survive or even to expand in the current highly competitive and technology-intensive financial market, as well as unravelling the multiplicity of impacts of banks on local communities.

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References

Akinsoyinu CA (2015) Efficiency evaluation of European financial cooperative sector. A Data Envelopment analysis approach. *International Journal of Academic Research in Accounting, Finance and Management Sciences* 5(4): 11–21.

Arner D, Barberis J and Buckley R (2015) The evolution of fin-tech: A new post-crisis paradigm? *University of New South Wales Law Research Series* 2015/047. Sydney: Faculty of Law, University of Hong Kong.

Arner DW, Barberis J and Buckley RP (2017) *FinTech and RegTech in a Nutshell, and the Future in a Sandbox*. Charlottesville: CFA Institute Research Foundation.

Bárta V and Singer M (2006) The banking sector after 15 years of restructuring: Czech experience and lessons. *Bank for International Settlements* 28(1): 203–212.

Blažek J and Bečicová I (2016) The takeover of Prague's banking cluster by multinational groups from an evolutionary perspective. *Geografie* 121(2): 254–278.

Blažek J, Hejnová T and Rada H (2020) The impacts of the global economic crisis and its aftermath on the banking centres of Europe. *European Urban and Regional Studies* 27(1): 35–49.

Cassis Y and Collier J (2010) *Capitals of Capital: The Rise and Fall of International Financial Centres 1780-2009*. Cambridge: Cambridge University Press.

Coe NM, Lai KPY and Wójcik D (2014) Integrating finance into global production networks. *Regional Studies* 48(5): 761–777.

Csomós G and Derudder B (2014) European cities as command and control centres, 2006-2011. *European Urban and Regional Studies* 21(3): 345–352.

Cucinelli D (2015) The impact of non-performing loans on bank lending behaviour: Evidence from Italian banking sector. *Eurasian Journal of Business and Economics* 8(16): 59–71.

De Bonis R, Pozzolo A and Stacchini M (2011) The Italian banking system: Facts and interpretations. Available at: https://ssrn.com/abstract=2126074 (accessed 17 September 2019).

Derudder B, Hoyer M and Taylor P (2011) Goodbye Reykjavik: International banking centres and the global financial crisis. *Area* 43(2): 173–182.

Dörry S (2015) Strategic nodes in investment fund global production networks: The example of the financial centre Luxembourg. *Journal of Economic Geography* 15(4): 797–814.

Engelen E, Konings M and Fernandez R (2010) Geographies of financialization in disarray: The Dutch case in comparative perspective. *Economic Geography* 86(1): 53–73.

European Banking Federation (2010) EU banking sector: Facts and figures. Available at: https://www.ebf.eu/wp-content/uploads/2018/02/Facts-Figures-2010.pdf (accessed 15 April 2020).

European Banking Federation (2016) EBF fact & figures 2016. Available at: https://www.ebf.eu/wp-content/uploads/2018/07/EBF-Facts-Figures-2016.pdf (accessed 15 April 2020).

Flögel F (2017) Distance and modern banks' lending to SMEs: Ethnographic insights from a comparison of regional and large banks in Germany. *Journal of Economic Geography* 18(1): 35–57.

Flögel F and Zademach HM (2017) Bank branches as places of knowledge creation: Conceptual considerations and empirical findings at the micro-geographical scale. *Erdkunde* 71(4): 301–312.

Gál Z (2015) Development of international financial centres in Central and Eastern Europe during transition and crisis. The case of Budapest. *Studia Regionalne i Lokalne* 60(2): 53–80.

Gál Z and Schmidt A (2017a) Europe divided? Can Warsaw become the regional leader of the Central and Eastern European region? *Politeja* 6(51): 235–260.

Gál Z and Schmidt A (2017b) Geoeconomics in central and eastern Europe: Implications of FDI. In: Munoz M (ed) *Advances in Geoeconomics*. London: Routledge, 75–92.

Gemici K and Lai KPY (2020) How 'global' are investment banks? An analysis of investment banking networks in Asian equity capital markets. *Regional Studies* 54(2): 149–161.

Gros D and De Groen W (2016) A radical cure for Italýs banking problems: A combination of good banks and soft bail-in. *CEPS Policy Brief No. 351*. Brussels: CEPS, pp. 9

Grote MH (2008) Foreign banks' attraction to the financial centre Frankfurt – an inverted 'U' shaped relationship. *Journal of Economic Geography* 8(2): 239–258.

Hakenes H, Hasan I, Molyneux P and Xie R (2014) Small banks and local economic development. *Bank of Finland Research Discussion Papers* 5. Helsinki: Bank of Finland, pp. 1–35.

Hall S and Wójcik D (2018) 'Ground Zero' of Brexit: London as an international financial centre. *Geoforum*. Epub ahead of print 21 February 2020. DOI: 10.1016/j.geoforum.2018.02.002

Jakab A and Kochenov D (2017) *The Enforcement of EU Law and Values: Ensuring Member States' Compliance*. Oxford: Oxford University Press.

Karreman B (2009) Financial geographies and emerging markets in Europe. *Tijdschrift voor Economische en Sociale Geografie* 100(2): 260–266.

Langfield S and Pagano M (2016) Bank bias in Europe: Effects on systemic risk and growth. *Economic Policy* 31(85): 51–106.

Langley P and Leyshon A (2017) Platform capitalism: The intermediation and capitalisation of digital economic circulation. *Finance and Society* 3(1): 11–31.

Lee R, Clark GL, Pollard J and Leyshon A (2009) The remit of financial geography – before and after the crisis. *Journal of Economic Geography* 9(5): 723–747.

Liikanen E (2012) High-level expert group on reforming the structure of the EU banking sector. Final report. Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_12_1048 (accessed 5 October 2019).

Marer P (2010) The global economic crises: Impacts on Eastern Europe. *Acta Oeconomica* 60(1): 3–33.

Marshall JN (2013) A geographical political economy of banking crises: A peripheral region perspective on organisational concentration and spatial centralisation in Britain. *Cambridge Journal of Regions, Economy and Society* 6(3): 455–477.

Martin R (2011) The local geographies of the financial crisis: From the housing bubble to economic recession and beyond. *Journal of Economic Geography* 11(4): 587–618.

Nölke A and Vliegenthart A (2009) Enlarging the varieties of capitalism: The emergence of dependent market economies in East Central Europe. *World Politics* 61(4): 670–702.

Otero-Iglesias M, Royo S and Steinberg F (2016) The Spanish financial crisis: Lessons for the European banking union, Real Instituto Elcano – Madrid. *Informe Elcano 20*, March 2016. Madrid: Real Instituto Elcano.

Pósfai Z, Gál Z and Nagy E (2018) Financialization and inequalities: The uneven development of the housing market on the Eastern periphery of Europe. In: Fadda S and Tridico P (eds) *Inequality and Uneven Development in the Post-Crisis World*. London: Routledge, 167–190.

Quaglia L and Royo S (2015) Banks and the political economy of the sovereign debt crisis in Italy and Spain. *Review of International Political Economy* 22(3): 485–507.

Raviv O (2008) Chasing the dragon east: Exploring the frontiers of Western European finance. *Contemporary Politics* 14(3): 297–314.

Riggio FC (2016) *The Geography of Financial Technology (FinTech) Companies in the New York Metropolitan Area*. New York: CUNY Academic Works.

Smith A and Swain A (2010) The global economic crisis, Eastern Europe, and the former Soviet Union: Models of development and the contradictions of internationalisation. *Eurasian Geography and Economics* 51(1): 1–34.

Sokol M (2013) Towards a 'newer' economic geography? Injecting finance and financialisation into economic geographies. *Cambridge Journal of Regions, Economy and Society* 6(3): 501–515.

Sokol M (2017) Financialisation, financial chains and uneven geographical development: Towards a research agenda. *Research in International Business and Finance* 39: 678–685.

The Banker Database (2016) *The Financial Times*. Available at: https://www.thebankerdatabase.com/index.cfm/rankings/ (accessed 5 September 2019).

Van Meeteren M and Bassens D (2016) World cities and the uneven geographies of financialization: Unveiling stratification and hierarchy in the world city archipelago. *International Journal of Urban and Regional Research* 40(1): 62–81.

Wainwright T (2013) Finance's outsiders? Networks, knowledge and power beyond the city. *Journal of Economic Geography* 13(6): 1041–1058.

Weill L (2003) Banking efficiency in transition economies: The role of foreign ownership. *The Economics of Transition* 11(3): 569–592.

Wójcik D (2013) The dark side of the NY-LON: Financial centres and the global financial crisis. *Urban Studies* 50(13): 2736–2752.

Wójcik D, Knight E, O'Neill P and Pažitka V (2018) Economic geography of investment banking since 2008: The geography of shrinkage and shift. *Economic Geography* 94(4): 376–399.

Zademach HM and Musil R (2014) Global integration along historic pathways: Vienna and Munich in the changing financial geography of Europe. *European Urban and Regional Studies* 21(4): 463–483.