Papers in Evolutionary Economic Geography

#18.33

An Evolutionary Perspective on the British Banking Crisis

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http://econ.geog.uu.nl/peeg/peeg.html

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Abstract

Developing an evolutionary perspective towards the changing anatomy of the banking sector reveals the enduring tensions and contradictions between spatial centralisation and the possibilities for decentralisation before, during and after the British banking crisis. The shift from banking boom to crisis in 2007 is conceptualised as a significant and on-going moment in the long-term evolution of the historical institutional-spatial dominance of London over other city-regions in Britain. The analysis demonstrates the importance of the institutional and geographical legacies of the British national political economy and variegation of capitalism established in the later nineteenth and early twentieth centuries in shaping contemporary geographical outcomes. Regulatory changes combined with financial innovation in the latter years of the twentieth century to create an opportunity for English regional and Scottish banks excluded from previous institutional-spatial centralisation to expand excessively and consequently several failed in the banking crisis. The paper considers the future trajectory of institutional-spatial centralisation in the banking sector amidst the continued spatial restructuring of the banking crisis, involving a re-drawing of organisational boundaries, overlapping institutional and technological changes and unprecedented uncertainty about the impact of Brexit on Britain's wider political and economic landscape.

Keywords: Banking crisis, evolutionary geographical political economy, cities and regions, uneven development

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Forthcoming in Journal of Economic Geography

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1. Introduction

This paper addresses two questions. First, what has happened to the geography of the banking sector in Britain since the banking crash of 2007? And second, what are the possibilities for its growth outside the capital and City of London: is institutional rationalisation and reorganisation since the banking crash increasing or reducing long-run pressures for spatial centralisation in the capital? To address these questions, the paper develops an evolutionary geographical political economy of the banking sector that stresses the dynamic nature of institutional and spatial centralisation-decentralisation processes and the importance of the legacies of history and geography in explaining the contemporary spatial outcomes of the banking crisis.

This analysis is timely and significant empirically, conceptually and politically. Empirically, Wójcik and MacDonald-Korth (2015) demonstrate that although finance-related employment in London recovered well over the period 2008-12, areas beyond the capital shared employment losses. Their analysis is consistent with Gordon's (2016) documentation of how London 'got away with it' in the global financial crisis, demonstrating resilience to the economic shock and a resurgence in central London's employment since 2007. By contrast, banking industry interest groups, focusing on more recent years (British Bankers' Association, 2015) and a wider definition of financial and related professional services (TheCityUK, 2015), claim there is a broader-based geography of employment growth since the crash.

The paper aims to do more than simply resolve an empirical argument between economic geographers and industry professional associations. Conceptually, the intention is to make a substantive contribution to debate on the spatialities of the banking crisis. For all the research on the crisis, economic geography has yet fully to articulate a geographical account to challenge the dominant economic narratives focused on commonalities in the experience of the crisis abstracted from their spatial context (see Dymski and Shabani, 2017; Muellerleile *et al.,* 2014). Martin (2011) has argued that examining the tensions and contradictions between spatial centralisation and concentration and the possibilities for decentralisation and dispersal in the geographies of asset creation, re-production and destruction provides a fruitful opening for a deeper and more encompassing geographical political economy of the financial crisis. On this score, Dow's work (1999) is also important, highlighting the neglect of financial institutions in accounts of the contradictory moments of centralisation-decentralisation that characterise geographically uneven development. Dow calls for a stronger institutional focus and closer attention to the impact on the evolution of the economic landscape of the investment behaviour of large banks which channel geographically dispersed savings through their centralised and spatially concentrated management and administrative structures (Dow and Rodriguez-Fuentes, 1997). Theoretically, we build on these insights by developing an evolutionary geography of the banking crisis that better connects work on geographical political economy with studies of the economic geographies of money and finance (see Martin and Pollard, 2017). By drawing attention to the integral roles of history and geography in successive episodes of growth and contraction in the banking industry this account provides a more spatially sensitive explanation of the role of institutions in the banking crisis, a deeper understanding of the constitutive and causal roles of uneven geographies in the crisis itself, and a geographically-situated understanding of the impact of the banking crisis on the city-regions of Britain.

We argue that the emergence of large banks based in London in the late nineteenth and early twentieth centuries, which coincided with the consolidation of financial, corporate, media and political governance architectures and power structures in the capital, is a deeply entrenched long-term cause of spatial disparities in Britain (Martin, 2015; Martin *et al*., 2016a; Marshall, 2013). The rapid growth and subsequent collapse of English regional and Scottish-based banking institutions in the banking crisis is examined as an illuminating and significant moment in the evolution of the established relationship between London and banking centres located outside the capital. Seen from this long-term perspective, a view of the banking crisis as a discrete and apparently sudden event is a problematic means of understanding its geography. Instead, the analysis conceives of the crash of 2007-9 as a critical episode in an on-going process of spatial centralisation and decentralisation that created a significant shock but has evolved further through multiple aftershocks and the institutional and spatial restructuring of the banks involved.

This conceptual argument takes us, in turn, to the political import of our two questions. Analysis of the spatial concentration-deconcentration of the banking sector in London is especially timely and important because we are at a pivotal moment in the development of Britain's deeply entrenched spatially and sectorally uneven growth model (Martin *et al*., 2016a). Amidst the unprecedented uncertainty of the impact of Brexit on wider national political, economic and international relations (see Hall and Wójcik, 2018; McCann, 2018), the analysis of the geography of banking speaks to whether this critical sector might contribute to the national government's stated recognition of "the need to rebalance the economy across sectors and areas in order to spread wealth and prosperity around the country" (May, 2016a), and its aim to create "an economy that works for everyone" (May, 2016b; 1). It also identifies tensions emerging between government's expressed desire to spread prosperity more evenly across the country, and the fact that opportunities for renewed growth in banking are geographically concentrated.

The paper begins by elaborating our theoretical perspective and the temporal, institutional and sectoral focus of the study. It then develops a long-term evolutionary analysis of banks and the banking crisis.

2. Developing an evolutionary approach towards the geographies of banks, banking and the banking crisis

Despite burgeoning interest in evolutionary thinking in economic geography (see, for example, Boschma and Frenken, 2017; Pike *et al*., 2016; Martin and Sunley, 2015; Martin and Boschma, 2007; Frenken and Boschma, 2007), relatively little attention has focused on its potential contribution to understanding the historically uneven geography of the banking industry. Studies adopting an evolutionary perspective have used historical merger and acquisition activity to demonstrate the long-run clustering processes that underlie the spatial concentration of banking (Boschma and Hartog, 2014; Boschma and Ledder, 2010). However, the connections of this work to broader temporal and geographical political economies of the banking sector remain unexplored. Related work has drawn attention to the potentially significant impact on regional growth and credit markets of evolution in the ownership, organisation and geography of the banking sector (Alessandrini et al., 2008; 2005; Papi et al., 2015; Zazzaro, 1997). In the aftermath of the banking crisis, evolutionary framed analyses of geographically uneven development have also suggested that the banking and financial services sector is a key driver of long-run patterns of economic and functional specialisation, but again leave the analysis of banks and the banking sector underdeveloped (Martin *et al*., 2016a and b). This suggests research needs to focus more explicitly on the role of banks and banking as the object (doing the) evolving in the economic geography landscape (Pike *et al*., 2016; Martin, 2011).

To address this research gap, we look to Dow's (1987a and b; 1992) work on the institutional and spatial structure of banking for important insights into why and in what ways the sector develops across space and over time. The overall picture depicted by Dow (1999; 41) is one of increasing institutional-spatial concentration as banking progresses in stages from the emergence of small banks providing financial intermediation to local communities to today's national banks based in major city-regions which increasingly compete globally. Drawing on Myrdal's (1964) analysis, Dow argues that processes of circular, cumulative and self-reinforcing causation underlie institutional-spatial concentration. The need for banks to inspire confidence means that centres which emerge early on continually reinforce their advantage, based on specialisation in localised concentrations of expertise, the build-up of networks of information and trust, and the market confidence that these advantages help to promote.

Our approach extends Dow's institutional-spatial insights as part of a broader and more dynamic evolutionary perspective linking banks and banking to geographical political economic processes and contexts (Martin and Sunley, 2015). Banks are situated within sets of socio-spatial relations including wider banking networks, multi-scalar state agencies and governance systems, and – crucially – the places that shape, and are shaped by, scalar structures and relational networks (Pike *et al*., 2016). Dow's (1987a; 1992; 1999) overwhelming focus on processes of concentration says little about the tensions between concentration *and* deconcentration, possibilities for dispersal, or how concentration processes may be constructed or reconstructed over time after a period of more dispersed growth (see Allen, 2010). In response, a key contribution of our evolutionary perspective is to be sensitive to the ways in which institutional-spatial processes within banks and banking inter-relate with historical and place-specific economic contexts, assets and conditions, to shape concentration *and* dispersal, both in the longer-term and during episodes of shock and crisis (Martin *et al.,* 2016a; Martin, 2011).

In developing this evolutionary perspective, it is important briefly to elaborate two key dimensions of our analytical framework: the evolving nature of the banking crisis and the changing anatomy of banks and banking.

Evolving nature of the banking crisis

Connecting these evolutionary insights to the banking crisis poses many challenges, but delineating the crisis itself is an essential starting point. Our approach frames the banking crisis (TABLE 1) as a particular, albeit critical, episode in a longer-term and on-going process of institutional-spatial restructuring and geographical development. In the financial literature, a banking crisis occurs where debt holders demand that banks convert their debt claims into cash to a level that cannot be met, a liquidity shortage or credit crunch ensues, and the banking system must then be underwritten by the central bank or government (Thakor, 2015). While previous economic studies debate the timing, triggers for and significance of historical incidents of exuberance and panic (Kindleberger and Aliber, 2005; Reinhart and Rogoff, 2009), the evolutionary approach here problematizes such analysis as a means of unlocking the spatialities of crises. To understand it geographically, the banking crisis must be analysed as a critical episode within a longer-term phenomenon with significant structural historical antecedents (Christophers *et al*., 2017). This includes, but is not confined to, understanding the drivers, character and geographies of the growth episodes shaping the nature and implications of the eventual crisis itself (Dymski and Shabani, 2017). Moreover, whilst often overlooked in snapshot analyses, placing the crisis within the longer-run historical perspective of the evolving, but deep-seated, spatial structures and institutional settings of the banking sector offers a new analytical opportunity (Martin 1999; Marshall, 2013). An evolutionary understanding and an ongoing conception of crisis across time and space punctuated by shocks of varying scale scope and duration provides a more telling understanding of the banking crisis which recognises the contribution of banking institutions to the dynamic centralisation *and* decentralisation processes that underlie geographically uneven development.

Evolving anatomy of banks and banking

Assessing the on-going impact of the banking crisis requires a careful specification of the institutional research object as well as the causal processes operating upon it. Institutions – dynamic and relational entities deeply influenced by their regional and national setting (Jessop, 2001; Peck and Theodore, 2007; 2012; Pike *et al*., 2009; 2016) – are viewed as strategic vantage points from which to analyse the uneven geography of the banking crisis. Our evolutionary approach follows Martin's (2000) distinction between institutional environments providing the broader sets of rules and norms (e.g. government regulation; industry accepted practices etc.) within which specific institutional arrangements in organisational forms such as banks and state entities operate (Martin, 2000). Banks are distinctive because of their integral role in the economy and strategic position in relation to the creation, management, distribution and destruction of money. As such, they are carefully regulated by the state (Christophers *et al*., 2017). The spatial dynamics of banking therefore responds to shifts in regulation and wider changes in information processing technology. Banks are not passive recipients of change; as recent events have shown, they have considerable power, reflecting their 'too big to fail' position in the economy, and their capacity to influence and resist regulatory adjustments. Analysis, therefore, focuses on the way in which the strategies of banks, as institutional arrangements, are incorporated into the fabric of local economies, seeking to explain how wider processes unfold in particular places, how the inter-relations between places evolves and how places feed into the operation of broader processes.

In 2017 the Bank of England listed 157 banks incorporated in the United Kingdom and a further 187 international banks entitled to establish branches. Nonetheless, defining banks and the banking sector is not straightforward. FIGURE 1 outlines the institutions of interest to this paper. Banks, the focal point of the sector, facilitate money transmission, provide financial services such as raising capital or fund management for a fee, exchange assets between buyers and sellers and trade on their own account. They are commonly differentiated by their market focus and divided into retail banks providing personal financial services to individuals and small firms and investment and/or wholesale banks operating in capital, foreign exchange, commodity and money markets on behalf of large and medium-sized firms. While acknowledging these market differences, following Dow (1987a and b, 1999), the focus of analysis here remains firmly on institutions since banks are a major component of what constitutes financial markets (Christophers, 2013; 2014a).

Our perspective recognises that the organisational boundaries of the institutional arrangements in the banking sector are evolving, and, therefore, extends to encompass a wider range of existing and emergent institutions in a new broader definition of banking (FIGURE 1). Mutually-owned building societies traditionally operated in separate long-term savings and mortgage markets but developed retail banking products, and in the 1990s most of the larger societies became mortgage banks. Over the last fifty years, large retailers have gradually developed their own financial services, and two supermarkets, Tesco and Sainsbury, have in collaboration with Royal Bank of Scotland and Bank of Scotland established themselves as fully-fledged banks, and since the banking crisis they have bought out their partners. Our widened frame of reference also captures the dynamic nature of banking where the loss of trust in established institutions since the crisis has created a business opportunity for new start-up banks (TABLE 2). This shift in market structure has been reinforced by the national state authorities who have lowered the minimum capital requirements to license a bank and speeded-up the process of approval to increase choice and competition. While new banks such as Metro and Atom have started from scratch, Virgin Money acquired the banking licence of Church House Trust Limited prior to the purchase of Northern Rock (Marshall *et al*., 2012). J.C. Flowers & Co., a private equity investment firm, purchased the Kent Reliant Building Society in 2011 to launch OneSavings Bank. Aldermore and Shawbrook broadened their services beyond investment in small and medium-sized enterprises, and buy-to-let institutions Paragon and Charter Savings diversified to become banks.

Digitalisation has also unleashed a wave of new fintech companies, some of whom have obtained a banking license (TABLE 2), including providers of mobile banking applications, crowd-funding platforms, peer-to-peer lenders to small companies and operators of closed ledgers using blockchain technology to support international trade and transfers between banks (Langley 2016). Other significant market participants include operators of cash dispensers Cardtronics and NoteMachine who have expanded as banks have withdrawn ATMs alongside branch closure programmes, and providers of electronic transfers and payment systems such as PayPal, Google, Apple, Facebook and Amazon, who have taken business traditionally conducted by banks (Langley and Leyshon, 2017). By developing new ways of providing banking services, these institutions are promoting institutional restructuring in established banks. Advancing and broadening the traditional understanding of banks and the banking sector in this manner, and identifying the interrelations between the various institutions involved, the framework here conceives of all these institutions as operating across space and time in relational networks, and places them territorially in city-regions, unpacking spatially the boxes in FIGURE 1, and highlighting their different and unfolding geographies.

The paper uses UK Office for National Statistics (ONS) employment data to explore the evolving geography of the banking crisis. Our fine-grained and more encompassing view of banks and the banking sector is represented imperfectly by the ONS. Care is required when conducting spatial analysis given changes in data collection and classification over time and geography. The analysis operationalises the definition of banks and banking as indicated in TABLE 3. For the period from 2009-2014, it uses the 2007 Standard Industrial Classification (SIC) to examine banks (both retail and investment) separate from the central bank and building societies. For the longer period 1999-2014, banking is of necessity defined as Monetary Intermediation (SIC 64.1) which groups these institutions together. Over the same period, recognising that banking is part of and has links with Financial Intermediation, the analysis focuses on SIC 64 which includes (in addition to banking) investment trusts, other credit and leasing institutions, holding companies and venture capital. The analysis contextualises banking in the wider financial sector including SIC 65 Insurance and SIC 66 Auxiliary Services to finance and insurance (e.g. administration of financial markets, brokers and fund management). All these SICs are tracked back to 1999 for British city-regions (defined according to Parkinson *et al*., 2006), the earliest possible date using the 2003 SIC. This disaggregated focus on city-regions in their broader regional and national context recognises the urban focus of banking and other financial institutions and enables the analysis to connect institutional and spatial employment change. Care has been taken (by examining overlapping years for both SICs and using the average of paired years) to ensure that the transition from SIC 2003 to SIC 2007 and the change in the survey methodology from the Annual Employment Survey to the Business Register Employment Survey in 2009 does not affect the analysis. The constraints of disaggregated data assembly and analysis mean that the examination of employment is confined to Britain and in a UK context excludes Northern Ireland.

3. Evolving relations between London and banking centres outside the capital in the banking crisis

London's historical and geographical dominance

The inherited spatial structures of banking and the persistent national dominance of London provide the context for the geographies of the banking crisis. Taking a long-term evolutionary perspective, the emergence of large banks headquartered in London in the latter nineteenth and early twentieth centuries (Collins, 1988) is central to Britain's particular geographical political economy. We have an incomplete understanding of this process of institutional-spatial concentration and the associated incorporation of private banking institutions initially in to regional joint-stock companies and subsequently in to national banks – tied through financiers on their boards – to the wider City of London. However, it established a territorial fix of money and power (Christophers, 2014b; Hall, 2017) involving an intimate relationship between the elites in the headquarters of emerging national banks, the Bank of England and financial institutions linked to international trade in close proximity to the centre of national government in Whitehall and Westminster London. Banking and finance was placed at the heart of the British state and regular contact between the banks, the Bank of England, finance houses of the City, the Treasury and government, strengthened the bonds between the world of finance and the national politics of power (Cain and Hopkins, 1993; Marshall, 2013). This created a functional and informal form of management and crisis control, co-ordinated through the Bank of England's powerful influence on cartelised and self-regulated markets, which provided the City with a hegemonic dominance over government's economic policy.

According to Truptil (1936: 193–194) the geographical outcome of this institutional concentration and spatial centralisation was a tightly clustered banking quarter in the heart of London. This institutional-spatial concentration, creating a banking complex within a wider financial centre characterised by deep financial markets with complex and diverse workforce skills, has over the last century exerted a shaping influence over the geographical and political-economic evolution of the banking and financial services sector in Britain. An institutional-spatial division of labour was established (Quinton, 1979: 139; Marshall el al., 1992) in which senior managerial, specialist finance and support jobs in banking gradually spread more widely throughout London and in the 1980s extended from the City to Canary Wharf (Gordon, 2001). London's national dominance of banking was striking in an international context (Wójcik and MacDonald-Korth, 2015; Klagge *et al.,* 2017; Klagge and Martin, 2005), and it's banking employment orders of magnitude greater than other large city-regions, and smaller banking centres (TABLE 4). Institutional concentration and spatial centralisation by distancing banking and finance from city-regions outside London amplified spatially uneven development (Pratt, 1998).

Spatial dispersal in the banking boom

The persistent growth of banking in the capital has been accompanied by cyclical rounds of geographical dispersal of junior and middle ranking jobs, too complex to relocate to lower cost locations abroad or tied to Britain for regulatory reasons, graphically described by Leyshon and Thrift (1989) as phases when southern growth moved north (see also Marshall *et al*., 1992; French *et al*., 2010). The banking boom in the late twentieth and early years of the twenty first century appeared to mark a significant evolution in this relationship between London and banking centres outside the capital. The co-incidence of banking employment decline in London and the strong performance of Scotland, Wales and a group of English regions including the North East, North West and Yorkshire and the Humber was hailed as a new episode in which southern growth had permanently shifted north (Augar, 2009). London's employment declined from 1999/00 and reached a low point in terms of its share of national employment (29.8%) in 2003/4 and in 2005/6 in terms of numbers of jobs (129.1K). The most striking contrast was with Scotland between 1999/00 and 2003/4 when banking employment increased by 17.6K (47.2%), and the North East of England where between 1999/00 and 2007/8 employment increased by 4.7K (44.8%) (FIGURE 2).

This growth episode is connected to decades of weakening regulation and financial liberalisation, designed to rejuvenate London as a global financial centre, which reduced the boundaries between individual markets and increased competition most notably between the banks and building societies. The broadening of the institutions involved reduced market concentration in domestic retail banking (Bowen *et al*., 1999) and, combined with financial innovation, created an opportunity for regionally-based banks, former building societies that had demutualised, and Scottish banks excluded from previous rounds of institutional-spatial centralisation within London's orbit in the late 19th and early 20th centuries, to expand and challenge larger London-based institutions. A new entrepreneurial banking business model based upon rapid growth funded by securitisation in international wholesale markets provided institutions outside London with a means of overcoming their peripheral position in relation to the main locus of economic growth and action in the banking sector and housing market in the south of the country, while simultaneously allowing them to exploit their position in low cost locations suited to host processing and administrative centres (Marshall *et al*., 2012; Marshall, 2013; Dawley *et al*., 2014). As a consequence, the boom particularly benefited city-regions where English regional and Scottish banks were based, notably Newcastle where Northern Rock was located and employment increased by 4.0K, and Edinburgh where Royal Bank of Scotland and Bank of Scotland were based and employment increased by 4.4K 1999/00 to 2005/6 (FIGURE 3). Other prominent regional companies involved in the boom – Bradford and Bingley and the Halifax – were based near

Leeds where employment increased by 2.1K 1999/00 to 2007/8 alongside similar growth in other large urban city-regions in the north. These results demonstrate a striking geographical focus to the boom beyond the capital.

The banking crisis as a failed episode of spatial dispersal

The banking crisis, originating in the US housing markets, crystalized in Britain in 2007-9 when a significant part of the banking system was close to or technically insolvent. Amidst fear concerning the risks of economic meltdown government first provided loans and guarantees, then bailed-out the banks that had got in to difficulties (Langley, 2015), which in turn engaged in institutional restructuring to pay-back the financial support. Rather than contributing to a discrete event, the banking crisis unfolded through the spatial restructuring of the institutions involved, reflecting institutional strategic responses to the ongoing economic shocks, influenced by existing institutional architectures and patterns of investment.

Consolidation of struggling mortgage banks was central to the banking crisis. Northern Rock and Bradford and Bingley, experienced liquidity problems and were brought in to state ownership in 2008 (Marshall et al., 2012). Bradford and Bingley's branch network was immediately sold to Santander, a Spanish owned bank that had acquired the mortgage banks Abbey National in 2004 and Alliance and Leicester in 2008. Northern Rock's much reduced retail bank was purchased by Virgin Money in 2012, and its remaining loan book consolidated by government with Bradford and Bingley's and gradually sold-off (TABLE 1). The default of Icelandic banks in 2008 badly affected British building societies that had deposited funds with them, adding to the pressures on smaller mutual institutions. The largest remaining building society, the Nationwide, acquired the Portman, Derbyshire, Cheshire and Dunfermline societies between 2007 and 2009. During 2009, the Britannia building society was taken over by Co-operative Banking, and has subsequently been central to the ongoing rationalisation of the latter institution which required substantial injections of cash from hedge fund investors after a failed attempt to sell the bank in 2017 (TABLE 1). Halifax Bank of Scotland, a merger of the largest English mortgage bank and an established Scottish institution, was taken over by Lloyds TSB in 2008 with government support. The Lloyds Banking Group was required by European Union (EU) competition concerns to sell-off 631 branches to a reconstituted Trustees Savings Bank in 2013. The latter was subsequently acquired in 2015 by Sabadell a large Spanish bank, and following extensive rationalisation the last of the government's shares in the company were sold in 2017 (TABLE 1). Royal Bank of Scotland also collapsed in 2008 and in return for government financial support was expected to meet EU state aid concerns by selling-off 314 branches under the Williams & Glyn name. However, the lack of a serious buyer instead led in 2017 to the establishment of a £425m fund to support the expansion of established institutions in the small business market. Following a major restructuring programme and the winding-up of its internal 'bad bank' of toxic assets, the government has initiated the sell-off of its 71% stake in the company (TABLE 1).

Institutional restructuring was underpinned by a revised business model (Ertuck, 2016). Constrained by weaker economic growth and lower interest rates, and compelled by government to hold more liquid assets, larger capital buffers and separate retail from investment banking, institutions focused on achieving profits via improved rates of return on capital rather than the more speculative money-making of the boom years (Lloyds Banking Group, 2015; Royal Bank of Scotland Group, 2015; Barclays plc, 2015; Hong Kong and Shanghai Banking Corporation Group, 2015; Nationwide Building Society, various years). Numerous and on-going rounds of geographical rationalisation and job reductions brought spatial dispersal to an end. The spatially-embedded and rapidly growing character of the English regional and Scottish-based institutions meant that they were particularly prone to over-reach themselves as part of the excessive exuberance of the boom years. As these companies were incorporated into other institutions, this had a negative impact on northern areas. The North East, North West and Yorkshire and the Humber declined in employment by 20-27% from 2007-/8 to 2013/14, and within these areas the city-regions of Newcastle (-38.8%), Liverpool (-30.1%), Glasgow (-24.9%) and Leeds (-22.5%) lost substantial numbers of jobs (FIGURE 2 and 3). Interestingly, after 2007/8 the contraction in employment was greatest in the East, East Midlands and the South East. Indeed, several regions in the south of the country lost substantial numbers of jobs over the 1999/00-2013/14 period as a whole, notably the South East (-21.9K; -45.2%), East (-12.1K; -47.7%), West Midlands (-9.8K; -29.2%) and South West (-7.9K; -22.3%). These losses were all more in relative terms than northern areas which had at least witnessed growth in the boom years (FIGURE 2). This is evidence of the geographical impact of the changing technologically-mediated anatomy of banking, intensified by the banking crisis. Retail bank branches have traditionally been the principal means of institutional interaction with customers. For many years, computer technology has shifted back office functions out of branches and into standalone offices and automated customer-facing functions in contact centres dispersed to lower cost locations (Marshall and Richardson, 1996). Institutions are adapting this division of labour by developing online digital access and sales; slimming-down their internal operations and incorporating artificial intelligence into customer interactions. This is particularly affecting the administrative centres and back offices developed outside the capital in previous rounds of decentralising relocation, and branches outside major urban centres as networks retrench to more affluent areas and locations with a larger footfall (Edmonds, 2018; FIGURE 3).

Underlining the value of our geographically sensitive approach, the crisis can be seen to have unfolded differently in Scotland reflecting its particular historical evolution as an independent banking centre (Checkland, 1975). Following strong early growth, employment in Scotland dropped back sharply from 54.9K in 2003/4 to 36.1K in 2011/12, and change is less marked thereafter (FIGURE 2). Notable is an improved performance of the Edinburgh city-region which grew in employment by 22.5% between 2007/8 and 2013/14 associated with a rise in its location quotient from 1.85 to 3.09 (FIGURE 3 and TABLE 4). Edinburgh's improvement coincides with the attraction of the head offices of the newly created Trustee Savings Bank and the expanded Virgin Money. Tesco and Sainsbury established the headquarters for their banking arm in Edinburgh as part of their collaboration with Royal Bank of Scotland Group and Bank of Scotland based in the city. The new UK Green Investment Bank was also set up in Scotland's capital, though its acquisition by a consortium led by Macquarie, an Australian bank, has raised questions about its long-term future. Nonetheless, the historical independence of the Scottish banking sector positioned Edinburgh to benefit from the rise of challenger banks in the boom years and, in contrast to other city-regions outside London, this momentum has subsequently been sustained by the emergence of new entrants. This more positive picture must be qualified by the caveat that the restructuring of Royal Bank of Scotland is incomplete (TABLE 1).

Back to the future in the banking crisis: explaining the reassertion of London's dominance

Arguably the growth in London's employment is the most striking aspect of the banking crisis (FIGURE 4). From a low point of 129.1K jobs in 2005/6, its banking employment increased by 10.8% to 143.1K in 2013/14. Though London did not recover all its former employment, given the decline elsewhere in Britain its share of national banking employment increased from 29.8% to 38.4% – a marked change in a relatively short period. Disaggregating these trends indicates that from 2009 the strengthening of London's position involves central, retail and investment banks. Central bank employment in the capital increased by 104% between 2009/10 and 2013/14 accounting for almost all of the additional 1.7K jobs nationally. This was exceeded by retail and investment banks which increased employment by 4.9K in London (3.7%) against a national decline of 29.6K (8%). This change in London's fortunes coincided with growth in financial sector employment in the capital. Employment in Auxiliary Services grew by 54.8K, counter-balanced by insurance which declined by 24.8K over the 1999/00-2013/14 period (FIGURE 4). In both cases, there is no significant change in London's performance relative to the national average; these industries broadly follow the national trend. The sharp change in London's fortunes is specific to banking.

This geographically concentrated transformation was underpinned by massive national state support for the banking sector (Froud *et al*., 2011; Langley, 2015). Initially, the Prime Minister and the Treasury played the dominant role in the management of the crisis (Darling, 2011), and the new institution created to manage state holdings in the banking sector – United Kingdom Financial Investments – was based in the Treasury. Subsequently, regulatory reforms designed to reduce risk-taking and interdependence in the banking system enhanced the role of the Bank of England and widened its remit and capacity to include macro-prudential regulation and resilience (Langley, 2015). The Bank's monetary policy was crucial in handling the crisis through its commitment to low interest rates, and when this was insufficient amidst a weak recovery, Quantitative Easing was used to push more money through the centralised banking sector (Gordon, 2016). This deepening of the ties that bind the banks to the Bank of England and the politicians in Westminster acknowledging major banks were too important to be allowed to fail again demonstrates the central role of financial interests and actors in Britain's particular political economy and variegation of capitalism (Christophers, 2017). However, these shifts unfolded in a manner that weakened the political position of the retail and investment banks, given their excesses in the boom and the evident damage they inflicted on the economy (Johal *et al*., 2014).

While financial support from government including the Special Liquidity Scheme and bail-outs temporarily sustained banks with a strong footprint in northern Britain, ultimately organisational consolidation in the banking crisis reinforced institutional-spatial centralisation in London (Independent Commission on Banking, 2011). There was a sharp increase in institutional concentration in the key banking markets following corporate failures (Competition and Markets Authority (CMA), 2014). Of the 16 domestic banks represented in 1960, by 2009 15 were owned by four banking groups: Barclays, Hong Kong and Shanghai Banking Corporation, Royal Bank of Scotland Group and Lloyds Bank Group. According to Davies *et al*. (2010), these banks along with Santander and the Nationwide building society accounted for approximately 80% of UK customer lending and deposits. The more recent CMA (2016) investigation confirmed that despite subsequent sell-offs domestic banking markets remain highly institutionally concentrated with the largest four banks providing 70% of personal and 83% of business accounts. As a consequence the capital's position as a headquarters location was strengthened with the major banks, apart from Royal Bank of Scotland Group, now based in London, while the Nationwide building society is headquartered in Swindon.

London was negatively affected by the unwinding of asset-backed securities by US and European investment banks, and the subsequent impact of the global recession on world trade further reduced their intermediation, merger and acquisition business (Wójcik, 2012; Wójcik *et al*., 2016). However, prior to the EU referendum in 2016, these institutions reinforced their commitment to London as a banking centre with an open, flexible and diverse labour market well suited to challenging times (Wójcik *et al*., 2017). Growing Asian banks were also drawn to London as a gateway to the EU and by its central geographical position in relation to time-zones. Finally, the wider growth of output in the capital's economy (Tyler *et al*., 2017), inflation in land and property markets and the associated increase in incomes and wealth sustained domestic bank branch networks in the capital. It is no surprise that Metro Bank, a new start-up offering a bespoke personal banking service, focused its branches on London and this further mitigated the cost-cutting and reshaping of branch networks in the capital.

Our analysis indicates that the long-run institutional-spatial division of labour and developmental pathways are well-established and the associated institutional strategies in response to the banking crisis are likely to persist. However, new medium-sized banks created or enlarged by state sell-offs, Santander, Virgin Money and Trustee Savings Bank, the latter two headquartered in Edinburgh, have the potential to re-invigorate the emergent centrifugal growth initiated in the boom. The CMA (2016) indicates that the share of these banks in personal and business markets has modestly increased since the onset of the banking crisis and this is confirmed by industry sources (Barty and Ricketts, 2014). As the banks and banking system have evolved, the need to establish a national branch network is no longer an insurmountable barrier for such institutions, although they face other considerable headwinds. Established larger institutions have significantly reduced their costs of operation (Lloyds Bank Group, 2015). While new institutions can avoid the cost disadvantage of older legacy technology platforms, this does not apply where institutions have been hived-off from established organisations. The Trustee Savings Bank which initially 'piggy-backed' on Lloyds Bank Group's IT, delayed then botched its transfer to Sabadell's operating platform which is significantly affecting its profitability (TABLE 1). This point is reinforced by the failed attempt of the Royal Bank of Scotland Group to sell-off branches to a re-established Williams & Glyn. More generally, the inherent difficulty of challenger banks competing successfully with larger established institutions has been one of the important lessons of the British experience of the banking crisis, and lies behind the recent announcement of the acquisition of Virgin Money by the Clydesdale and Yorkshire Bank Group.

Technological and regulatory changes are also creating opportunities for new small, nimble, specialist entrants such as Atom and Starling to provide a personalised service using mobile digital technology without a national branch network (TABLE 2). They have the potential to affect the long-term dominance of large institutions in banking and this trend is being encouraged by the introduction of open banking legislation that facilitates third party access to individuals' bank accounts. However, these institutions need to raise capital for growth and to bolster their administrative systems, and have received investment from established institutions. Banco Bilbao Vizcaya Argentaria (BBVA), one of Spain's largest banks, has as part of its digital expansion taken a substantial stake in Atom. In another example of international involvement in the British banking sector FirstRand, a major South African banking group with a British car finance operation, has had a bid accepted by Aldermore, and Shawbrook has been taken over by a private equity consortium (TABLE 2). Smaller companies tend to avoid retail current account markets in which established institutions dominate and where increased regulatory capital requirements add to costs. Institutions emerging from fintech have also encouraged established institutions to improve their digital provision. Most significant for the arguments here, a distinctive aspect of the new entrants in banking is that their location reflects *and* reinforces the existing structural dominance of London in the industry; more than half of the new domestic banks established since 2009 are based in London and its immediate hinterland (TABLE 2).

Brexit: a new episode in the evolving geography of banking in Britain?

Prior to the 2016 Brexit referendum it seemed reinforced institutional-spatial concentration in London would initiate another round of cyclical dispersals of administrative and middle management jobs from the capital. Bank of America publicised the relocation of 2,000 jobs from London to its established base in Chester, JP Morgan stated 1,000 jobs would move to their base in Bournemouth, and Deutsche Bank announced 1,000 traders would transfer to Birmingham. Regulatory changes were also reinforcing relocation; the Hong Kong and Shanghai Banking Corporation Group has moved the head office for its ring-fenced retail bank from London to Birmingham involving approximately 1000 jobs reinforcing the institutional separation of the retail and investment parts of the bank by physical and geographical separation, and simultaneously renewing the link of the former Midland bank to Birmingham.

However, this well-established pattern has been interrupted by Brexit which threatens to unleash a Pandora's Box of troubles affecting London (Pettifor, 2017), which could change the balance between London and banking centres outside the capital. From 2010, the newly elected Conservative-Liberal Democrat coalition government had focused on deficit and debt reduction through austerity to resolve the financial consequences of the banking crisis which was constructed as a fiscal crisis of the state (Blyth, 2015). Popular resentment against the socialisation of the costs of the crisis, the spatially uneven impacts of economic change and austerity, and the neglect of the places 'left behind' were important contributory factors in the vote for Brexit from the EU (Rodríguez-Pose, 2018). Further after-shocks continue to ripple through the banking system as institutions based in Britain grapple with the uncertainties of Brexit and seek to manage their future economic and trading relationships with the EU 27. Much depends on which wing of the current minority Conservative government is ascendant in articulating and seeking to deliver 'hard' or 'soft' versions of Brexit in the negotiations with the EU, and whether further deregulation emerges post-Brexit designed to enhance London's openness to global capital (CITYPERC, 2017). Investment bank strategies are also important and whether they take the opportunity of Brexit to repatriate jobs from London to their bases in New York, Tokyo, Hong Kong or Singapore, or alternatively book business currently conducted in London closer to its European origination. However, the emphasis in our evolutionary approach on the long-run structural influences on spatial development suggests the stickiness of existing activities, sunk investment and employment in London should not be underestimated. London remains the European banking capital with strong and extensive global networks, and dominates bond clearing, equity underwriting and currency trading. It is considerably larger than other European banking centres with a deep and wide range of financial and supporting high-level professional business services that is difficult to replicate elsewhere, which makes institutions reluctant to relocate. Nevertheless, London's resilience will be tested as European centres actively court banking institutions to relocate (Henin, 2017).

Most analysts assume Brexit will act as a drag on London's growth (Hall and Wójcik, 2018; Dymski and Dorry, 2018). At the close of 2017, it was announced the European Banking Authority, an EU agency, would relocate from London to Paris. The UK government currently rules out remaining in the Single Market, and European authorities are reluctant to include financial services in a trade agreement mirroring full Single Market access post-Brexit. As a consequence there is likely be a looser relationship between the UK and the EU27 with reduced levels of access to each other's banking markets (HM Government, 2018; 25-32). This is straining the tight relationship between banking, finance and government in London. Institutions currently trading across the EU 27 border using passporting rights have applied for new EU operating licences and are planning to upgrade offices in European banking centres to more autonomous hubs to cope with less certain access to markets. Large investment banks are leading the way in a staged series of relocations from London involving initially small numbers of jobs which will build up as Brexit increases barriers to trade in services (House of Lords, 2018). Not all proposed relocations are in the public domain (Edmonds, 2018b), however, publicised relocations, shaped by existing institutional commitments, are spread across a number of centres. Goldman Sachs, Morgan Stanley, Citigroup, Deutsche Bank and Normura Holdings have announced they will develop their post-Brexit EU headquarters in Frankfurt and JP Morgan will expand in Frankfurt as well as Paris, Dublin and Luxembourg. In their public pronouncements the Hong Kong and Shanghai Banking Corporation, BNP Paribas and Societe Generale have indicated they will locate their European operating centre in Paris, Royal Bank of Scotland have chosen Amsterdam and Bank of America and Barclays Dublin. ING Groep is the only major lender publically considering a move to London from the EU 27.

Brexit is also predicted by academic studies and internal civil service assessments to have negative impacts on output in British city-regions outside the capital, reflecting their dependence on frictionless EU trade in goods and their long-term structural economic weaknesses (Pollard, 2018), and this will feed through to incomes and bank branch networks. New hot spots of employment growth from recent relocations will in all likelihood continue to be offset by the wider employment decline in banking driven by rationalisation and technological change. A recent announcement by JP Morgan that it will create a global operating centre employing 2,500 administrative posts in risk management and control functions in Warsaw also introduces the possibility that post-Brexit impacts might be felt in back office city-regions such as Bournemouth, where JP Morgan has an administrative base, and which has been a previous recipient of office decentralisation from London (TABLE 4). Recognising these various considerations, and given the deep structural advantages of London, it is likely that Brexit will not alter spatial centralisation in Britain, London's dominance will continue but at lower levels of activity.

4. Conclusions

The paper has constructed an evolutionary geographical political economy of banks, banking and the banking crisis as an alternative to economic narratives that abstract the events of the crisis from their spatial context (Dymski and Shabani, 2017). It focuses on long-run structural influences on the spatial centralisation-decentralisation processes operating during the crisis (Martin, 2011). Taking Dow's (1999) analysis as a starting point, it demonstrates the ways in which institutional-spatial concentration established in the nineteenth and early twentieth centuries continues to influence how the banking sector in Britain operates today, and the way in which the banking crisis unfolded. Regulatory changes combined with financial innovation in the latter twentieth century created an opportunity for English regional and Scottish banks excluded from previous institutional-spatial centralisation to expand excessively as they challenged larger London-based institutions, and several subsequently failed in the banking crisis. An evolutionary perspective, thus, demonstrates that the banking crisis cannot be analysed as a discrete period between 2007 and 2009. Rather, it is an on-going process of institutional-spatial restructuring with historical antecedents, involving a re-drawing of institutional boundaries, overlapping institutional and technological changes, and locational adaptations in response to shifts in regulatory oversight and the costs of operation in the capital.

The dominant conclusion emerging from a fine-grained analysis of a new and broadened conception of banks and the banking sector in Britain supports and extends the analysis of Wójcik and MacDonald-Korth (2015) and Gordon (2016). Institutional-spatial restructuring in the banking crisis reasserted London's position as the dominant banking centre after a period of geographical dispersal from the capital. A short episode of employment growth in city-regions in the north of the country associated with the expansion of English regional mortgage and Scottish banks was reversed and in the south of the country, outside the capital, a more established technologically-mediated decline in employment was deepened by the crisis. London's reinforced dominance highlights the enduring international role of London, and the persistent influence of large London-based institutions in the banking sector on geographically uneven development. Despite all the modernisation and investment in infrastructure and marketing, banking centres outside London remain precarious and very much in the capital's shadow. Locations benefitting from recent geographical dispersals from London lost substantial numbers of banking jobs during the period 1999-2014. In the reshaping of the banking industry in Britain following the eruption of the banking crisis in 2007, peripheral locations have too often competed on the basis of historically constructed advantages of lower costs or a reservoir of routine labour. These factors lay, for example, at the heart of Northern Rock's business model and were emphasised in the public pronouncements of Atom bank, a new start up in the same region.

Our evolutionary geographical account of the changing anatomy of banking demonstrates the dynamic nature of the sector, and indicates that the dominance of centralisation processes is not predetermined or inevitable. The shift from boom to crisis in the early years of the twenty first century was a significant moment in which processes of centralisation re-emerged and the possibility of dispersal was closed down. The forces of centralisation expressed through the pressure to support crucially important large institutions are particularly powerful at such times of crisis. However, an opportunity was missed to support an emergent, English regionally-based set of banking institutions in a manner that could have promoted a more dispersed outcome. In this context, how durable is London's significant renewal and strengthened position relative to other domestic banking centres? The strengthening of the Bank of England's traditional role as a mediator between government and financial institutions appears likely to last, but the financial involvement of the state and intense levels of oversight look set to be shorter lived than initially envisaged and this may stabilise the growing number of regulators in the capital. On the other hand, the established institutional-spatial division of labour and developmental pathways appear resilient. Though our broadened framework shows the boundary of the banking sector is fluid and new participants are entering the market, the emergence of most of these institutions in London and its hinterland reinforces processes of spatial concentration. While Brexit may diminish London's role as a European capital for investment banks – and already its growth is slowing – it seems unlikely to overturn such pressures. Of more importance, in the longer-term, the dominance of large banks may be threatened by the convergence of banking and digital technology which provides opportunities for tech companies Google, Apple, Facebook and Amazon to further expand in the banking sector with uncertain spatial consequences.

Notwithstanding calls to spatially re-balance the British economy, and government policy to strengthen the north, midlands, south and west, the deeper understanding of the banking sector's contribution to city-region economies provided here suggests government's desire to spread prosperity more evenly across the country is compromised by the fact that opportunities for renewed growth appear more often to be in or around London. Notwithstanding the insistence of banking interest groups (British Bankers' Association, 2015; TheCityUK, 2015), and a number of high profile relocations announced and celebrated in the press, the prospects for the growth of the banking sector outside London appear constrained. The only positive city-region performer outside the capital during the banking crisis was Edinburgh which was supported by long-term state involvement in the Royal Bank of Scotland, and its own longstanding institutional and labour market attractions to new market participants. Yet, any argument that this represents a new institutional-spatial direction in the banking sector is qualified by the fact that Royal Bank of Scotland's recovery remains incomplete. Furthermore, government moves towards a more geographically-sensitive Industrial Strategy say little about the banking and wider financial sector and are held back by an apparent lack of capacity for thinking about place-based strategies in Brexit Britain.

ACKNOWLEDGEMENTS

We would like to thank the editor and the referees for their very helpful guidance which significantly improved the paper. The figures were drawn by Colin Wymer.

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TABLES AND FIGURES

Figure 1: An Evolutionary Approach to Banks and Banking

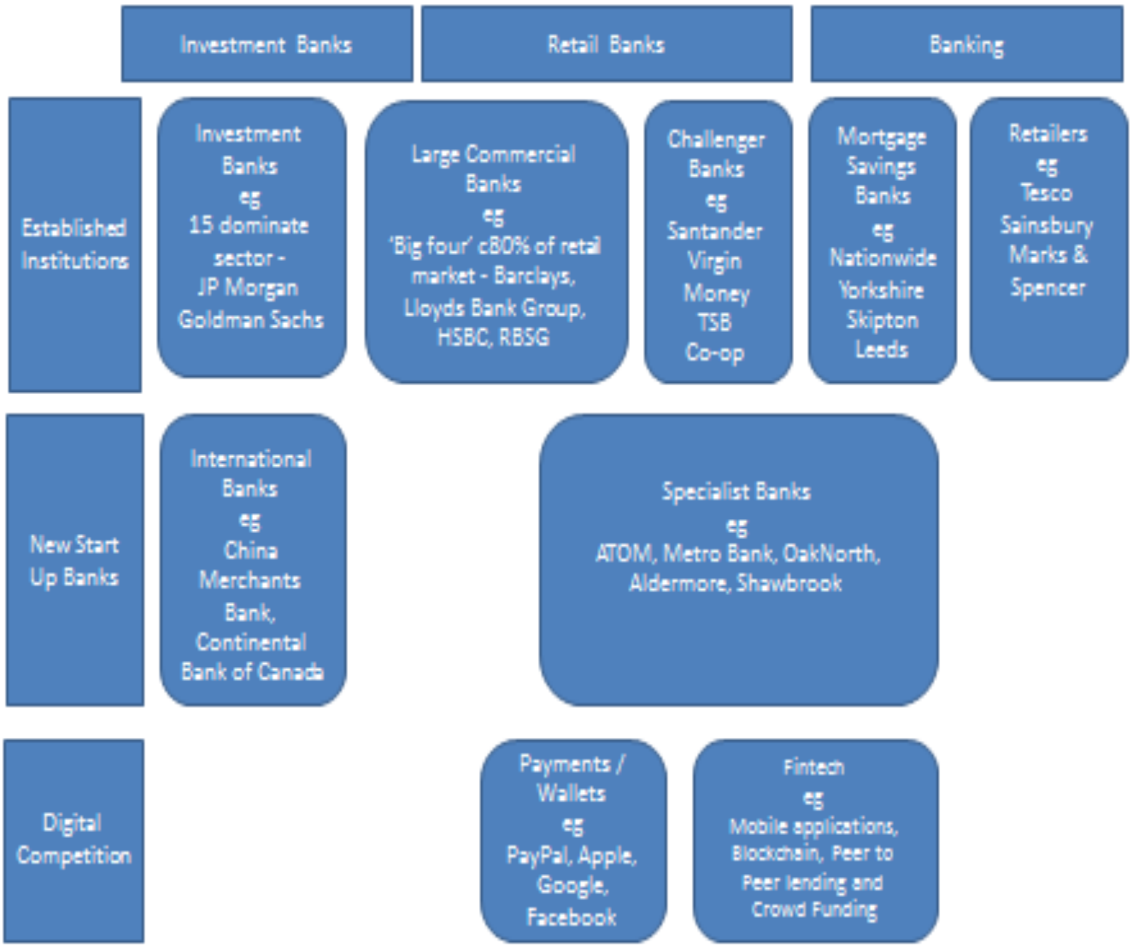
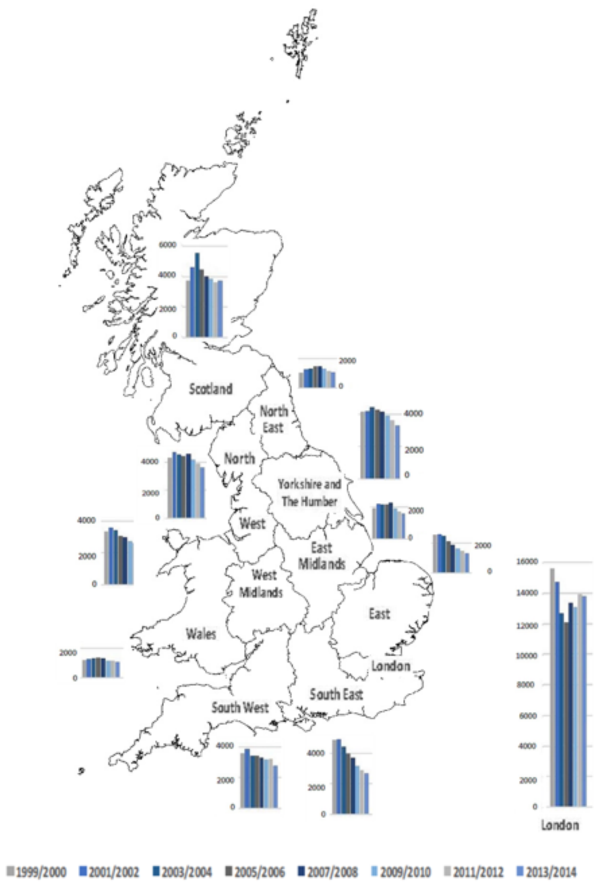


Figure 2: Banking Employment (FTEs) by Region in Britain, 1999-2014



Source: Annual Census of Employment and Business Register and Employment Survey

Figure 3: Employment (FTEs) in Banking Centres (>5000) in Britain, 1999-2014

Source: Annual Census of Employment and Business Register and Employment Survey

Figure 4: Change in Financial Employment (FTEs) in London and Britain, 1999-2014

Figure 4a: Change in Financial Employment in London

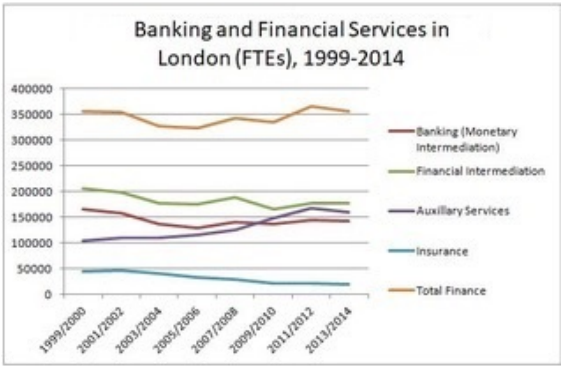
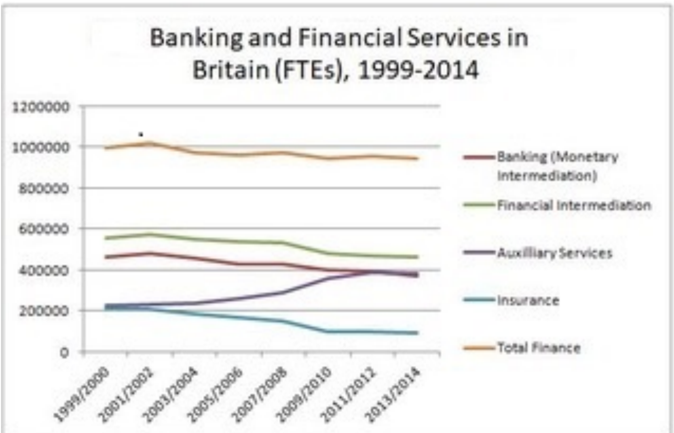


Figure 4b: Change in Financial Employment in Britain



Source: Annual Census of Employment and Business Register and Employment Survey

Table 1: A Brief Institutional History of the Banking Crisis, 2007-2017

Date	Key Events
2007	Northern Rock granted emergency funding by the Bank of England Portman Building Society (BS) acquired by the Nationwide BS
2008	Northern Rock taken in to public ownership; government invests £1.4 billion in the company UK Financial Investments Limited (UKFI) established with responsibility for managing taxpayer interests in publically-owned banks Bradford and Bingley nationalised with its branch network and retail customers sold off to Santander and UKFI made responsible for its mortgage assets Barclays announces it will raise capital from sovereign wealth funds Alliance and Leicester acquired by Santander which had in 2004 purchased Abbey National, another mortgage bank that had been a former building society Royal Bank of Scotland (RBS) receives state support, and Halifax Bank of Scotland (HBoS) taken over by Lloyds TSB with government support, and both recapitalised Treasury announces a major recapitalisation of the banking sector purchasing Tier 1 capital in eight institutions; £25bn in shares involved and a £250bn credit guarantee scheme Iceland banks Glitnir, Landsbanki and Kaupthing default badly affecting building societies that had deposited funds with them. Treasury announces measures to protect depositors in Icelandic banks Nationwide BS acquires the Cheshire and Derbyshire BSs, Barnsley acquired by Yorkshire BS, Scarborough acquired by the Skipton BS and the Catholic by Chelsea BS
2009	Asset Protection Scheme announced to protect banks from future losses; Banking Act passed to improve financial stability; Quantitative Easing announced Britannia BS acquired by Co-operative Financial Services and becomes part of the Co-operative Bank Dunfermline BS acquired by Nationwide
2010	Northern Rock split in to Northern Rock plc a standalone retail bank and Northern Rock Asset Management (NRAM). The remaining mortgage assets and loans of Northern Rock and Bradford and Bingley subsequently brought together in UK Asset Resolution (UKAR) Chelsea BS acquired by the Yorkshire BS; Stroud and Swindon by Coventry BS and Chesham by the Skipton BS
2011	Kent Reliance BS transfers its business and assets to OneSavingsBank owned by JC Flowers, a US private equity firm Norwich and Peterborough BS acquired by the Yorkshire BS Yorkshire BS purchases the savings and mortgage book of Egg - one of the first internet banks set up in 1998 - from Citigroup, and Barclays acquires their credit card business
2012	Northern Rock plc sold to Virgin Money for between £863 and £977m
2012	£465m NRAM mortgages sold to Virgin Money
2013	UKAR sells a portfolio of standalone unsecured Northern Rock personal loans to OneSavings Bank and Martin Financial Group for £400m The Trustee Savings Bank (TSB) re-established divesting 631 branches from Lloyds TSB to meet European Commission state aid requirements. Initially TSB remained a separate operating unit within Lloyds and was subsequently floated on the stock market. The branches originated from TSB, a former savings bank

	established in Scotland and acquired by Lloyds in 1999, and the former Cheltenham and Gloucester building society acquired by Lloyds in 1995 RBS unveils plans to divest 308 retail branches in a standalone business operating under the Williams and Glyn brand name to meet EU state aid concerns. Williams and Glynn was originally established in 1970 when RBS merged two of its subsidiary banks Co-operative Bank rescued by US hedge fund investors following a funding shortfall largely created by the debts of the former Britannia Building Society; the former owner becomes a minority shareholder Shepshead acquired by the Nottingham BS and Century acquired by Scottish BS
2014	RBS, as part of an extensive strategy to raise funds and withdraw from risky or non-core ventures, finalises the sale of its insurance arm, Direct Line Group Sale of £2.79bn of NRAM residential mortgages to consortium led by JP Morgan City of Derry acquired by Progressive BS
2015	Sale of £13bn of assets from NRAM announced (sale completed 2016) including £12bn from Northern Rock Granite securitisation and £1bn non-Granite to Cerberus Capital Management, a US private equity firm, and Cerberus passes on £3.3bn of loans to the TSB. Government received £520m as part of the sale TSB acquired by Sabadell a large Spanish bank
2016	Cerberus launches a successful sale of £6.2bn of securitised bonds backed by 80,000 mortgages purchased from NRAM UKAR announces 7yr transfer of the mortgage servicing operations of Northern Rock to Computershare covering £30bn of NRAM assets and 1,700 NRAM employees; UKRA - retains 250 employees to manage the balance sheets of NRAM and Bradford and Bingley
2017	Co-operative Bank again financially restructured after the failure of a sale and effectively severs its relationship with the Co-operative Group RBS announces that given the lack of a serious buyer for Williams and Glyn it would establishment a £425m fund to support the expansion of established institutions in the small business market. The company also announced a 25% reduction in its branch network, the latest in a series of such closure programmes, following hard on the heels of the winding up of its internal 'bad bank' of toxic assets
2018	TSB suffers significant disruption transferring customers from a Lloyds Bank IT platform to Sabadell Government announces the sale of approximately 8% of RBS's shares Clydesdale and Yorkshire Bank Group announce the takeover of Virgin Money. The combined group will ultimately trade under the Virgin Money brand

Source: National Audit Office (2012) *The Creation and Sale of Northern Rock plc,* Report by the Comptroller and Auditor General, HC 20 Session 2012-13, May; Marshall (2013; 2017); Building Societies Association; various company press releases and press reports.

Table 2: The Changing Anatomy of Banking: New Incorporated Domestic Banks, 2009-2017

Bank	Licensed	Headquarters/Base	Product/Market/Ownership
Aldermore	2009	Reading	Acquisition of Ruffler Bank provided a banking license to develop a small and medium-sized (SME) focused bank. Take-over by FirstRand South Africa's largest bank accepted by the board in 2017
Atom Bank	2015	Durham	Licensed digital bank focused on SMEs. Secured investment from Spanish banking group BBVA and British Business Bank Investments a government owned entity investing in small businesses
Cambridge & Counties Bank	2012	Leicester	Focus on commercial and residential investment, bridging finance and secured pension lending. Owned by Trinity Hall and Cambridgeshire Local Government Pension Scheme
Charter Savings Bank	2015	Wolverhampton	Licensed on-line retail bank, part of Charter Court Financial Services Ltd – buy-to-let mortgage supplier
Civilised Bank	2017	Reading	Proposed on-line bank for SMEs
Clear Bank	2016	London	A new clearing bank to provide customers access to UK payment systems and facilitate inter-bank transfers
Chetwood Financial Limited	2017	Wrexham	Financial services company granted a banking license supported by investment from the Welsh government
First Global Trust Bank	2016	London	A wholesale bank originally established as Llamabrook in 2011. Banking license cancelled after withdrawal of financial backing
Hampden and Co plc	2014	Edinburgh	Private bank incorporating Scoban on-line banking
Hampshire Trust Bank	2015	London	Re-launch of bank established in 1977 specialising in asset, commercial, and property finance as well as providing savings accounts
Masthaven	2016	London	An online mortgage specialist moving in to savings and loans.
Monzo	2017	London	Formerly Mondo - offers a savings account based on a banking application. Raising finance following a provisional banking license
Metro Bank	2010	London	Licensed consumer and corporate branch-based bank
OneSavings Bank	2011	Chatham Kent	Provides savings, loans and mortgages – former Kent Reliant Building Society, bought out by J.C. Flowers & Co., a private equity investment firm.

OakNorth Bank Ltd	2015	London	Licensed bank focused on SMEs finance and property. Indiabulls Housing Finance Limited is a major investor
Paragon Bank	2014	Solihull	Specialist licensed bank – started providing financial loans via brokers and moving in to retail savings, loans and mortgages. Part of Paragon Group a prominent buy-to-let lender
PCF Bank	2016	London	Part of PCFG an equipment and vehicle hire company which is broadening its range of financial services
Redwood Bank	2017	Letchworth	SME-focused bank owned and financed by Acorn Global Investment
Shawbrook Bank	2011	Brentwood	Specialist SME-focused retail and commercial bank. Purchased the banking licence of Whiteaway Laidlaw Bank. In 2017 it was taken over by BC Partners and Pollen Street Capital
Starling Bank	2016	London	Branchless/mobile retail bank; some of the management team departed to set up Monzo
Tandem	2015	London	On-line licensed bank offering current accounts, credit cards and savings and loans. Formerly RNM Financial Limited; had banking license withdrawn due to funding problems but restored in 2017 with the acquisition of Harrods Bank
Wyelands	2016	London	Focuses on SMEs; formerly Tungsten bank which was established by an invoice processing company. Now owned by Liberty House metals and industrial group

Source: Bank of England list of Incorporated Banks; Competition and Markets Authority (2016) and web search. The table excludes subsidiaries of foreign-based institutions.

TABLE 3: Definitions of Banks, Banking and the Financial Sector in Britain*

Industry	SIC 2003	SIC 2007
Financial Intermediation (including monetary intermediation, holding companies, trusts and investment, venture capital, other credit and leasing)	65	64
Insurance (including insurance, reinsurance and pensions)	66	65
Auxiliary Services (administration of financial markets, commodity contracts and brokerage, agents, brokers, fund management)	67	66
Monetary Intermediation - Banking (including retail and investment banks, central banks, building societies)	65.1 [= 65.11 + 65.12]	64.1 [= 64.11 + 64.19]
Central Banks	65.11	64.11
Banks and Building Societies	65.12	64.19 [= 64.191 + 64.192]
Banks	N/A	64.191
Building Societies	N/A	64.192

*Data for Northern Ireland is not available at the level of disaggregation used in the paper

Table 4: Banking Centres Ranked by Employment (FTEs), 1999-2014 (000s)*

	1999/00	(LQ)		2005/06	(LQ)		2007/08	(LQ)		2009/10	(LQ)		2013/14	(LQ)
London	165.9	1.80	London	129.1	1.60	London	141.1	1.72	London	136.8	1.73	London	143.1	1.84
Birmingham	21.1	0.91	Birmingham	20.0	0.98	Birmingham	18.0	0.90	Birmingham	17.1	0.94	Edinburgh	18.5	3.09
Manchester	16.6	0.97	Edinburgh	17.8	2.50	Manchester	18.0	1.15	Manchester	16.8	1.14	Manchester	16.1	1.17
Edinburgh	13.5	1.85	Manchester	16.6	1.06	Edinburgh	15.1	2.14	Edinburgh	16.8	2.56	Birmingham	14.9	0.88
Glasgow	12.9	0.97	Glasgow	13.8	1.09	Leeds	13.5	2.00	Leeds	12.6	2.07	Leeds	10.4	1.85
Leeds	11.5	1.59	Leeds	13.3	1.98	Glasgow	12.9	1.07	Glasgow	11.0	0.95	Glasgow	9.7	0.96
Bristol	10.0	1.34	Liverpool	9.4	1.37	Bristol	9.3	1.32	Bristol	10.5	1.52	Bristol	7.4	1.17
Liverpool	8.7	1.23	Bristol	9.3	1.32	Liverpool	9.3	1.37	Birkenhead	7.4	2.54	Liverpool	6.5	1.15
Bournemouth	7.1	2.04	Newcastle	8.8	1.21	Bournemouth	8.2	2.45	Liverpool	7.3	1.17	Bournemouth	6.1	2.08
Bradford	6.7	1.67	Bournemouth	8.1	2.43	Newcastle	8.2	1.16	Bournemouth	7.1	2.22	Sheffield	6.1	1.31
Birkenhead	6.4	1.76	Sheffield	6.8	1.20	Birkenhead	7.1	2.26	Sheffield	6.7	1.30	Bradford	5.5	1.91
Sheffield	5.5	0.99	Birkenhead	6.2	1.97	Sheffield	6.0	1.07	Newcastle	6.7	1.02	Northampton	5.4	2.08
Northampton	5.0	1.58	Bradford	6.0	1.71	Northampton	6.0	1.93	Northampton	5.6	1.89	Birkenhead	5.3	2.00
Newcastle	4.7	0.64	Northampton	3.4	1.14	Bradford	5.6	1.60	Bradford	4.9	1.49	Newcastle	5.0	0.84

*Banking centres have > 5000 employees in the majority of years 1999-2014
**Location Quotients (LQ) calculated as:
LQi = (ei/e) / (Ei/E)

LQi = location quotient for sector in the regional economy