



DISCUSSION PAPER

18|1A

The Banking Systems of Germany, the UK and Spain from a Spatial Perspective: Lessons Learned and What Is to Be Done?

Franz Flögel and **Stefan Gärtner**

Institute for Work and Technology

Research Department: Spatial Capital

Westphalian University of Applied Sciences

Copyright remains with the author.

Discussion papers of the IAT serve to disseminate the research results of work in progress prior to publication to encourage the exchange of ideas and academic debate. Inclusion of a paper in the discussion paper series does not constitute publication and should not limit publication in any other venue. The discussion papers published by the IAT represent the views of the respective author(s) and not of those of the institute as a whole.

The Banking Systems of Germany, the UK and Spain from a Spatial Perspective: Lessons Learned and What Is to Be Done?

Franz Flögel¹ and Stefan Gärtner²

February 2018

Summary

This paper re-visits the state of decentralised banking in Germany, Spain and the UK. The cross-country comparison we conducted has identified Germany as having the most decentralised banking system, followed by Spain and the UK, as expected. The development of regional and double-purpose banks, i.e. savings and cooperative banks, mainly account for the differences in the degree of centralisation. Whereas no such bank exists in the UK any longer and real savings banks in Spain have almost disappeared, two decentralised banking groups with more than 1,400 savings and cooperative banks dominate business finance in Germany. Our comparison has identified three factors of success contributing to the persistence of decentralised banking:

- I. Short operational and (especially) functional distance and embeddedness in supportive regional bank associations. Short distances allow banks to capitalise on soft information advantages in lending, whilst banking associations also secure access to advanced banking knowledge for banks headquartered in peripheral regions.
- II. The development of “real” decentralised universal banking. Here, the time when regional savings and cooperative banks received the right to lend is crucial. Because it took them so long to get permission to offer loans, savings banks in Spain and the UK were latecomers to (business) lending, whereas lending had always been the business of German savings banks. Therefore, savings banks in the UK and Spain were not able to capitalise on soft and local information advantages in short distance lending.
- III. The interplay of the regional principle (regional market segregation), regional embeddedness and a national system that balances regional disparities. Together, these three factors help to make regional banks sufficiently successful, even in weak regions, and hinder competition between banks, thereby supporting meaningful cooperation in banking associations and relationship lending.

Savings banks have never been as important in business lending in the UK and Spain as they are in Germany. Though large commercial banks dominate business lending in both countries, some (partly newly established) banks tend to specialise in lending to small enterprises at shorter distances there. To support short-distance lending, this paper suggests a compensation scheme for screening and monitoring costs. Such a scheme may stimulate banks to shift, or preserve, their lending decision processes to the regional level and reduce the need for standardisation, centralisation and bank mergers in times when interest rates are low.

Keywords: comparing banking systems, SME finance in the UK, Spain and Germany, decentralised banking

JEL classification: D43, E21, G01, G21, G38, R12

¹ Institute for Work and Technology, 0049 2091707 203, e-mail: floegel@iat.eu

² Institute for Work and Technology, 0049 2091707 164, e-mail: gaertner@iat.eu

Contents

1. INTRODUCTION.....	5
2. KEY THEORIES OF DECENTRALISED AND CENTRALISED BANKING	6
3. BUSINESS LENDING AND THE STATE OF CENTRALISATION IN EUROPE	8
4. DISTANCE IN LENDING IN GERMANY, THE UK AND SPAIN.....	15
MEASURING DISTANCE.....	15
APPROACHING DISTANCE	19
5. FACTORS OF SUCCESS OF DECENTRALISED BANKS.....	21
I. SHORT DISTANCE AND EMBEDDEDNESS IN (SUPPORTIVE) REGIONAL BANK ASSOCIATIONS.....	21
II. REAL DECENTRALISED UNIVERSAL BANKS	23
III. REGIONAL PRINCIPLE, REGIONAL EMBEDDEDNESS AND REGIONAL BALANCE.....	25
6. CONCLUSIONS AND LESSONS LEARNED.....	26
REFERENCES.....	29
LIST OF INTERVIEW PARTNERS	35

1. Introduction

With over 1,400 regional savings and cooperative banks, the decentralised German banking system counts as one factor behind the success of the German economic model and explains its swift return to growth after the financial crisis of 2007-2008, among other things (Gärtner, 2009a; Bruff and Horn, 2012; Hardie and Howarth, 2013b; Audretsch and Lehmann, 2016). In fact, German regional banks cushioned a credit crunch in 2008-2009 enabling access to finance, especially for small and medium sized enterprises (SMEs) (Gärtner and Flögel, 2015). Therefore, a range of initiatives tend to view Germany's banking system as a role model and call for the (re)establishment of regional banks in centralised countries like the UK (*The Economist*, 14 April 2012; Greenham and Prieg, 2015; Bone, 2016). And yet Germany's decentralised banking system is also being challenged due to the low interest rate environment and tightened banking regulation. In 2016 the number of savings banks fell by 10, from 413 in 2015 to 403 (-2.4%). Moreover, 7.9% of savings banks branches had been closed down (2015: 11,459; 2016: 10,555). Cooperative banks also closed 6% of their branches and lowered the number of institutes by 50 (-4.8%) (Deutsche Bundesbank 2017). Since this trend towards concentration has no foreseeable end in sight, the survival of decentralised banking in Germany must be questioned in the medium term.

This article compares European banking systems by focusing on the spatiality of bank-based business finance, funded by the Hans-Böckler Foundation. It brings together findings from the case studies of Spain, Germany, and the UK and draws overall conclusions. The main theory guiding the research project relies on the classification of decentralised and centralised banking and financial systems (Klagge, 1995; Verdier, 2002; Klagge and Martin, 2005; Gärtner, 2011; Gärtner and Flögel, 2013; Klagge et al., 2017) and postulates that this differentiation helps to explain varieties of financial systems, especially with respect to SME finance (Gärtner and Flögel, 2014). Our research interest in the cross-country comparison is twofold. On the one hand, we examine the role that decentralised and centralised banks play in business lending and how regional and large banks organise their lending decisions, especially with regard to their distance from clients. On the other hand, revisiting Verdier's (2002) seminal study, this paper identifies (success) factors that explain why decentralised banking persists. The research project was motivated by the claim made above that the decentralised banking system contributed to the competitiveness of the German economy, especially the manufacturing *Mittelstand* and the fact that we are currently observing a decline in the number of regional banks.

In order to identify differences and factors explaining these differences, three country cases were selected for comparison that putatively show substantial variation in the centralisation of banking. Germany represents a decentralised banking system. The UK, on the other hand, exemplifies a centralised system, with London as the most important international financial centre in the world. The Spanish banking system's degree of centralisation lies on the spectrum between Germany's and the UK's. Spain also provides an outstanding case for study, as what were once regional savings banks have been freed from their geographical burden since 1988, causing a decline in decentralised banking (Gärtner and Fernandez, forthcoming).

We compared the countries with different methods, analysing aggregated data, especially central bank and labour market statistics, as well as individual data from selected banks. The results, however, are quite heavily based on qualitative work, meaning expert interviews and participant observation. Case studies were conducted on exemplary banks. In total, we conducted over 90 expert interviews with bank employees, banking association representatives, policy activists (e.g. NGOs) and scientific experts. Two research stays, one at the Centre for Urban and Regional Development at

Newcastle University in the UK, and another at the University of La Laguna in Spain, enabled us to gather the data.

This paper is organised as follows: Section 2 outlines the key theories and Section 3 presents some comparative insights concerning business lending and the state of banking centralisation in Europe. Section 4 outlines the comparative findings on distance in lending in Germany, Spain and the UK. Building on these insights from the cross-country comparison, Section 5 deduces and describes the three identified factors behind the success of decentralised banking. The last section provides recommendations for action on how to (re)establish a decentralised banking system in the UK and Spain. For Germany, we discuss what can be learned from countries that have centralised their banking systems in order to ensure the survival of decentralised banking.

2. Key theories of decentralised and centralised banking

As early as 1995, Klagge argued in favour of a classification of banking systems into decentralised and centralised systems (Klagge, 1995). Essentially, decentralised banking systems are associated with small local and regional banks, which are considered superior in lending to SMEs and often publicly or cooperatively controlled (e.g., Berger, et al., 2005). Centralised banking systems give rise to large national and international banks that realise economies of scale and scope in lending. Gropp (2016) assumes large private banks to be more demanding lenders as they support efficiency, bolster competition among firms and hence support economic growth.

In his historical cross-country comparison, Verdier (2002) analyses the influence of politics on financial systems. Examining the conflict between large and small banks, and between financial centres and the peripheries from 1850 onward, Verdier shows that centralised states tended to support centralised banking, whereas municipal and regional authorities strived to protect local and regional banks from their centralised competitors. Liberalisation, privatisation, the abolition of regional restrictions and friendly regulations supporting financial market development were more pronounced in centralised countries (for example France and the UK), whereas regional savings and cooperative banks were protected in countries with a federal structure, such as Germany and Switzerland (for the Cantonal Banks) (Verdier, 2002). Though Verdier (2002) acknowledged regional banks' advantages in overcoming information asymmetries and boosting access to finance for enterprises in the periphery, his empirical study suggests that decentralised banking must be protected from the overwhelming competition coming from the centre. Therefore, regional governments must be strong enough to protect their regional banks in order to ensure the survival of decentralised banking.

Our approach picks up this ongoing debate on decentralised and centralised banking (Verdier, 2002; Klagge and Martin, 2005; Gärtner, 2011; Gärtner and Flögel, 2013, 2017; Klagge et al., 2017) and proposes two related characteristics that define whether banks and banking systems are centralised or decentralised (Gärtner and Flögel, 2014).

The first characteristic is **geographical market orientation** of banks' business activities. Do banks operate on a regional level, e.g. by collecting money from regional savers and handing it to regional borrowers, or do they rely on business on the supraregional scale, whether by borrowing and investing in national or global capital markets or by operating supraregional branch systems (regional vs. supraregional banks)? The theoretical foundations here lie in the polarisation and post-Keynesian theories on regional banking markets and interregional flows of capital (Chick and Dow,

1988; Dow and Rodríguez-Fuentes, 1997; Klagge and Martin, 2005; Gärtner, 2008). In particular, regional banks' ability to slow capital drains from the periphery to the core regions, which is debated with controversy, suggests that regional banking may make a difference when it comes to access to finance in peripheral regions and therefore stimulates more balanced regional development (Gärtner, 2008).

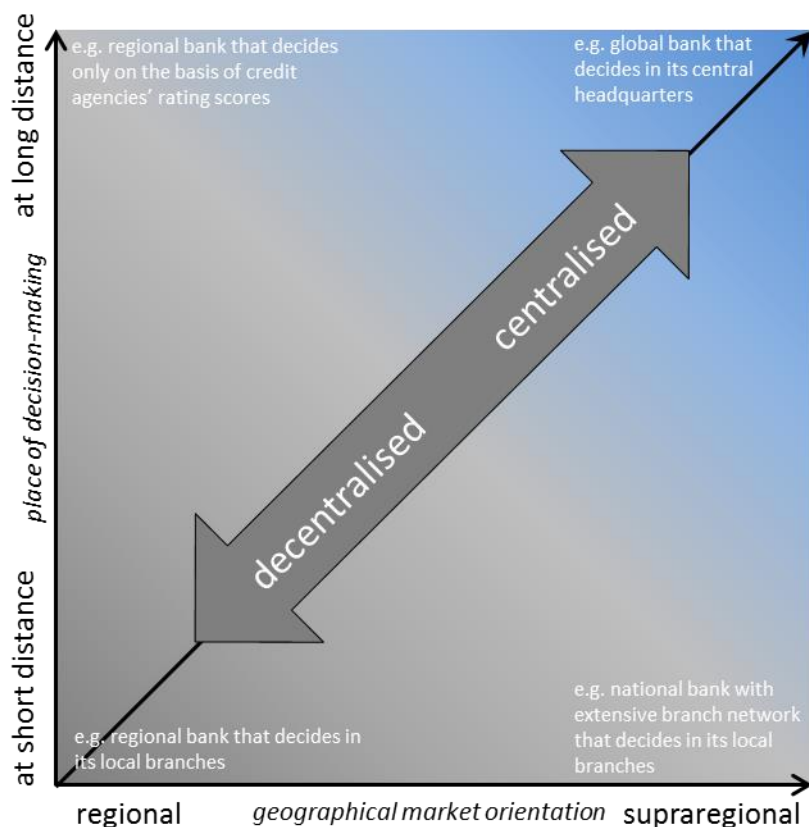
The second characteristic is the **place of decision-making**. Do banks make decisions, such as whether to offer a loan, in short distance to their clients, or do they make them from a long distance, e.g. in remote headquarters (short vs. long distance)? Decentralised banking capitalises on short distances between creditor and borrowers to make investment or lending decisions. From a theoretical point of view, lending from a short distance is associated with less information asymmetries and lowers credit rationing, especially when lending to SMEs (Stein, 2002; Pollard, 2003; Berger et al., 2005; Gärtner, 2009b; Alessandrini et al., 2009; Flögel, 2018). The importance of difficult-to-transmit, so-called soft information in lending to informationally opaque SMEs constrains decision-making from a long distance, such as in financial centres, and favours a decentralised banking system in which banks' head offices and decision-makers are located in proximity to their clients. In contrast, centralised systems capitalise on their vicinity to financial institutions in order to stimulate financial innovation and organise and control investment decisions indirectly. Centralised banking is associated with transaction-oriented lending where hard (easy-to-transmit) information and ICT-based evaluation methods are used to make decisions about credit (Udell, 2008; Gärtner and Flögel, 2017a). As a result, financial institutions need to be geographically close to other organisations like other banks, rating agencies, lawyers, regulatory bodies and tech firms, which explains the rise of financial centres (Friedmann and Wolff, 1982; Friedmann, 1986; Sassen, 2001; Taylor et al., 2003; Lo, 2003; Grote, 2004; König et al., 2007; Hall and Appleyard, 2009; Schamp, 2009; Therborn, 2011; Gärtner, 2013; Dörny, 2015).

According to Alessandrini et al., (2009a), distance matters between two actors in bank-based SME lending: first, between SME customers and their customer advisors (called operational distance) and second, between customer advisors and supervisors, i.e. head offices (called functional distance). As Flögel (2018) argues, the addition of distance to the Stein (2002) model on decentralisation, hierarchy and soft information suggests the following relations: whereas short operational distance makes it easier for customer advisors to gain access to soft information, short functional distance is associated with enhanced bank-internal use of soft information, which encourages local staff to actually collect soft information. In this context, a purely metric understanding of distance cannot adequately explain the transmission of information, as short geographical distance is neither a necessary nor a sufficient condition to facilitate knowledge exchange between actors (Boschma, 2005; Torre and Rallet, 2005; Torre, 2008; Bathelt and Henn, 2014). Instead, other forms of closeness such as social and organisational embeddedness and cognitive affinity need to be considered to fully understand the effect of distance in banking (Uzzi and Lancaster, 2003; Klagge and Martin, 2005; Alessandrini et al., 2009, 2010). Still, short geographical distance makes soft information easier to transmit because it facilitates face-to-face interaction and supports other forms of proximity.

Against this conceptual background, we not only focused on the existence of regional banks and the role they play in business lending, but also analysed how and where (at what distance) regional and supraregional banks conduct lending decisions (see Figure 1). Neither characteristic of the classification renders the other redundant, because banking regulations and the standardisation of decision-making processes (especially rating and scoring systems) tend to affect trends to centralise lending decisions for regional banks as well (Degryse et al., 2009; Dixon, 2014; Gärtner and Flögel, 2014). For example, if a regional bank lends only on the basis of credit agencies' rating scores, it does not make these credit decisions from a short distance to their customers (see top-left corner of Figure 1). On the other hand, supraregional banks can and do delegate decision-making powers to

the regional scale (Flögel, 2018). For example, this can happen if a national bank with an extensive branch network delegates substantial lending authority to its employees in the branches (see bottom-right corner of Figure 1). In addition, advances in ICTs may reduce the stickiness of soft information in lending (Papi et al., 2017) and potentially overcome the need for short distances to reduce information asymmetries. Against this background, the widespread assumption of regional banks' short distance-based advantages in SME finance must be examined by analysing the actual metric and non-metric aspects of distance in lending.

Figure 1: Decentralised versus centralised banking



Source: Gärtner and Flögel 2014: 14 (modified)

3. Business lending and the state of centralisation in Europe

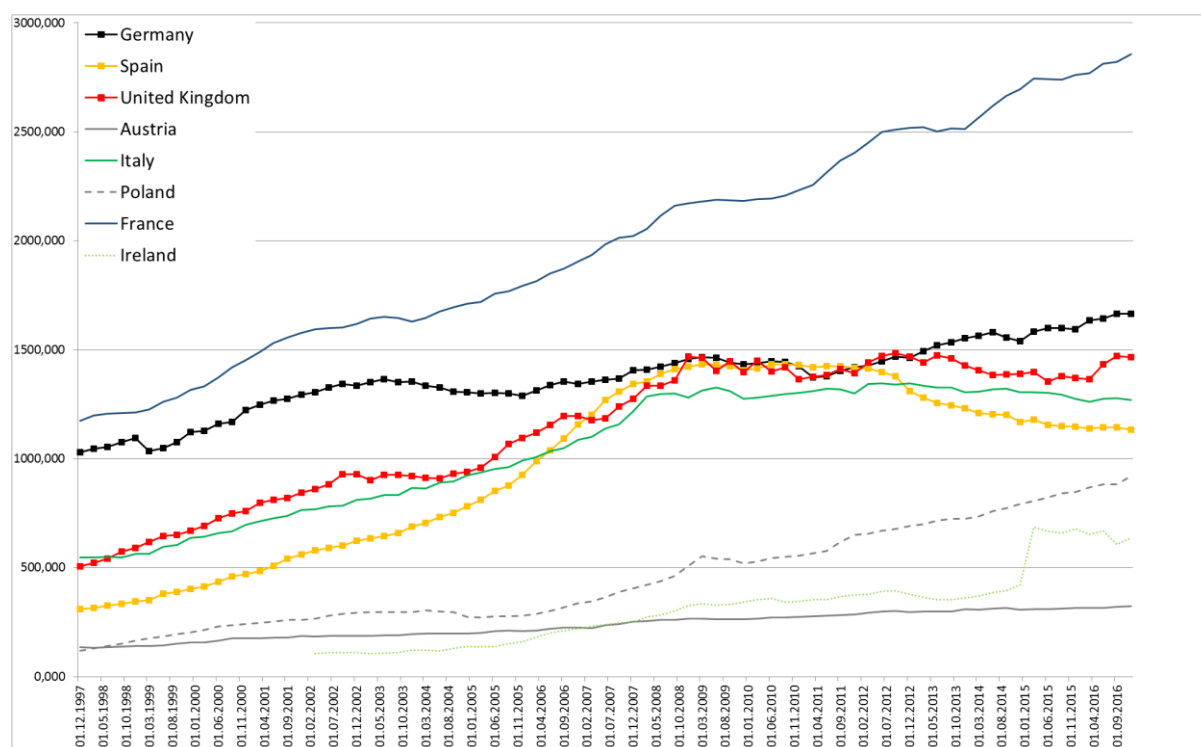
When approaching differences in financial systems, traditionally the size of each financial sector's output, i.e., credit volume, is contrasted. Goldsmith (1968) was the first one to see a positive correlation between the growth of the financial sector and dynamic economic development (finance growth) which many studies confirm and further indicate that financial sector growth actually causes economic development (King and Levine, 1993; Levine et al., 2000; Levine, 2005; Ang, 2008; Beck, 2012; Havránek et al., 2013). However, recent studies show that too much financial growth can hamper economic growth and lead to financial crises with corresponding social implications (Turner,

2010, Haldane et al. 2010, Arcand et al., 2011, Capelle-Blancard and Labonne, 2011; Rousseau and Wachtel, 2011; Epstein and Crotty, 2013). For example, Arcand et al. (2011) found evidence for a threshold “above which financial development no longer has a positive effect on economic growth” and showed that “the financial sector was an important amplifier of the global economic crisis” (p. 18). In the UK, the financial sector outstripped the whole economic growth by over 2 percentage points per year over the last 160 years (Haldane et al., 2010) and Turner (2010) calculated that the UK banks’ aggregate balance sheet (as a percentage of GDP) grew from 34% in 1964 to 497% in 2007.

The reasons why financial growth may turn negative when the financial sector becomes too large are first due to the misallocation of resources from productive sectors to finance (Tobin, 1984; Sawyer, 2014) and second to the strong volatility caused by an over-active financial sector (Brunermeier et al., 2009; Turner, 2010; Arcand et al., 2011, Gärtner, 2013). According to Minsky (1992), as profit-generating organisations, banks and other financial intermediaries tend to overvalue and undervalue economic cycles by lending exorbitantly in good times and cutting back credit sharply in bad times, thereby accelerating cyclicity. In this context Turner (2010: 28) argues that booms may also hamper economic development because “[e]xuberant lending will tend to crowd out that element of lending which is indeed related to the funding of marginal productive investments” (p. 28). Therefore, the ability of a financial system to smoothen the supply of credit (by balancing boom-bust cycles) indicates its ability to support economic development, rather than just lending volumes.

Against this background, we do not compare the volume of business finance (e.g. in relation to the GDP), but the development of the amount of outstanding credit. Figure 2 shows the development of loans and bonds to non-financial corporations for selected European countries. Heuristically, we classified the displayed countries in three groups. First are countries where we see a sharp rise in corporate finance before the crisis and a significant drop during it (bell-shaped countries). This is the case for Spain, where corporate finance stagnated in 2008 and collapsed in 2012 (as the crisis hit late). Second are countries where corporate finance increased starting in the late 1990s, decreased when the crisis hit and have recovered since, though with regard to real prices, loans and bonds still stand below the level in 2008. These are Italy and the UK. Third are countries where the U-shaped curve was merely a dimple during the crisis and where today’s outstanding corporate loans and bonds clearly exceed the level in 2008, namely Germany, Austria, Ireland and Poland. Standing alone is France, where loans and bonds have not decreased due to the financial crisis.

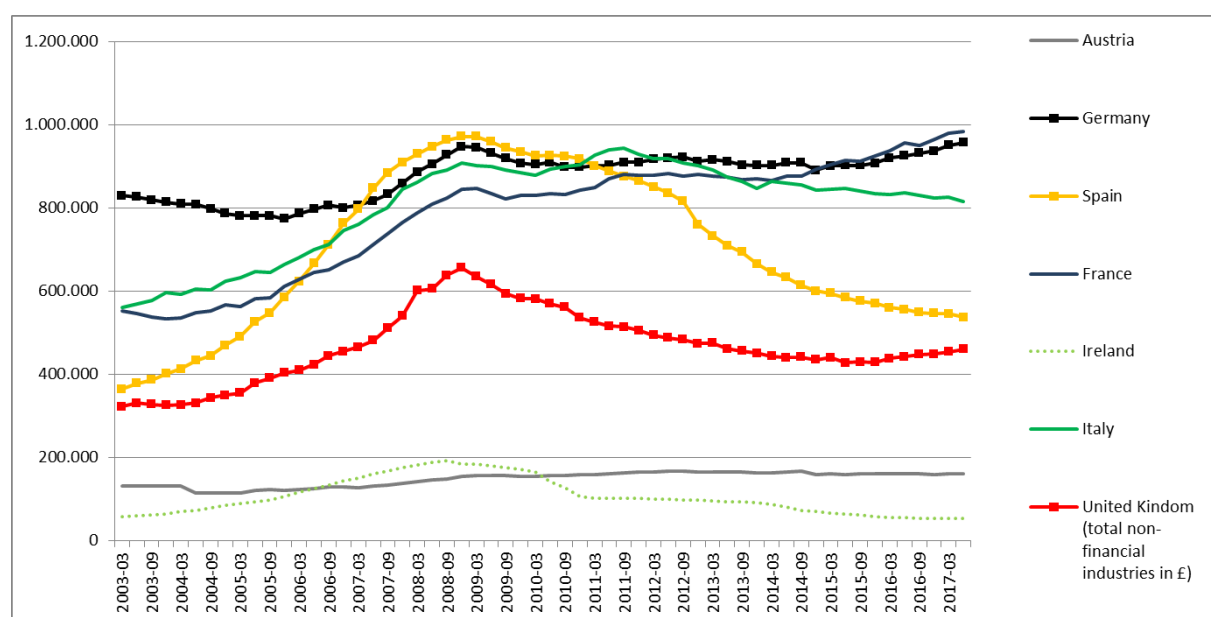
Figure 2: Development of loans and bonds to non-financial corporations for selected European countries in domestic currency



Own figure, source: BIS total credit statistics

Turning to bank-based finance, we see a similar but nuanced trend for the amount of outstanding corporate loans (Figure 3). As the ECB provides the data, Poland is not included and data from the Bank of England is used for the UK, which may also include credit to unincorporated businesses (such as loans to self-employed people). The outlier of France disappears when bonds are excluded and France tends to fall in the third group. Interestingly, Ireland and the UK now show similarities with Spain (bell-shaped countries). The traditional structural classification of financial systems that distinguishes between bank-based and market-based systems (e.g. Allen and Gale 2001; Demirgüç-Kunt and Levine 2001; Hall and Soskice 2001) can explain this finding. Declines in bank-based lending over the course of the financial crisis were presumably covered by market-based finance (securities) in Ireland and the UK, which are both market-based countries according to Bijlsma and Zwart's classification (2013:9). Cooperation in the bank-based financial system of Spain may not enjoy these alternative sources of finance.

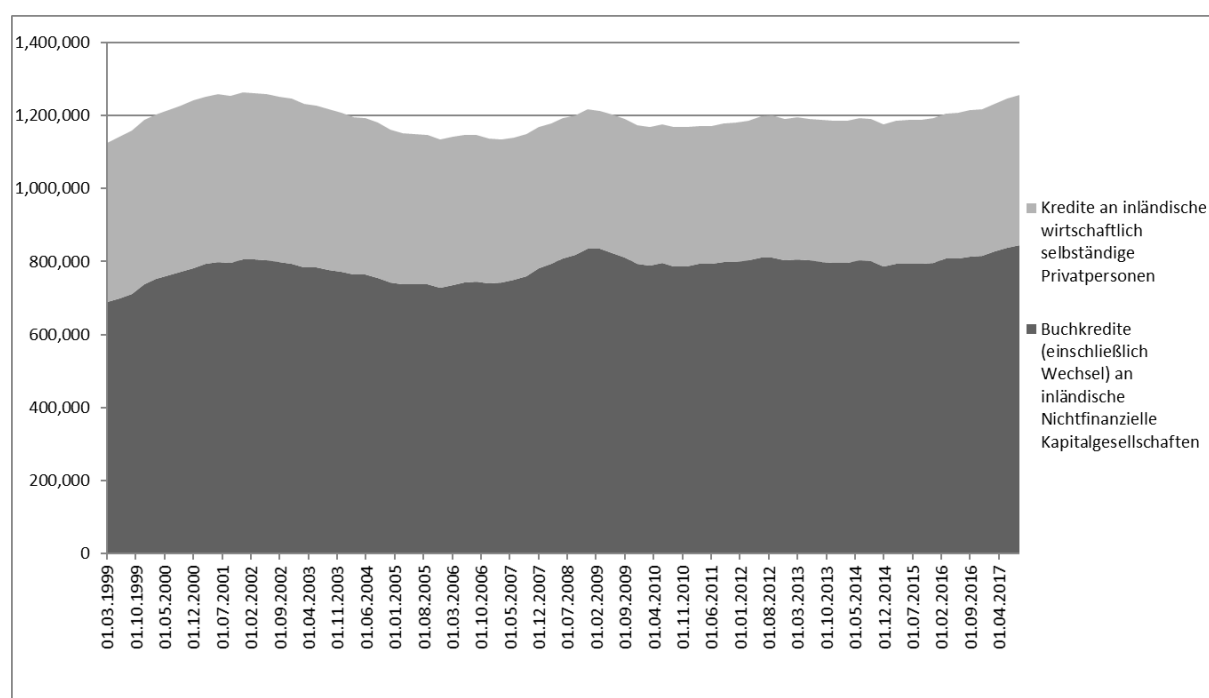
Figure 3: Development of corporation loans for different countries in domestic currency



Own figure, source: ECB and Bank of England 2017a

One further limitation of Figure 3 must be mentioned. The ECB data only considers “corporate loans” and excludes loans to unincorporated business, such as self-employed people. Decentralised savings and cooperative banks lend to such small business disproportionately, so the lending volumes in figure 3 tend to under-represent lending by decentralised banks. Figure 4 illustrates lending to the non-financial sector, including all business in Germany, with €408.18 billion lent to self-employed people accounting for around 33% of all lending in April 2017. By taking loans to self-employed people into consideration, Germany’s loan-caused “dimple” become even shallower, as banks did not cut back on lending to self-employed people during the financial crisis. Unfortunately, central bank statistics from the UK and Spain do not make it clear whether and to what extent lending to incorporated business is represented in the statistics. For example, the Bank of England (2017b) states that their statistics “may also include unincorporated businesses”. Therefore, the cross-country comparison presented here tends to give an imprecise description of lending to small business, which is a key type of business for decentralised banks.

Figure 4: Lending to non-financial businesses, including corporations and self-employed persons in Germany

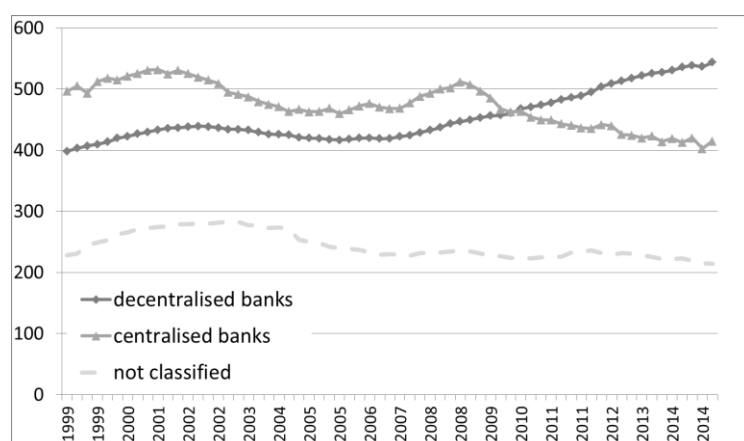


Own figure, Deutsche Bundesbank

As we have shown in Gärtner and Flögel (2015), Germany's savings and cooperative banks account for this smoothing in lending as they increased credit volumes in the crisis (Figure 5). This actually leads to the uncommon observation that large companies (typically clients of larger banks) faced heavier financial constraints than smaller SMEs (typically clients of decentralised savings and cooperative banks) at the apogee of the financial crisis in Germany. In contrast, business lending in the UK is dominated by the four major international banks, HSBC, Lloyds (LBG), Barclays and Royal Bank of Scotland (RBSG), which had an 89% market share in England and Wales in 2013³ (Figure 6). In Spain, partly decentralised savings and cooperative banks increased lending to businesses before the financial crisis, but were never as important as in Germany (Gärtner and Fernandez, forthcoming). Spanish savings banks in particular cut back credit markedly during the financial crisis and in fact exacerbated the drop in lending in the country. Nevertheless, we must note that most Spanish savings banks were supraregional banks in 2008 (Gärtner and Fernandez, forthcoming).

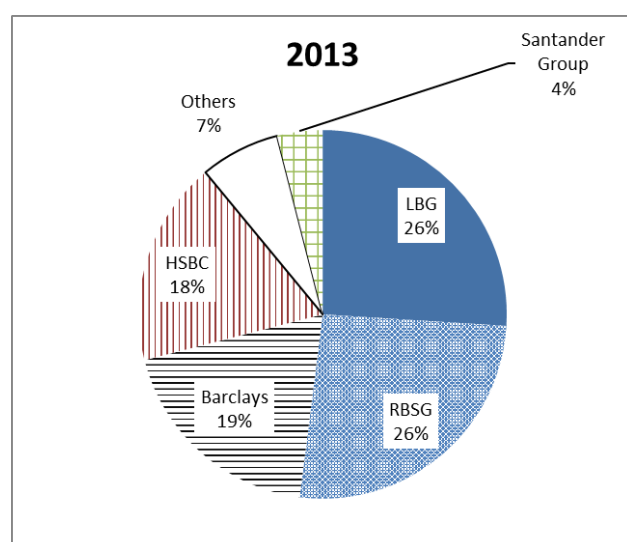
³ The Bank of England does not provide credit volume data by category of bank like the Deutsche Bundesbank. Therefore, classification between decentralised and centralised lending is unfeasible.

Figure 5: Loans to non-financial business by decentralised and centralised banks in Germany (in billions of euros)



Source: Gärtner and Flögel 2017: 111 (translated)

Figure 6: Market share (credit volume) in the credit business with commercial customers in England and Wales

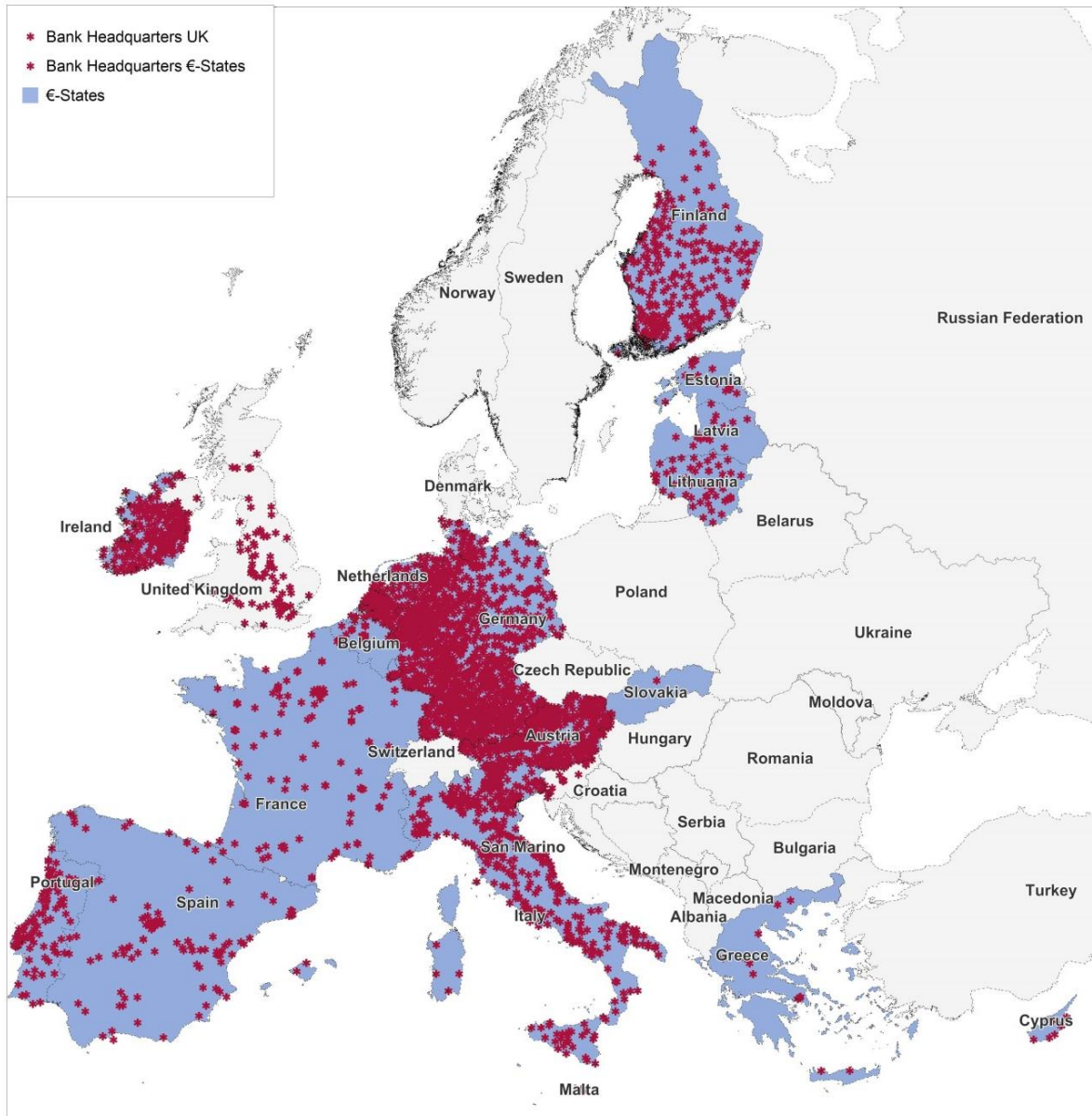


Source: British Business Bank 2016: 74

The traditional classification between bank-based and market-based systems is still useful for approaching the diversity in banking and financial systems, as suggested by the lending figures presented above. However, this traditional classification cannot distinguish within bank-based finance, which is why, according to Hardie et al. (2013), the social sciences have been unable to identify the pronounced differences and changes within the banking sector that eventually caused the financial crisis (Beyer, 2009; Hardie and Howarth, 2013). As suggested in Gärtner (2013a), there is a range of alternative taxonomies and concepts to distinguish between financial and banking system, from which we concentrated on decentralised versus centralised banking systems. Map 1 shows substantial differences in the spatial allocation of banks' headquarters for the Euro states in 2014 and the UK in 2017. Austria, Germany, Ireland, Italy and the Netherlands have a rather decentralised allocation of headquarters. Western Germany is particularly full of banking headquarters, which are evenly regionally distributed. Furthermore, there is a kind of a regional bank belt stretching from northern Italy, across Austria (and Switzerland, though data is unfortunately missing) and western Germany to the Netherlands. In contrast, France, Spain, Belgium and the UK are seen as rather centralised in terms of their bank headquarters. The business lending figures presented above suggest that decentralised banking systems show less volatile credit value development, though France and Ireland

stand out as exceptions. In Ireland, the high number of banking headquarters is predominantly caused by the 421 credit unions, which account for just \$14.1 billion in savings and 4.5 billion loans (World Council of Credit Unions, 2015)⁴. Therefore, Ireland's banking system tends to be more centralised than suggested by viewing Map 1.

Map 1: Bank headquarters locations in the Euro countries in 2014



Own map, source: ECB 2014, Bank of England 2017c

⁴ The nearly 400 credit unions in the United Kingdom do not count as MFIs because they have no banking licence, which is why Map 1 does not display their headquarters

4. Distance in lending in Germany, the UK and Spain

The previous section identified differences in business lending patterns and degrees of centralisation in various European countries. This section focuses on the three countries under close study, examines operational and functional distance with quantitative indicators (measuring distance) and presents and compares the qualitative distance classification from the country case studies (approaching distance).

Measuring distance

Measuring distance for the three countries statistically is rather difficult. To approach the operational distances, we looked at the geographical distribution of the banks' employees. The use of employment data to spatially compare financial systems is still new (for the first applications, see Gärtner, 2011; Wójcik and MacDonald-Korth, 2015). Unlike other indicators, employment data are often available at small scales, such as at the scale of districts and towns, for example (NUTS 3). This makes it possible to analyse the spatial concentration of the financial industry in each city by using the spatial concentration index (SCI). We used the industrial classification "financial service", which does not consider self-employed people. The SCI compares the share of employees in finance to the rest of the economy of one region with the share of employees in finance to the rest of the economy of the entire country. See the following formula:

$$SCI_j = \sum_i \left| \frac{b_{ij}}{B_i} - \frac{b_{.j}}{B_{..}} \right| * 0,5$$

b_{ij} = Number of employees sector i, region j

B_i = employees sector i

$b_{.j}$ = all employees region j

$B_{..}$ = all employees

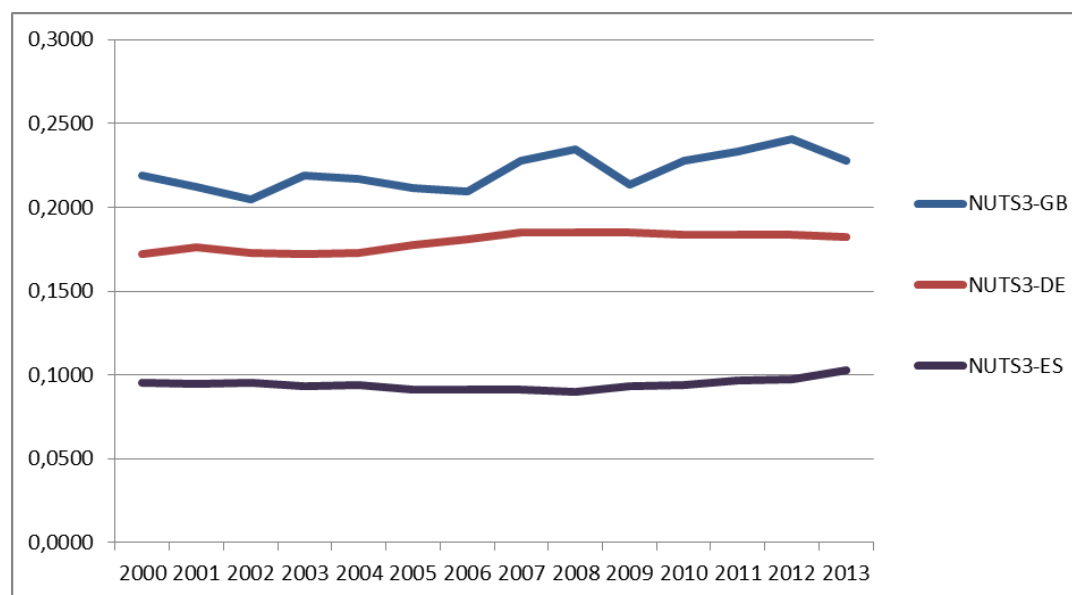
Figure 7 displays the SCI for the UK, Spain and Germany. The indicator ranges from $0 < 1$. An index value of 1 would indicate that all financial service employees are located in one region. According to this analysis, the banking industry of the UK, i.e., financial service activities, is the most concentrated, followed by Germany and Spain. Furthermore, the dynamic perspective shows a trend of spatial concentration after the financial crisis in Spain. In the UK, a sharp concentration of financial service activities is apparent between 2008 until 2012, though this development reversed in 2013.

Applying the SCI for cross-country comparison to identify differences in the centralisation of the banking industry is methodologically challenging. Aside from problems of the comparability of the employment data⁵, the different sizes of the countries and the numbers of regions influence the SCI. A higher number and smaller size of regions tends to raise the SCI. We have taken data from the NUTS 3 level in each country. Germany had 402 regions with 200,000 inhabitants on average at the NUTS 3 level in 2013. The UK had 128 regions with 438,000 inhabitants on average, and Spain had only 52 regions, in this case provinces, with an average of 761,000 inhabitants. Therefore, the SCI tends to underestimate the concentration of bank employees in Spain compared with Germany, with the UK positioned in the middle. Besides this statistical effect, the spatial concentration of bank em-

⁵ Germany's Federal Employment Agency and Spain's Ministry of Employment and Social Security use registry data from social security, whereas UK's office for National Statistics uses survey data.

employees may still be lower in Spain compared with Germany because Spain has the densest branch network of all three countries (Handke, 2009; Gärtner and Fernandez, forthcoming).

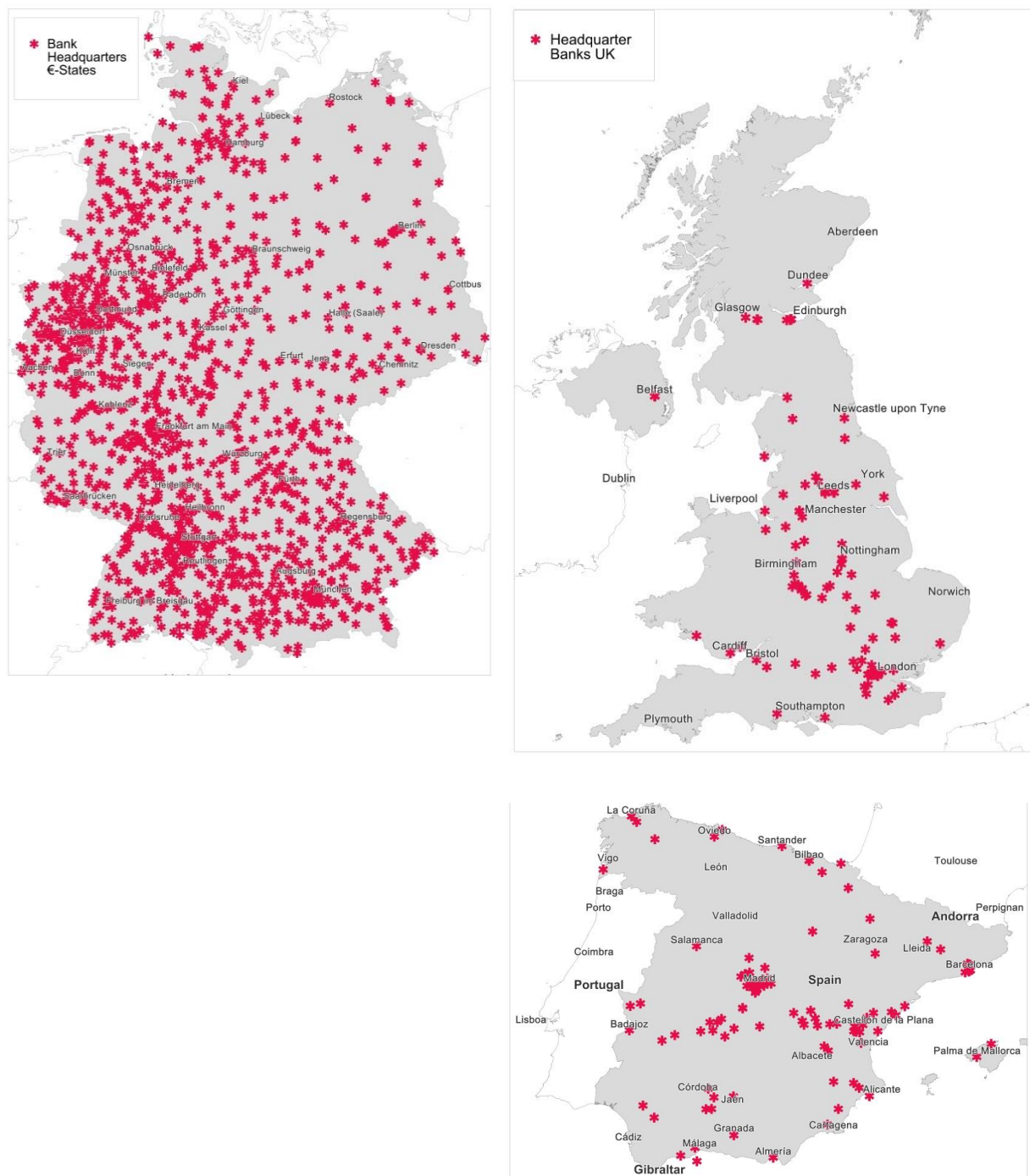
Figure 7: The spatial concentration index: a cross-country comparison



Own calculation, sources: Federal Employment Agency (DE), Office for National Statistics (UK), Ministry of Employment and Social Security (ES)

To approach functional distance, the spatial distribution of the headquarters in the three countries studied is displayed in Map 2. This clearly shows the decentralised distribution of bank headquarters in Germany, especially in western Germany. This observation is underlined by a simple measure of concentration. Table 1 and Figure 8 present the percentage of banks located in the three most important banking centres in terms of the number of headquarters. Of the three countries studied, the UK is the most spatially concentrated in terms of headquarters (over 74% of the banks have their head office in London). When comparing Europe-wide, the small countries of Slovakia, Belgium, Cyprus, Luxemburg and Slovenia have higher headquarter concentrations than the UK. Spain occupies an intermediate position, as approximately 50% of all headquarters are located in Madrid. Germany takes second-to-last place. Only headquarters in Ireland are more decentralised. This observation is related to the existence of very small credit unions, which have MFI status there (see above).

Map 2: Bank headquarters location in Germany, the UK and Spain



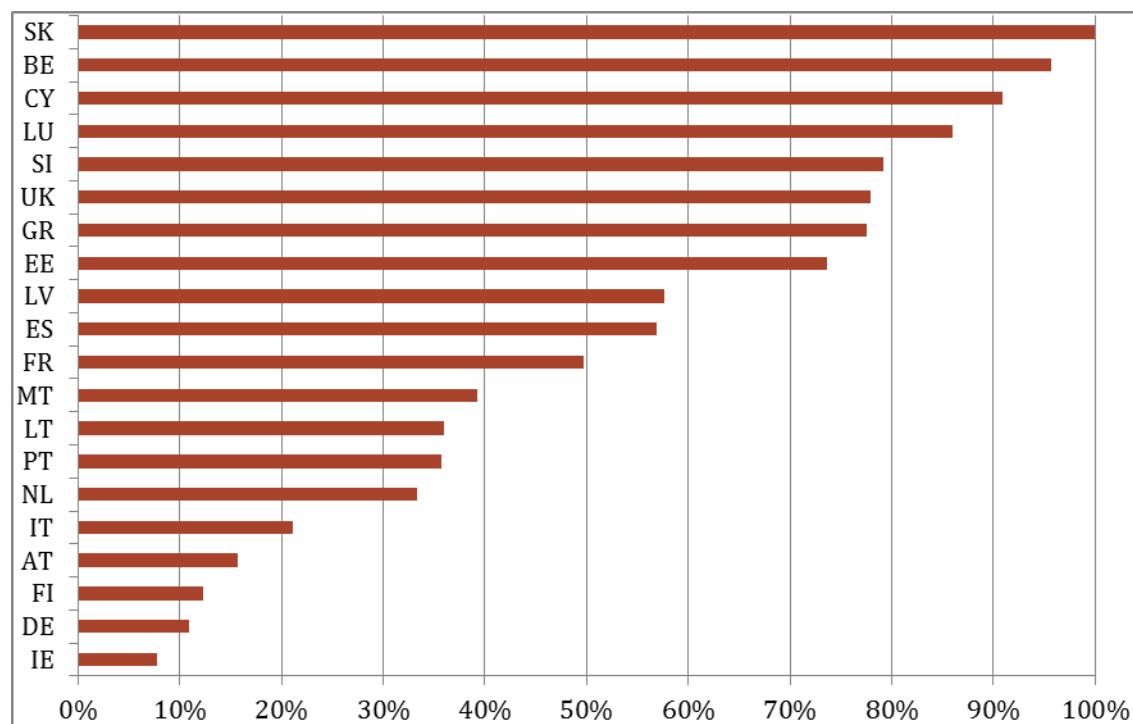
Own map, source: ECB 2014, Bank of England 2017c

Table 1: Concentration of headquarters in the top 3 financial centres

Country	1. centre	2. centre	3. centre	Sum	Name of 1. centre	Name of 2. centre	Name of 3. centre
SK	96.29%	3.7%		99.99%	Bratislava	Zilina	-
BE	75%	16.8%	3.9%	95.7%	Brussels	Antwerp	Ghent
CY	52.72%	36.36%	1.81%	90.89%	Nicosia	Limassol	Famagusta
LU	83.21%	2.09%	0.69%	85.99%	Luxembourg	Strassen	Eschsur-Alzette
SI	54.16%	16.66%	8.33%	79.15%	Ljubljana	Maribor	Kranj
UK	74.38%	2.2%	1.37%	77.95%	London	Edinburg	Belfast
GR	70%	5%	2.50%	77.5%	Athens	Piraeus	Alexandroupolis
EE	60.52%	10.52%	2.63%	73.67%	Tallinn	Tartu	Saku
LV	54.23%	1.69%	1.69%	57.61%	Riga	Jelgava	Cēsis
ES	50.45%	3.66%	2.75%	56.86%	Madrid	Barcelona	Bilbao
FR	46.84%	1.89%	1.05%	49.78%	Paris	Lyon	Marseille
MT	32.14%	3.57%	3.57%	39.28%	Sliema	Tarxien	Luqa
LT	25.84%	7.86%	2.24%	35.94%	Vilnius	Kaunas	Klaipėda
PT	29.8%	5.29%	0.66%	35.75%	Lisbon	Porto	Coimbra
NL	28.7%	3.7%	0.92%	33.32%	Amsterdam	Utrecht	The Hague
IT	15.67%	4.56%	0.91%	21.14%	Milan	Rome	Naples
AT	12.75%	1.57%	1.43%	15.75%	Vienna	Graz	Linz
FI	10.3%	1.37%	0.68%	12.35%	Helsinki	Espoo	Tampere
DE	7.09%	2.05%	1.77%	10.91%	Frankfurt am Main	Munich	Hamburg
IE	3.19%	3.19%	1.36%	7.74%	Dublin	Cork	Limerick

Own table, source: ECB 2014, Bank of England 2017c

Figure 8: Percentage of bank headquarters concentrated in the top 3 financial centres

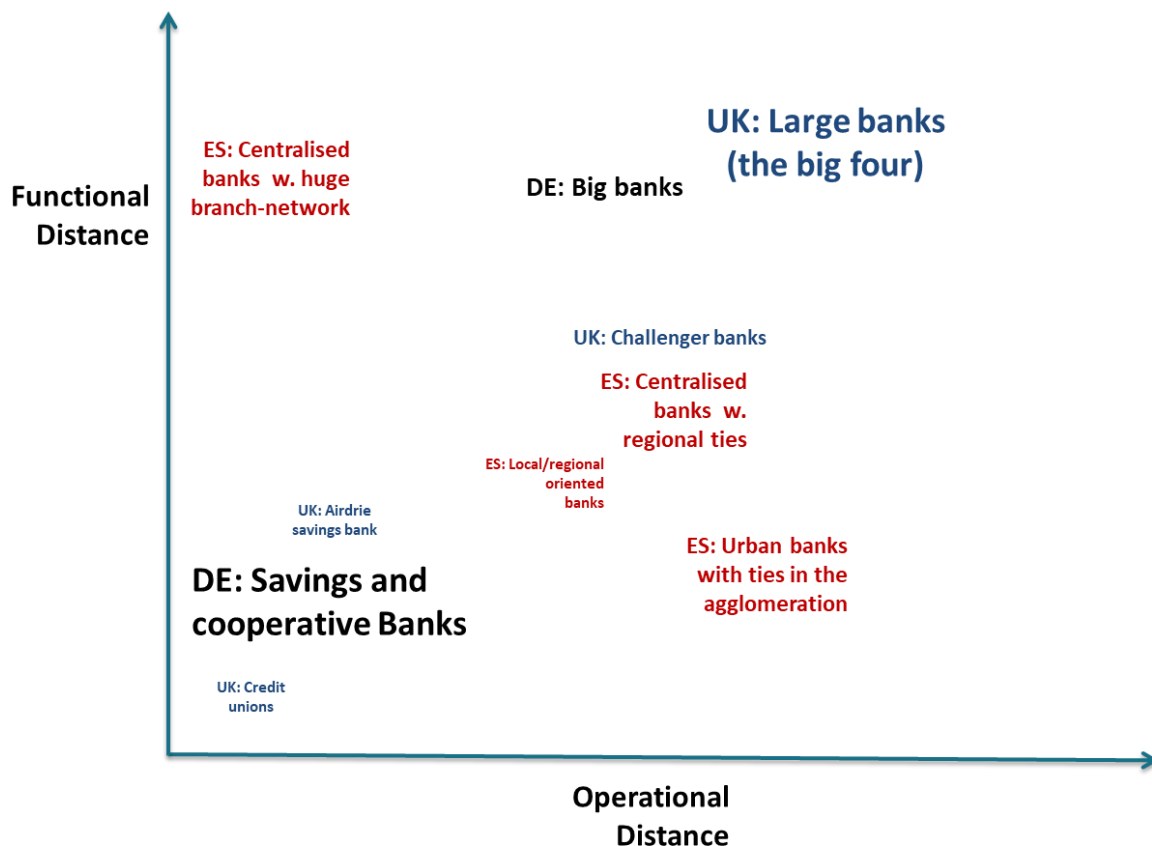


Own figure, source: ECB 2014, Bank of England 2017c

Approaching distance

Approaching distance in lending with the location of headquarters and employees only tells half the story at best, because as we outlined in Section 2, banking regulation and advances in ICT, especially rating and scoring systems, could potentially reduce local decision-making authority for regional banks as well. Furthermore, large banks may delegate decision-making authority to their local branches and a purely metric understanding of distance is inadequate for explaining soft information transmission between actors. Therefore, we researched the organisation of lending decision-making for exemplary banking categories (as well as other financial providers without a banking licence in the UK) in order to determine the operational and functional distance whence these banks conduct their SME lending decisions. In doing so, we also considered other forms of proximity, especially social and organisational embeddedness. To this end, we conducted interviews, participant observations and desk research in the three countries under study and triangulated the qualitative findings with the quantitative results presented in the previous section. Figure 9 reports the outcome of the analysis for Germany (DE), Spain (ES) and the UK. The operational distance is marked on the x-axis and the functional distance appears on the y-axis. The positions in the figure represent heuristic estimations and have not been calculated. To give an impression of the importance of the banking categories, the font size illustrates the approximate volume of loans to business.

Figure 9: Operational and functional distance in Germany, Spain and the UK for exemplary categories of banks (font size illustrates volume of loans to business)



Own figure

For Germany, the situation is quite clear (see Figure 9). Here we can summarise the more than 1,400 regional savings and cooperative banks in one group that lend at short operational distance

(many branches) and short functional distance (each bank decides locally) and have a high market share in business finance. The second group in Germany are the commercial banks (above all the four big banks, especially Deutsche Bank and Commerzbank). Though more focused on urban areas, they still have a broad branch network so that differences in operational distance tend to be less pronounced compared with savings banks and cooperative banks and the key difference lies in functional distance. Here our in-depth comparison suggests that the big bank studied tends to decide with much longer functional distance when soft information matters most, as compared with the savings bank analysed. This is the case when lending to financially distressed and informationally opaque SMEs (Flögel, 2018). The differences in operational distance are less pronounced because both savings banks and big banks strive for relationship banking and only serve SMEs in selected (larger) branches (Flögel and Gärtner, forthcoming-a, though see Flögel and Zademach 2017 for a detailed discussion).

In Spain, no clear distinction is possible between the categories of banks regarding distance. In fact, we could identify at least four groups. The first consists of local and regionally oriented banks. In particular, they include the two savings banks still in existence and some cooperative banks. Cooperative banks in Spain are also characterised by heterogeneity. Some operate on a national level, others are specialised in the agricultural sector, whilst yet others are oriented locally and operate as universal banks in their region, similarly to most German cooperative banks. We classified these kinds of banks within the group of local and regional banks as they show similarities to German savings and cooperative banks. Compared with this first group, the second group (centralised banks with regional ties) shows a slightly longer operational and functional distance. This second group consists of centralised banks with strong regional ties in some regions. These banks hold decision-making authority in (home) regions where they have high market shares. Former savings banks and commercial banks with high market shares in specific (home) regions also belong to the second group. The third group consists of urban banks with ties in the agglomerations and the smallest branch network; they present a medium-long functional distance. The strategy of these banks is to focus on medium-sized enterprises located in highly populated urban areas with a functional distance that is shorter than the operational distance. Centralised banks with a huge branch network but less local decision-making power belong in the group of banks with short operational distance but long functional distance. They have developed a dense branch network but show substantial functional distance. Depending on the strategy of the bank, the local branches have some lending authority (Gärtner and Fernandez, forthcoming).

For the UK, hardly any decentralised banks exist. The Scottish Airdrie Savings Bank was the last existing regional trustee savings bank (TSB), though it went out of business in 2017. To account for any regional banking, we have included in the analysis other financial providers, such as credit unions and responsible finance providers. Even so, hardly any short-distance finance providers exist, indicating that the UK has a highly centralised banking system. Credit unions and, depending on the scheme, responsible finance providers, can also be considered short distance-lenders. However, in terms of credit volume they lend much less than £500 million to business in total (Muqtadir, 2013). The bulk of lending is conducted by the big five (international) commercial banks (the big four plus Santander Group), which run most branches (British Business Bank 2016; *The Daily Telegraph*, 2017). According to the interview results, these banks decide at a very long functional distance, meaning that they delegate very limited authority to their branches and may also have long operational distance to SMEs, because unlike German big banks (Flögel and Zademach, 2017), SMEs do not necessarily have designated customer advisors (which suggest low organisational and social embeddedness). One interesting group of banks are the so-called challenger banks. Though they are private commercial banks, and some are even foreign, they tend to operate in shorter operational and functional distance than the domestic big four. For example, the Swedish Handelsbanken explicitly dele-

gates substantial credit-granting authority to its branches in order to allow customer advisors to consider soft information and local knowledge in the lending decision-making process (Kroner, 2009; Flögel and Gärtner, forthcoming-b).

Overall, the comparison of qualitative and quantitative distance confirms our expectations. Germany has a large decentralised bank sector. More than 1,400 regional and independent savings and cooperative banks operate in Germany, which together grant almost 50% of all business loans. In contrast, the importance of decentralised banks fell in Spain, where only a few short-distance banks, including just two “real” savings banks and some cooperative banks, survived liberalisation. However, it is important to note that savings and cooperative banks have never been as important in Spain as in Germany. The UK, where the last regional dual-purpose bank had to close down in 2017, has the most centralised banking system concerning business finance. The lack of decentralised banking in the UK also became noticeable in the index of concentration of bank headquarters in London, where almost 75% of the UK’s banks are located. Interestingly, some private commercial banks exist or have been established in Spain and the UK (the case of most challenger banks), which lend at a shorter functional distance than the larger established commercial banks.

5. Factors of success of decentralised banks

Considering the substantial differences in the centralisation of banking systems, we ask why such differences exist after all. Since all three countries are developed countries in Europe and are even subject to common European banking supervision, inquiring into the factors behind the success of decentralised banking is not irrelevant. Our findings from the cross-country comparison suggest the three following factors of success for decentralised banking.

I. Short distance and embeddedness in (supportive) regional bank associations

As outlined above, one advantage of decentralised banking is the short distance between creditor and debtor, which allows credit decisions to be made whilst taking into account soft and local information (Stein, 2002; Pollard, 2003; Berger et al., 2005; Alessandrini et al., 2009). Although this field of research is not yet settled, empirical studies suggest a positive association between lending at a short distance and less financial constraints on firms (Agarwal and Hauswald, 2007; Alessandrini et al., 2009; Lee and Brown, 2017; Zhao and Jones-Evans, 2017; Papi et al., 2017). Furthermore, short-distance lending tends to be profitable for regional banks (Ayadi et al., 2009; Beck et al., 2009; Behr et al., 2013), as they can capitalise on information advantages by lending to more informationally opaque firms, which are willing to pay higher interest rates (Flögel, 2018).

However, lending at a short distance to clients comes at the price of a long distance to financial centres. Far from the financial centres, banks at decentralised locations have the disadvantage of not being close to other banks, rating agencies, specialised lawyers and other stakeholders. This poses the risk of depriving them of specific (financial) knowledge, skills and access to services. A well-organised association of regional banks can create proximity for its member banks and facilitate knowledge spillover and learning (i.e., access to the knowledge base of the financial centres) in geographically remote regional banks as well. In this regard, it is well established that banking associa-

tions enable small banks to achieve economies of scale “in a wide variety of activities” (Bülbül et al., 2013; Gärtner and Flögel, 2013; 2018; Greeham and Prieg, 2015). Therefore, in addition to short functional and operational distance, embeddedness within supportive associations of regional banks tends to be one factor of success of decentralised banking, which we have compared in the three countries studied in depth.

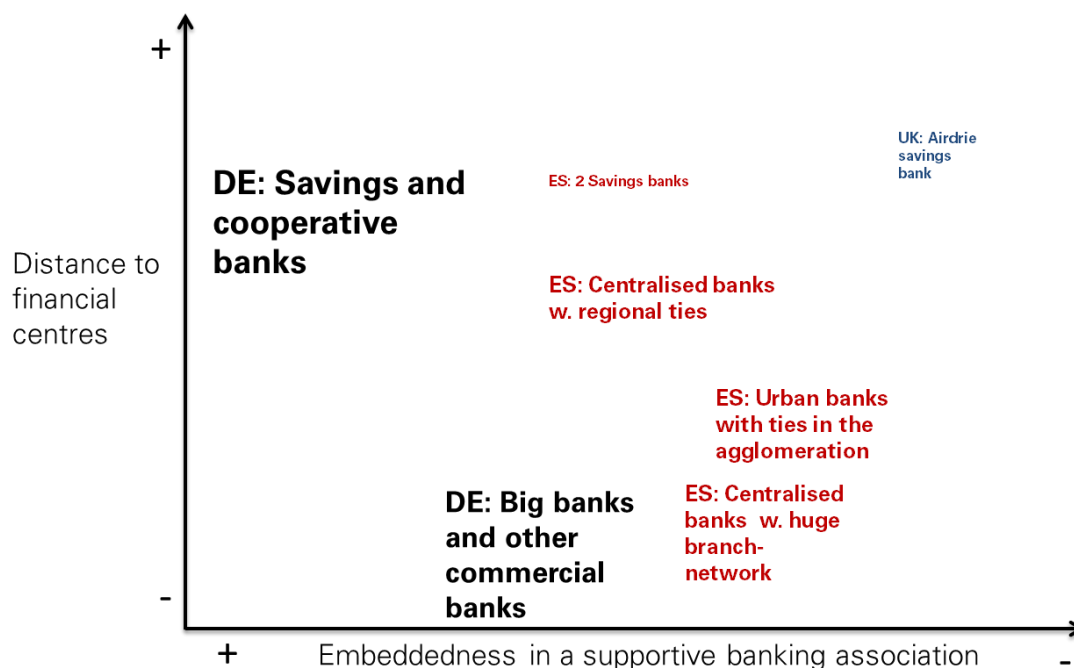
Our comparison of banking associations makes it clear that Germany differs from Spain and the UK. Trade associations and *Verbundgruppen*, meaning associations of firms that are legally independent and owned with the aim of inter-firm cooperation (Ausschuss Definition zu Handel und Distribution 2006: 72), are a common form of commercial organisation in Germany, especially for retail (Flögel et al. 2013). Banking associations are aligned with the pillars of the banks, as banks are embedded in their association exclusively. Savings banks belong to their corresponding regional savings bank association and the Deutscher Sparkassen- und Giroverband (DSGV) and form the savings bank financial group. Cooperative banks are embedded in the cooperative bank financial group and association. The Bundesverband Deutscher Banken (BDB) and its regional subsidiaries represent private banks (Flögel and Gärtner, forthcoming-a). Such a pillared association system no longer works for Spain in the same way, as many former savings banks are still members of the Spanish savings banks association (SECA), but have ceased to be publicly owned savings banks (Gärtner and Fernandez, forthcoming). In the UK, the British Bankers Association (BBA) represents most banks. Larger building and loan societies are also members of the BBA. The last savings bank, “Airdrie”, has been a member as well. Other trade associations for banks are rather topic-specific, like asset-based finance association, and most banks tend to be members of several associations simultaneously (Flögel and Gärtner, forthcoming-b).

In Germany, savings bank associations and cooperative bank associations are both very powerful. They help the small and regional banks to operate on economies of scale and scope. For example, associations provide solutions to cope with new banking regulation and their affiliated companies offer many services and tools, like banking ICT and rating systems. The savings bank association in Spain was never similar to its counterpart in Germany. This relationship can be illustrated by the fact that the DSGV and 12 regional savings bank associations in Germany had 3,217 employees in 2015, whereas CECA, the Spanish equivalent, had four employees in 2015 (Gärtner and Fernandez, forthcoming). This difference cost support to savings banks in Spain, which could not develop at the same pace and whose development depended more on regional conditions, i.e. path dependence, and individual managers, which were partly under the influence of regional politicians. In the UK, no association for decentralised banks exists and the BBA offers rather general support in terms of lobbying for all member banks and in providing meetings and seminars.

Figure 10 summarises these findings on associations (x-axis of Figure 10) in relation to the distance to financial centres (y-axis of Figure 10). Due to the strong embeddedness in supportive bank associations and long distance to financial centres, we positioned Germany’s savings and cooperative banks in the top left-hand side of the figure. The bottom of Figure 10 displays the centralised banks at a short distance to financial centres. Though these banks are members of banking associations in Germany, Spain and the UK alike, the associations only play a limited role in providing knowledge and services. This limited role is also explained by the fact that the members (e.g. the four German big banks) are in direct competition with each other, which hinders close cooperation within the banking association. In contrast, regional market segmentation, conditioned by the regional principle, effectively reduces competition within the savings bank and cooperative bank financial groups in Germany. Finally, the top-right corner of Figure 10 includes decentralised banks distant from the financial centres that do not have corresponding banking associations, like Airdrie Savings Bank and the two remaining “real” savings banks in Spain.

Figure 10: Distance to the financial centres and embeddedness in supportive banking association

(Heuristic classification)



Own figure

It is telling that Airdrie Savings Bank needed to close in 2017, despite the fact that the bank was a member of the BBA and the building and loan society. None of these associations could support the small and “exotic” TSB to cope with the increased complexity in banking regulations and the low interest rate environment (Flögel and Gärtner, forthcoming-b). Therefore, the Airdrie example supports the idea that small decentralised banks must be embedded in supportive banking associations if they are to succeed (Bülbül et al., 2013; Gärtner and Flögel, 2013; 2018; Greeham and Prieg, 2015). Associations are tending to become even more important, as the complex regulatory environment (Basel III) penalises small banks comparatively more than large banks because the implementation of new regulations involves substantial fix costs (Alessandrini et al., 2016). To protect local and community banks, the United States implemented a dual-regulatory system that differentiates between large banks and community banks. Community banks have smaller capital requirements and less planning and reporting duties than large banks in the United States (Yellen, 2014; Alesandrini et al., 2016). Supportive associations could help to implement regulation requirements in small regional banks, which cannot afford to employ many experts for reasons of cost efficiency⁶. Therefore, embeddedness in supportive associations is one factor that explains the success of decentralised banking, especially in the complex regulatory and low interest rate environment, in addition to the short operational and functional distance.

II. Real decentralised universal banks

A review of the historical development of dual-purpose banks, i.e. savings banks, in Spain, Germany and the UK, suggests that the time when savings banks become universal banks, i.e. when

⁶ However, the support that small bank associations can provide to their members to cope with regulations is limited because banking regulations require each bank to fulfil the regulatory requirements (e.g. reporting and risk analysis) on their own.

they are given permission to lend to customers, is decisive for their survival and significance in today's banking systems. In all three countries, savings banks were established in the 19th century to help the poor to become more financially independent by encouraging savings "for bad times" (Brämer et al., 2010; WSBI, 2017). In Spain and the UK, savings banks have been restricted to riskless investments of the clients' deposits, especially in government bonds (Batiz-Lazo and Maixe-Altes, 2006). In the UK, lending to clients was only first permitted in 1976, and in Spain this came one year later, in 1977. With the Fuentes Quintana Decree, savings banks were given permission to offer the same services as commercial banks, including lending. In contrast, savings banks in Germany were founded as publicly supported self-help organisations, not only to help the poor to save but also to support small local businesses with loans (DSGV, 4 March 2013, Völter 2000). Therefore, the very first public savings bank, Spar- und Leih-Casse Göttingen, also granted loans, as the name Leih-Casse suggests. In Germany, the large commercial banks were latecomers to SME lending, as they only targeted small private and business clients after World War II (Gall et al., 1995; Historische Gesellschaft der Deutschen Bank e.V., 2009).

One reason why savings banks were prohibited from lending in the UK and Spain was to protect the savings of its (poor) clients. In Germany, savings banks have been (and still are) tightly linked to the municipal authorities, which protected the savers' deposits in case of bankruptcy. The credit institutions' attachment to the municipalities is expressed by two rules: the maintenance obligation (*Anstaltslast*) and the liability guarantee (*Gewährträgerhaftung*). The maintenance obligation means that the municipal authorities must secure the economic basis of their savings bank and compensate any financial losses, meaning that the authorities are liable in the internal relationship with their bank. The liability guarantee secures the deposits of the investors, meaning the external relationship. As the result of a competition control process conducted by the European Commission, both rules were abolished in 2005. However, even without these rules, savings banks in Germany are public institutions and therefore bound to the municipal authorities. The administrative board of each savings bank is appointed by the municipal council and acts as a supervisory body, and the employed CEO is personally responsible for managing the savings bank. These strong bonds explain why, despite the repeal of both rules, municipal authorities tend to be in charge of their savings banks. However, due to joint liability agreements within the savings bank financial group, bailouts by the municipal authorities are unlikely. Rather, a range of cases is known where savings banks had to merge to overcome financial troubles.

The time when savings banks became universal banks was crucial for two interrelated reasons. As outlined above, when lending at a short distance, banks gain advantages in soft information processing, especially when lending to SMEs, which tend to be profitable for regional banks. Regional savings banks that have not been allowed to lend have been denied the opportunity to use these soft information advantages and have consequently missed out on sources of income from SME lending. In this vein, Airdrie Savings Bank tried to increase its credit to business, which was a crucial strategy in an attempt to prevent bankruptcy. The time when lending is allowed is significant, because short distance lending implies relationship lending, where close business relationships develop over time and only after some time information advantages materialise, meaning that information asymmetries between borrower and bank are reduced (Petersen and Rajan, 1995; Boot, 2000; Handke, 2011). Time dependency suggests that newcomers in SME lending face serious information asymmetries at first, regardless of how short the distance in lending. The same relation tends to hold for regional banks that extend lending to new regions, as was observed with Spanish savings banks following the abolition of territorial restrictions (Gärtner and Fernandez, forthcoming). Furthermore, the permission to lend and publicly guarantee clients' deposits was one important historical reason why savings banks were able to develop into strong universal banks in Germany. Today, these implicit guarantees

tend to be less important for German savings banks and the financial crisis has demonstrated that large banks also enjoy state guarantees in the UK, Spain and Germany when they are too big to fail.

III. Regional principle, regional embeddedness and regional balance

Historically regulations have restricted the business activities of savings banks to their regions in many countries. In Germany, this restriction still exists with the so-called regional principle (enacted in the savings bank legislation of the federal states [Bundesländer]). The principle obliges savings banks to place branches only within the territory of their authority (the responsible municipalities) and to lend to institutions, companies and private individuals in that territory first. Unlike in Germany and a few other countries, many banking systems have undergone large-scale legal reforms, reorganisations and (partial) privatisations (Engerer and Schrooten, 2004; Hakenes and Schnabel, 2005). This liberalisation was in line with international policy. Since the late 1970s, international institutions (e.g. the International Monetary Fund, the World Trade Organisation) and the European Union have advocated for deregulation, privatisation and open financial markets as a way to, as they believe, increase efficiency and thereby increase general wealth (Gärtner 2013a). In particular, the goals of financial integration, the creation of large banks (to have major transnational players) and the increase of competition were supported by the European Commission (Commission of the European Communities, 2009) and the European Central Bank (Cabral et al., 2002). It has to be noted at this point that banking markets had previously been regulated and/or financial institutions had been created in under-served (peripheral) regions in order to bring capital to disadvantaged regions (Myrdal, 1959: p. 42, Chick and Dow, 1988).

Now let us return to the countries compared. As described above, the regional principle still is valid for savings banks in Germany. Most cooperative banks geographically restrict their market area on a voluntary basis as well (Bülbül et al., 2013). Spain deregulated the banking market and abolished the regional principle with Royal Decree 1582 in 1988, just 11 years after savings banks were allowed to act as universal banks. The liberalisation of 1988 caused a geographical expansion of savings banks in new and distant markets and a reduction in the number of savings banks due to M&A and defaults. In the UK, there was no regional principle in existence for savings banks, although TSBs were integrated locally by their trustees. After World War II, banking regulations supported a concentration and upscaling of savings banks aimed increasing their efficiency, causing a sharp drop in the number of TSBs. The remaining 16 savings banks merged in 1983 in preparation for floating on the London stock exchange. Only Airdrie Savings Bank remained independent and trustee-based until it had to close in 2017.

One effect of the regional principle is that it checks capital mobility and ensures, in line with polarisation theory, that centripetal backwash effects are reduced (Chick and Dow, 1988; Dow and Rodríguez-Fuentes, 1997; Gärtner, 2008; Zademach, 2014). In this vein, the German regional principle aims to ensure that money saved in the region is used first and foremost by the savings bank to increase lending to the regional economy and to help the regional population⁷. If banks are not restricted to the region, the danger arises that the centres may absorb capital at the expense of the periphery or old industrial areas. Positive effects cumulatively reinforce successful (centre) regions and begin to diffuse into the surrounding areas once a certain level of concentration has been reached (Gärtner, 2009). As early as the 1950s, Myrdal recognised that “different studies in many different countries have shown how the tendency of the banking system to remove savings from poorer regions and invest them in richer and more advanced areas offering high and guaranteed

⁷ For this reason, the regional principle does not apply to the deposit business, “for money deposited from elsewhere also increases local lending potential” (Güde 1995: 42).

profits unless intervention forces it to act otherwise" (Myrdal, 1959: 26). Banks that are restricted to a regional market can slow cumulative causation and support regional savings-investment cycles, which helps peripheral regions to keep their capital.

However, regional savings-investment cycles can only work if peripheral regions have sufficient savings. People too poor to save money cannot save at their regional bank. It is generally assumed that profits of regional banks directly depend on the strength of the regional economy (Alesandrini and Zazzaro, 1999). A regionally segregated decentralised banking system "may not be an unmixed blessing to the periphery: while such a system may guard against a monetary outflow to the center, periphery banks are exposed to extra risk where peripheral regions have, as they tend to do, quite specialized and strongly cyclical economies" (Chick and Dow, 1988: p. 240). Therefore, banks in weak regions face higher risks and lower profit opportunities. As a result, they can only offer poor services that are a further burden on the already weak local economy. This relationship does not prove empirically true for Germany, however. Here, the regional banks are at least as successful in poor peripheral regions as in economically strong regions (Gärtner, 2008; Conrad, 2008; Christians, 2010; Christians and Gärtner, 2014). Several interrelated reasons are able to explain these counterintuitive empirical observations.

First is the existence of the regional principle that binds regional banks to their regions. The principle not only slows centripetal backwash effects, but also keeps functional distances short and allows regional banks to develop strong relationships with their regional customer base, which is especially possible in weak regions where there is less competition from national commercial banks. The regional principle also effectively reduces competition from other regional banks, as geographical extension of the market area is prohibited. Less competition is on the one hand associated with poor market outcomes for customers, in line with the structure-conduct-performance paradigm (Fischer and Pfeil, 2004). On the other hand, less competition strengthens banks' access to information and reduces information asymmetries to borrowers, according to the relationship banking theory (Petersen and Rajan, 1995). Both lines of argument potentially explain the success of regional banks in weak and peripheral German regions. Having market power makes business easier and allows the emergence of oligopoly rents. Informational advantages from relationship banking and from regional banks' high market shares in their peripheral region allow for superior screening and monitoring and potentially reduce credit default despite the difficult regional market conditions. In addition to the effects of competition, the aforementioned substantial regional redistribution mechanisms of the decentralised Federal Republic of Germany tend to guarantee a certain level of economic activities in all regions of Germany. Therefore, the combination of the regional principle (which causes regional market segregation), regional embeddedness (which reduces informational asymmetries of the decentralised banks) and region-balancing public policy (which guarantees a minimum of economic activities in peripheral regions) helps regional banks to be economically successful in all regions, including the peripheral and weak areas. It has to be noted in this context that the regional principle also reinforces the first factor of success, as reduced competition between regional banks supports close cooperation in a bank association.

6. Conclusions and lessons learned

As we have learned, embeddedness in a strong and efficient association is a factor behind the success of decentralised banks, together with short operational and (especially) functional distance. Furthermore, decentralised banking profits from the interplay of the regional principle (regional market segregation), regional embeddedness and a national system that balances regional disparities. Surprisingly, the time when regional savings and cooperative banks were allowed to lend tends

to be a factor explaining whether countries have decentralised or centralised banking systems. The long time that it took to legally allow the savings banks of Spain and the UK to offer loans made them latecomers to universal banking, whereas lending has always been part of the business of German savings banks. Therefore, savings banks in the UK and Spain could not capitalise on soft and local informational advantages in short distance lending, which had implications for both their profitability and corporate finances. To be clear, the fact that savings banks have never been as important for business loans in the UK and in Spain compared with Germany makes their decline or non-existence during the financial crisis less severe than would have been the case in Germany. Nevertheless, especially in the UK, the lack of any meaningful form of decentralised banking is seen as a major disadvantage in SME finance, and not just since the financial crisis.

At first glance, these success factors support Verdier's (2002: p. 20) conclusion that regional banks must be defended (by local governments) against competition from the centre to persist, as the cross-country comparison clearly confirmed the influence of politics. However, Verdier (2002) tends to underestimate the competitiveness of decentralised banking. He acknowledged but underrated the importance of better access to soft information due to short distances, which also enhances the profitability of regional banks. Moreover, he underrated supportive banking associations that give advantages to decentralised banks that only large banks from the centres enjoy otherwise. Therefore, one could modify Verdier's (2002) conclusion and assert that governments do indeed matter, but less so in preventing centralised banks from wiping decentralised banks off the market with overwhelming competitiveness. Rather, governments matter to protect decentralised banks from damaging their own factors of success by restricting them to their regional markets. In Spain, the abolishment of the regional principle tended to initiate the end of savings banks. Whilst no regional principle existed in the UK, the government actively supported the upscaling of regional TSBs and cooperative banks with the intention of supporting efficiency, which resulted in the extinction of decentralised and dual-purpose banks.

This conclusion suggests important lessons for **Germany's** decentralised banking system to persist: a decentralised banking sector needs fine-tuned regional balance mechanisms to enable a basic economic and social life in all regions. The success of decentralised banks in weak regions is also explained by the low interest deposits available there due to the balancing and redistribution system. However, this advantage has lost its value as a result of the current low interest rate environment. Both the customers (because of low income from interest on savings) and the regional banks therefore promote disintermediation, which threatens regional savings-investment cycles in the medium-term. This is a short-sighted strategy because regional refinancing guarantees the independence of regional banks. According to our cross-country comparison, the regional principle is the backbone of strong decentralised banking groups.

Without question, lower interest surplus and more complex regulation challenge regional banks disproportionately, where cost-cutting is needed. However, common cost-cutting instruments such as branch closures, mergers (upscaling) and cost reductions through standardisation endanger local decision-making power and tend to lengthen operational and functional distance. As indicated above, decentralised banks have advantages over their central competitors by lending at short distances to SMEs. If they can assess risks reliably on the basis of soft information in the business with less transparent SMEs, they benefit from the higher risk premiums in this segment, whose interest rate is relatively robust against changes in the general interest level. Accordingly, one must react appropriately to current challenges without losing the constitutive elements of decentralised banking.

Regarding decentralised banks in **Spain**, the first step has already been taken as the regional principle has been reinvented, though only for the last two "real" savings banks. However, the former savings banks that mainly merged into larger units and changed their legal forms are in part still kind of

dual-purpose banks, due to their (municipal authority) shareholders, and therefore interesting players. It is worth examining if some of them could become “real” savings banks again and reintroduce the regional principle. The question of banking associations will be crucial for the possible development of decentralised banks in Spain in the coming years. It should be studied whether it could be beneficial to establish a new association for “real” regional banks. The two remaining savings banks certainly face difficulties now that the savings bank financial group has drifted apart after the privatisation of the other savings banks. One possible way to help regional banks would be for the Caja Rural Group to develop into a strong network for all “real” decentralised banks in Spain. The Caja Rural Group asked the German cooperative bank association for advice and has created several companies to offer services to independent cooperative banks. For example, Rural IT provides technological outsourcing services for its members and RGA Insurance is the group’s insurance company. Furthermore, the Spanish Association of Cooperative Bank acts as a wholesale bank for the partners and manages the extra liquidity of the members of the cooperative banking group. The Spanish government (and the EU Commission) should show how they could support such a banking association development process.

In the **UK**, the debate over how to re-establish regional banking has intensified and three options are being debated: building up a new system from scratch with a new and strong association; regionalising the partly government-owned Royal Bank of Scotland Group to a network of regional stakeholder banks; or upscaling the rather decentralised credit unions and/or responsible finance providers to a meaningful decentralised banking group (Flögel and Gärtner, forthcoming-b). The last option tends to get the most support from the UK government, with new regulations for credit unions (allowing unions to conduct business lending and supporting upscaling and business extension by relaxing of common bond requirements and exposing them to new supervision). Upscaling should be undertaken with care, however, so as not to throw the baby out with the bathwater. In particular, our comparative findings advise the implementation of some kind of regional principle for credit unions and all other attempts to create decentralised banks.

In all three countries, one should think about a new scheme for SME finance. Though the German KfW and the other development banks (special purpose banks) offer a range of subsidised loans, guarantees, mezzanine finance and so on, these schemes can only partly overcome the problems associated with severe information asymmetries and correspondingly high screening and monitoring costs in business with small, new, high-risk or distressed firms. Therefore, compensation for banks’ screening and monitoring efforts (also for these cases where credit applications are rejected after an intensive examination) could substantially facilitate such firms’ access to finance and would support banks willing and able to use soft information for screening and monitoring, meaning short-distance banks. This compensation should be independent of loan size so that small firms, for which lending is most critical, could profit the most. Of course, such a scheme could face the problem of identifying whether banks really conduct an intensive and open screening or simply seek subsidies. As such, the scheme should not cover all screening costs, so as to prevent adverse initiatives. Still, such compensation is worth considering, as it could stimulate banks to shift their lending-decision processes to the regional level and oppose arguments for standardisation and centralisation in times of low interest rates.

Acknowledgements

We would like to acknowledge the financial support of the Hans-Böckler Foundation and thank all the participants in the empirical study as well as the advisory board of the project for their valuable comments on an earlier version of this article. Let us also acknowledge the excellent language support by Dustin Langan, Katharine Thomas and Sarah Wittig.

References

- Agarwal, S. and Hauswald, R. (2007): "Distance and Information Asymmetries in Lending" (Working Paper).
- Alessandrini, P. and Zazzaro, A., (1999): "A 'Possibilist' Approach to Local Financial System and Regional Development: The Italian Experience", in Martin, R. (ed.) 1999, *Money and the Space Economy*.
- Alessandrini, P.; Fratianni, M. and Zazzaro, A. (eds.) (2009): *The changing geography of banking and finance*. New York, NY.
- Alessandrini, P.; Fratianni, M.; Papi, L. and Zazzaro, A. (2016): "Banks, regions and development after the crisis and under the new regulatory system", in *Credit and Capital Markets – Kredit und Kapital*, 49(4), pp. 535-561.
- Alessandrini, P.; Presbitero, A. F. and Zazzaro, A. (2009a) "Global banking and local markets: a national perspective", in: *Cambridge Journal of Regions, Economy and Society*, 2 (2), pp. 173–92.
- Alessandrini, P.; Presbitero, A. F. and Zazzaro, A. (2010) "Bank size or distance: what hampers innovation adoption by SMEs?", in: *Journal of Economic Geography*, 10 (6), pp. 845–881.
- Allen, F. and D. Gale (2001), *Comparing financial systems*. Cambridge, Mass.: MIT Press.
- Ang, J. B. (2008): "A survey of recent developments in the literature of finance and growth", in: *Journal of Economic Surveys* 22 (3), pp. 536–576.
- Arcand, J. L.; E. Berkes and U. Panizza (2011), "Too Much Finance?" (Working Paper).
- Audretsch, D. B. and Lehmann, E. E. (2016): *The Seven Secrets of Germany: Economic Resilience in an Era of Global Turbulence*. New York.
- Ausschuss für Definitionen zu Handel und Distribution (2006): *Katalog E. Definitionen zu Handel und Distribution*. Köln.
- Ayadi, R., Schmidt, R. H.; Valverde, S. C.; Arbak, E. and Fernandez, F. R. (2009): *Investigating Diversity in the Banking Sector in Europe: The Performance and Role of Savings Banks*. Published by: Centre for European Policy Studies. Brussels.
- Bank of England (2017a): Statistics A Money and lending. Available online at: <https://www.bankofengland.co.uk/mfsd/iadb/index.asp?first=yes&SectionRequired=A&HideNumbers=-1&ExtraInfo=false&Travel=NIxSTx>
- Bank of England (2017b): Explanatory Notes – Monetary financial institutions loans to non-financial businesses, by size of business. Available online at: http://webarchive.nationalarchives.gov.uk/20170831105230/http://www.bankofengland.co.uk/statistics/Pages/iadb/notesia_db/loans_to_non-financial_businesses.aspx
- Bank of England (2017c): List of reporting MFI. Available online at: <http://www.bankofengland.co.uk/statistics/Pages/reporters/institutions/default.aspx>
- Bathelt, H.; Henn, S. (2014): "The Geographies of Knowledge Transfers over Distance: Toward a Typology", in *Environment and Planning A* 46(6), pp. 1403-1424.
- Batiz-Lazo, B. and Maixe-Altes, J. C. (2006). *Organisational change and the computerisation of British and Spanish savings banks*, pp. 1965-1985.
- Beck, T. (2012): "The role of finance in economic development: benefits, risks, and politics", in D. C. Mueller (ed.): *The Oxford handbook of capitalism*. Oxford, New York, pp. 161–203.
- Beck, T.; Hesse, H.; Kick, T. and Westernhagen, N. (2009): "Bank ownership and stability: Evidence from Germany" (Working Paper).
- Behr, P.; Norden, L. and Noth, F. (2013): "Financial Constraints of Private Firms and Bank Lending Behavior", in *Journal of Banking and Finance* 37, pp. 3472–3485.

- Berger, Allen; Miller, Nathan; Petersen, Mitchell; Raghuram, Rajan and Stein, Jeremy (2005): "Does Function Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks", in *Journal of Financial Economics* (76), pp. 237–269.
- Beyer, H. G. and Schwefel, H. P. (2002). "Evolution strategies: a comprehensive introduction", in *Natural Computing*, 1(1), pp. 3-52.
- Bickenbach, F.; Bode, E.; Dohse, D.; Hanley, A. and Schweickert, R. (2009): *Adjustment After the Crisis – Will the Financial Sector Shrink and Entrepreneurship Boom?* Institut für Weltwirtschaft Kiel. (Kiel Policy Brief, 12).
- Bijlsma, M. J. and Zwart, G. T. J. (2013): "The changing landscape of financial markets in Europe, the United States and Japan" (Bruegel Working Paper, February 2013).
- Bone, G. (2016): Banking for the Common Good. Laying the foundations of safe, sustainable, stakeholder banking in Scotland. (A discussion paper by: nef, Friends of the Earth Scotland, Move your money, common weal).
- Boot, A. W. A. (2000): "Relationship Banking: What Do We know?", in *Journal of Financial Intermediation* 9 (1), pp. 7–25.
- Boschma, R. (2005): "Proximity and Innovation: A Critical Assessment", in *Regional Studies* 39 (1), pp. 61–74.
- Brämer, P., Gischer, H., Pfungsten, A., and Richter, T. (2010). "Der öffentliche Auftrag der deutschen Sparkassen aus der Perspektive des Stakeholder-Managements. Zeitschrift für öffentliche und gemeinwirtschaftliche Unternehmen", in *ZögU/Journal for Public and Nonprofit Services*, pp. 311-332.
- British Business Bank (2016): Small Business finance markets report 2015/16. Available online at: <http://british-business-bank.co.uk/research/small-business-finance-markets-report-201516/>
- Bruff, I. and Horn, L. (2012): "Varieties of capitalism in crisis?", in *Competition & Change* 16 (3), pp. 161–168.
- Brunnermeier, M.; Crockett, A.; Goodhart, C. A.; Persaud, A. and Shin, H. S. (2009): *The fundamental principles of financial regulation*. London.
- Bülbül, D.; Schmidt, R. H. and Schüwer, U. (2013): "Savings Banks and Cooperative Banks in Europe" (SAFE policy papers 5).
- Bundesagentur für Arbeit (2014): Employment statistics (unpublished database).
- Cabral, I.; Dierick, F. and Vesala, J. M. (2002): "Banking integration in the euro area" (ECB Working Paper).
- Capelle-Blancard, G. and Labonne, C. (2011): "More Bankers, More Growth? Evidence from OECD Countries", CEPII (CEPII Working Paper, 2011/22).
- Chick, V. and Dow S. C. (1988): "A post-Keynesian perspective on the relation between Banking and Regional Development", in P. Arestis (ed.): *Post-Keynesian monetary economics*. Aldershot, Hants, pp. 219–250.
- Christians, U. (2010): "Zur Ertragslage der Sparkassen und Genossenschaftsbanken in den strukturalarmen Regionen Ostdeutschlands" in: U. Christians and K. Hempel (eds.): *Unternehmensfinanzierung und Region. Finanzierungsprobleme mittelständischer Unternehmen und Bankpolitik in peripheren Wirtschaftsräumen*. Hamburg, pp. 231–253.
- Christians, U. and Gärtner, S. (2014): "Kreditrisiko von Sparkassen in Abhängigkeit vom regionalen Standort und geschäftspolitischen Variablen", in *Zeitschrift für das gesamte Kreditwesen* 67 (12), pp. 620–626.
- Commission of the European Communities (2009): "European Financial Integration Report 2008", in *Commission Staff Working Document*. Brussels.
- Conrad, A. (2008): "Banking in schrumpfenden Regionen. Auswirkungen von Alterung und Abwanderung auf Regionalbanken", in "Thünen-Series of Applied Economic Theory" (Working Paper No. 94).
- Degryse, H.; Kim, M. and Ongena, S. (2009): *Microeconometrics of banking: methods, applications, and results*. Oxford, New York.

- Demirgüç-Kunt, A. and R. Levine (2001), "Bank-Based and Market-Based Financial Systems: Cross-Country Comparisons", in Demirgüç-Kunt, A. and R. Levine (eds.): *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets and Development*. Cambridge, pp. 81-140.
- Deutscher Sparkassen- und Giroverband e.V. (2013): *Deutscher Sparkassenkalender 2013*. Stuttgart: Deutscher Sparkassen Verlag.
- Dixon, A. D. (2014): *The new Geography of Capitalism. Firms, Finance, and Society*. Oxford.
- Dörny, S. (2015): "Strategic nodes in investment fund global production networks: the example of the financial centre Luxembourg", in *Journal of Economic Geography* 15 (4), pp. 797-814.
- Dow, S. C. and Rodríguez-Fuentes, C. J. (1997): "Regional Finance: A Survey", in *Regional Studies* 31 (9), pp. 903-920.
- ECB (2014): List of reporting MFI.
- Engerer, H. and Schrooten, M. (2004): "Untersuchung der Grundlagen und Entwicklungsperspektiven des Bankensektors in Deutschland (Dreisäulensystem) im Auftrag des Bundesministeriums der Finanzen", Deutsches Institut für Wirtschaftsforschung. Berlin.
- Epstein, G. and Crotty, J. (2013): "How Big Is Too Big? On the Social Efficiency of the Financial Sector in the United States" (Working Paper).
- Fischer, K.-H. and Pfeil C. (2004): "Regulation and Competition in German Banking", in J. P. Krahn and R. H. Schmidt (eds.): *The German financial system*. Oxford, pp. 291-349.
- Flögel, F. (2018): "Distance and Modern Banks' Lending to SMEs: Ethnographic Insights from a Comparison of Regional and Large Banks in Germany", in *Journal of Economic Geography* 18 (1), pp. 35-57.
- Flögel, F. and Gärtner, S. (forthcoming-a): *The Banking Systems of Germany, the UK and Spain from a Spatial Perspective: The German Case*.
- Flögel, F. and Gärtner, S. (forthcoming-b) *The Banking Systems of Germany, the UK and Spain from a Spatial Perspective: The UK Case*.
- Flögel, F. and Zademach, H. M. (2017): "Placing bank branches in the geographies of knowledge creation debate: conceptual considerations and empirical findings from Germany", in *Erdkunde* 71 (4), pp. 301-312.
- Flögel, F.; Gärtner, S.; Kulke, E. and Warland, M. (2013): "Die wirtschaftliche Stärke des kooperierenden Einzelhandels: Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie", BMWi. Available online at: <http://www.bmwi.de/BMWi/Redaktion/PDF/Publikationen/Studien/wirtschaftliche-staerke-kooperierenden-einzelhandel,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>, access: 03.10.2016.
- Friedmann, J. (1986): "The World City Hypothesis", in *Development and Change* 17 (1), pp. 69-83.
- Friedmann, J.; Wolff, G. (1982): "World city formation: an agenda for research and action", in *International Journal of Urban and Regional Research* 6 (3), S. pp. 309-344.
- Gall, L. (1995). *Die Deutsche Bank, 1870-1995* (No. 202). CH Beck.
- Gärtner, S. (2008): *Ausgewogene Strukturpolitik: Sparkassen aus regionalökonomischer Perspektive* (Vol. 5). Münster.
- Gärtner, S. (2009a): "Lehren aus der Finanzkrise. Räumliche Nähe als stabilisierender Faktor", in *IAT Forschung Aktuell* 2009 (8).
- Gärtner, S. (2009b): *Balanced Structural Policy: German Savings Banks from a Regional Economic Perspective*. Brussels.
- Gärtner, S. (2011): "Die Zukunft von New York London Hong Kong und Cayman Jersey Schweiz Lichtenstein: Eine räumliche Forschungsskizze in Postkrisenzeiten", in C. Scheuplein and G. Wood (eds.): *Nach der Weltwirtschaftskrise: Neuanfänge in der Region?* Berlin, pp. 49-83.
- Gärtner, S. (2013): "Varianten institutioneller Arrangements am Beispiel regionaler Finanzregime", in O. Brand, S. Dörhöfer, P. Eser, O. Brand, S. Dörhöfer and P. Eser (eds.): *Die konflikthafte Konstitution der Region. Kultur, Politik, Ökonomie*. Münster, p. 233-263.

- Gärtner, S. (2013): "World capitals of capital, cities and varieties of finance systems: internationality versus regionally oriented banking", in F. Kuniko (ed.): *Cities and crisis: new critical urban theory*. London, pp. 147-187.
- Gärtner, S. and Flögel, F. (2013): "Dezentrale versus zentrale Bankensysteme. Geographische Marktorientierung und Ort der Entscheidungsfindung als Dimensionen zur Klassifikation von Bankensystemen", in *Zeitschrift für Wirtschaftsgeographie* 57 (3), pp. 34-50.
- Gärtner, S. and Flögel, F. (2014): "Call for a spatial classification of banking systems through the lens of SME finance – decentralized versus centralized banking in Germany as an example", Institut Arbeit und Technik (IAT discussion paper, 14/01).
- Gärtner, S. and Flögel, F. (2015): "Dezentrale Banken – ein Vorteil für die Unternehmensfinanzierung in Deutschland?", in *Geographische Rundschau* 67 (2), pp. 32-37.
- Gärtner, S. and Flögel, F. (2017a): *Raum und Banken. Zur Funktionsweise regionaler Banken*. Baden-Baden.
- Gärtner, S.; Fernandez, J. (forthcoming): *The Banking Systems of Germany, UK and Spain from a Spatial Perspective: The Spanish Case*.
- Goldsmith, R. W. (1968): *Financial Structure and Development*. New Haven: Yale University Press.
- Greenham, T. and Prieg, L. (2015): "Reforming RBS: local banking for the public good", New Economics Foundation. Available online at: <http://www.neweconomics.org/publications/entry/reforming-rbs>, access: 12.09.2016.
- Gropp, R. (2016): "Financial intermediation, allocative efficiency and growth", (Lecture), Freiberg: 21 January 2016.
- Grote, M. H. (2004): *Die Entwicklung des Finanzplatzes Frankfurt. Eine evolutionsökonomische Untersuchung*. Berlin.
- Güde, U. (1995): *Geschäftspolitik der Sparkassen, Grundlagen und aktuelle Probleme*. Stuttgart.
- Hakenes, H. and Schnabel, I. (2005): "The Threat of Capital Drain: A Rationale for Public Banks?", (Working Paper).
- Haldane, A.; Brennan, S. and Madouros, V. (2010): "What is the contribution of the financial sector: miracle or mirage?", in Turner, A.; Haldane, A.; Woolley, P.; Wadhvani, S.; Goodhart, C. A.; Smithers, A. Large, A. et al. (eds.) (2010): *The Future of Finance: LSE Report*. London, p. 87 – 120.
- Hall, P. A.; Soskice, D. W. (2001): *Varieties of capitalism: the institutional foundations of comparative advantage*. Oxford [England]; New York: Oxford University Press.
- Hall, S. and Appleyard, L. (2009): "'City of London, City of Learning'? Placing business education within the geographies of finance", in *Journal of Economic Geography* 9 (5), S. pp. 597-617.
- Handke, M. (2009): "Flexible Finanzierung in Industriedistrikten Spaniens? Das Beispiel Alicante", in *Zeitschrift für Wirtschaftsgeographie* 53 (1-2), pp. 28-46.
- Handke, M. (2011): *Die Hausbankbeziehung. Institutionalisierte Finanzlösungen für kleine und mittlere Unternehmen in räumlicher Perspektive*. Berlin.
- Hardie, I. and Howarth, D. (2013a): "Framing Market-Based Banking and the Financial Crisis", in I. Hardie and D. Howarth (eds.): *Market-Based Banking and the International Financial Crisis*. Oxford, pp. 22-55.
- Hardie, I.; Howarth, D.; Maxfield, S. and Verdun, A. (2013): "Introduction: Towards a Political Economy of Banking", in I. Hardie and D. Howarth (eds.): *Market-Based Banking and the International Financial Crisis*. Oxford, pp. 1-21.
- Havránek, T.; Horváth, R.; Valíčková, P. (2013): "Financial Development and Economic Growth: A Meta-Analysis. Czech National Bank" (CNB Working Paper Series, 5/2013).
- Historische Gesellschaft der Deutschen Bank e.V. (2009): *Wünsche werden Wirklichkeit. 50 Jahre Privatkundengeschäft*. Munich, Zurich.
- King, R. G. and Levine, R. (1993): "Finance, entrepreneurship and growth", in *Journal of Monetary Economics* 32 (3), pp. 513-542.

- Klagge, B. (1995): "Strukturwandel im Bankenwesen und regionalwirtschaftliche Implikationen. Konzeptionelle Ansätze und empirische Befunde", in *Erdkunde* 49 (3), pp. 285–304.
- Klagge, B. and Martin, R. (2005): "Decentralized versus centralized financial systems: is there a case for local capital markets?", in *Journal of Economics Geography* 14 (3), pp. 387–421.
- Klagge, B.; Martin, R. and Sunley, P. (2017): "The spatial structure of the financial system and the funding of regional business: a comparison of Britain and Germany", in R. Martin and J. Pollard (eds): *Handbook on the Geographies of Money and Finance*, pp. 125–156. Cheltenham: Edward Elgar.
- König, W.; Schamp, E.W.; Beck, R.; Handke, M.; Prifling, J. and Späthe, S.H. (2007): *Finanzcluster Frankfurt. Eine Clusteranalyse am Finanzzentrum Frankfurt/Rhein-Main*. Frankfurt: Books on Demand.
- Kroner, N. (2009): *A Blueprint For Better Banking: Svenska Handelsbanken and a Proven Model for More Stable and Profitable Banking*. Petersfield: Harriman House.
- Lee, N. and Brown, R. (2017): "Innovation, SMEs and the liability of distance: the demand and supply of bank funding in UK peripheral regions", in *Journal of Economic Geography* 17, pp. 233–260.
- Levine, R. (2005), "Finance and Growth: Theory and Evidence", in P. Aghion and S.N. Durlauf (Hg.): *Handbook of economic growth*. Amsterdam, pp. 865–934.
- Levine, R.; Loayza, N. and Beck, T. (2000): "Financial intermediation and growth: Causality and causes", in: *Journal of Monetary Economics* 46 (1), pp. 31–77.
- Lo, V. (2003): *Wissensbasierte Netzwerke im Finanzsektor. Das Beispiel des Mergers & Acquisitions-Geschäfts*. Univ., Diss.-Frankfurt/M. Wiesbaden: Deutscher Universitätsverlag (Gabler Edition Wissenschaft).
- Ministerio de Empleo y Seguridad Social (Spain): Employment data.
- Minsky, H. P. (1992): "The Financial Instability Hypothesis", Levy Economics Institute of Bard College (Working Paper, 74).
- Muqtadir, M. (2013): *Introduction to Credit Unions Statistics*. Bank of England.
- Myrdal, G. (1959): *Ökonomische Theorie und unterentwickelte Regionen*. Berlin.
- Office for National Statistics (UK): Employment data.
- Papi, L., Sarno, E., Zazzaro, A. (2017) "The geographical network of bank organizations: issues and evidence for Italy", in R. Martin and J. Pollard (eds.): *Handbook on the Geographies of Money and Finance*. Cheltenham, pp. 156–197.
- Petersen, M. A. and Rajan, R. G. (1995): "The Effects of Credit Market Competition on Lending Relationships", in *The Quarterly Journal of Economics* 110 (2), pp. 407–443.
- Pollard, J. S. (2003): "Small firm finance and economic geography", in *Journal of Economic Geography* 3 (4), pp. 429–452.
- Rousseau, P. L. and Wachtel, P. (2011): "What is Happening to the Impact of Financial Deepening on Economic Growth?", in *Economic Inquiry* 49 (1), pp. 276–288.
- Sassen, S. (2001): *The Global City: New York, London, Tokyo*. New Jersey.
- Sawyer, M. (2014): "Financial development, financialisation and economic growth" (FESSUD Working Paper Series, 21).
- Schamp, E., W. (2009): "Das Finanzzentrum — ein Cluster. Ein multiskalarer Ansatz und seine Evidenz am Beispiel von Frankfurt/ RheinMain", in *Zeitschrift für Wirtschaftsgeographie* 53 (1-2), pp. 89–105.
- Schnabel, I. and Hakenes, H. (2007). "Regionale Banken in einer globalisierten Welt", in *Credit and Capital Markets* 40 (3), pp. 351–380.
- Stein, J. (2002): "Information Production and Capital Allocation: Decentralized versus Hierarchical Firms" in *The Journal of Finance* 57 (5), pp. 1891–1921.

- Taylor, P.; Beaverstock, J.; Cook, G.; Pandit, N.; Pain K. and Greenwood, H. (2003): *Financial Services Clustering and its Significance for London: Extended Report*. Loughborough University; Manchester Business School.
- Therborn, G. (2011): "End of a paradigm: the current crisis and the idea of stateless cities", in *Environment and Planning/ A*, International Journal 43 (2), S. pp. 227-285.
- Tobin, J. (1984): "On the Efficiency of the Financial System", in *Lloyds Bank Review* 153, pp. 1-15.
- Torre, A. and Rallet, A. (2005): "Proximity and Localization", in *Regional Studies* 39 (1), pp. 47-59.
- Turner, A.; Haldane, A.; Woolley, P.; Wadhvani, S.; Goodhart, C. A.; Smithers, A. and Large, A. et al. (eds.) (2010): *The Future of Finance: LSE Report*. London.
- Udell, G. F. (2008): "What's in a relationship? The case of commercial lending", in *Business Horizons* 51, S. pp. 93-103.
- Uzzi, B. and Lancaster, R. (2003): "Relational embeddedness and learning: the case of bank loan managers and their clients", in *Management Science* 49 (4), pp. 373-399.
- Verdier, D. (2002): *Moving money: banking and finance in the industrialized world*. Cambridge.
- Völter, A. (2000): *Die Sparkassen und das Retailbanking*. Stuttgart
- Wójcik, D. and MacDonald-Korth, D. (2015): "The British and the German financial sectors in the wake of the crisis: size, structure and spatial concentration", in *Journal of Economic Geography* 15 (5), pp. 1033-1054.
- WSBI (2017): "Trustee savings banks in the UK 1810-1995", at <https://www.wsbi-esbg.org/About-us/History/Pages/HistoryUK.aspx>
- Zademach, H.-M. (2014): *Finanzgeographie*. Darmstadt
- Zhao, T. and Jones-Evans, D. (2017): "SMEs, banks and the spatial differentiation of access to finance", in *Journal of Economic Geography* 17 (2017), pp. 791-824.

List of Interview Partners

From Germany

Thirty-nine interviews were conducted in addition to the participant observation during a two-month, full-time internship in a regional savings bank in Germany. Fifteen interviews with employee of regional banks and 13 interviews with employees of supraregional bank took place in 2013 and 2014. We also conducted interviews with the following experts:

Federal Ministry of Economy, 1 March 2013, interview: banking expert

DSGV, 4 March 2013, interview: banking expert

DSGV, 16 March 2013, interview: banking expert

IT provider firm of the DSGV, 30 May 2013, interview: employee

DSGV education provider, 14 June 2013, interview: head of the school

Ruhr University Bochum, 24 June 2013, interview: academic expert

Frankfurt school of finance and management, 30 August 2013, interview: academic expert

Frankfurt school of finance and management, 30 August 2013, interview: academic expert

Banking business consultancy, 23 October 2013, interview: partner

Banking business consultancy, 5 February 2014, telephone interview: employee

Banking business consultancy, 7 February 2014, interview: partner

From Spain

Thirty-two interviews were conducted in Spain. Due to data protection law, we have only listed interviews with researchers and representatives of the associations.

Confederación Española de Cajas de Ahorros (CECA), Institutional Relations Madrid, 8 May 2015, interview:

Domínguez Camino García

The Spanish Banking Association (AEB), 24 April 2015, interview: Joaquín de la Herrán

University of Valencia, 22 April 2015, interview: Illueca Manuel

Instituto de Crédito Oficial (ICO), 24 April 2015, interview: Ana Martínez

University of Valencia, 21 April 2015, interview: Joaquín Maudos

University of La Laguna Tenerife, 29 April 2015, interviews: Carlos Rodríguez-Fuentes

University of Barcelona, 17 June 2016, interview: A. Tulla-Pujol

From the United Kingdom

Newcastle University, 13 September 2016, interview: academic expert

University of Glasgow, 3 August 2016, interview: academic expert

Royal Society of Arts, 16 August 2016, interview: employee

London School of Economics and Political Science, 17 August 2016, interview: academic expert

British Bankers Association, 17 August 2016, interview: employee

Lancaster University, 18 August 2016, interview: academic expert

Responsible Finance Association, 1 September 2016, telephone interview: director

Airdrie Savings Bank, 7 September 2016, interview: CEO

University of Glasgow, 7 September 2016, interview: academic expert

University of Glasgow, 8 September 2016, interview: academic expert

Community Savings Bank Association, 12 September 2016, interview: chairman

Responsible Finance Provider, 12 September 2016, interview: CEO

IMPRESSUM



Westphalian University
Institute for Work and Technology
Munscheidstr. 14
D-45886 Gelsenkirchen

Tel +49 (0) 209.17 07 203
Fax +49 (0) 209.17 07 110
Web www.iat.eu

ISSN print edition
ISSN electronic edition

Papers can be downloaded free of charge from the IAT website:
<http://www.iat.eu/discussionpapers>

Zentrale wissenschaft-
liche Einrichtung der Westfälischen
Hochschule in Kooperation mit der
Ruhr-Universität Bochum



RUHR
UNIVERSITÄT
BOCHUM

RUB