

## Commentary

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### **Crises, the spatial distribution of economic activity, and the geography of banking**

#### **Introduction**

The geography of the financial crisis has become a growing area of research (Aalbers, 2009; Cameron, 2008; Sidaway, 2008). Wainwright and Rodgers (2013) argue that the financial crisis “could be better viewed as a series of uneven and interrelated crises” (page 1008), including the sovereign debt crisis, on which they elaborate by focusing on the need to examine tax systems and their implications across a variety of economic spaces. Theirs is a timely call that should be supported by all social scientists in a collaborative and interdisciplinary effort.

It is indeed likely that the spatial perspective of geographers offers new insights, especially in a day and age when the importance of regional development has become recognised not only by scholars, but is frequently flagged up by government decision makers. However, economic models have not been primarily concerned with the question of spatial distribution of economic activity, since they often implicitly assume that markets ensure a geographically well-distributed economy. However, there are reasons to believe that this is not the case. One reason was identified by Wainwright and Rodgers: the tax system. Meanwhile, economic geographers and social scientists have previously undertaken research on the ‘varieties of capitalism’ (VoC). The VoC literature (Albert, 1993; Hall and Soskice, 2001; Hall and Thelen, 2009; Hodgson, 1996; see also Boschma and Frenken, 2006; and Yeung, 2007) studies how key features of capitalist economies can differ, based on different institutional legacies. The approach has limitations, including that it tends to deemphasise causal explanations (Peck and Zhang, 2013). Despite, or because of this literature, only limited attention has been placed on the role of differing types and structures of banking systems. All too often it is assumed that banking infrastructure is homogeneous under globalisation. Yet, for instance, the structure of the Spanish banking sector differs from that in Germany, while both are significantly different from the UK banking sector. The recent crisis has highlighted the need to understand the diversity and causal role of banking systems, if policy interventions are to be designed successfully: it will be argued below that certain types of banking structures are more compatible with stable and sustainable economic growth, while others are more prone to the ‘recurring banking crises’ (Werner, 2005). Indeed, it is likely that the particular features of a country’s banking structure constitute an important causal factor in the stability of the banking system and the economy. The same features are also likely to have important spatial implications, as discussed below. Such insights would be useful to inform banking policy decisions.

While some research has identified a difference between ‘bank-based’ and ‘market-based’ financial systems (Zysman, 1983), the fact is that all systems have banks (or a bank, as was usually the case in communist economies), but the structure of their banking systems may differ substantially, which has a number of consequences, including spatially. This has remained an underresearched area, and so has its link to other major issues such as the incidence of banking crises and the stability of financial systems, the stability and sustainability of economic growth, and the equity of economic outcomes. But understanding these issues is likely to be important for the conscious design of banking systems that deliver stable and sustainable growth without crises.

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**Why do banks matter?**

The first consideration is the question of just why banks matter. Until the financial crisis of 2008, the dominant position among economists has been not to worry about banks. Leading macroeconomic theories and models of the past two hundred years simply do not include banks. This is true for the classical and Keynesian approaches, eclectic so-called IS-LM models, monetarism, and even more so for the more recent and presently dominant approaches: namely, real business cycle theories and their variants. The main reason why the banking sector and its role have been ignored by economists is likely that banks have been considered mere ‘financial intermediaries’, playing the role of agents—collecting deposits and then lending these out again. As such, they could not have a markedly different effect on the economy from other intermediaries, such as insurance companies or stock brokers. However, there has been much empirical evidence that banks are indeed unique and different from other financial service providers, because their activity cannot be substituted by other nonbank financial intermediaries. Ashcraft (2005), for instance, showed that the closure of small, local banks in the US has a significant negative impact on local economic activity. So why are banks unique?

There are many proposals to answer this question. To name the most influential ones: Diamond and Dybvig (1983) argue that the “Illiquidity of assets provides the rationale both for the existence of banks and for their vulnerability to runs” (page 403). Diamond (1984) argues that banks mainly serve as monitors of borrowers. Rajan (1996), Diamond and Rajan (2001), and Kashyap et al (2002) argue that banks combine deposit-taking and lending activities, because for both activities liquidity provision is required. Combining them, for instance, allows banks to take advantage of economies of scale. Many of these theories are combined with the argument that banks ‘transform’ liabilities with particular features (short-term, liquid, many small amounts) into assets with other features [longer term, illiquid, fewer larger amounts (see, for instance, Bernanke, 1993)]. However, these arguments apply equally to other types of nonbank financial institutions and, indeed, the theories often do not clearly separate banks from nonbank financial intermediaries. Thus they are not able to advance a consistent argument why banks are different from other financial intermediaries [such as insurance companies, which also gather funds and issue loans; for a more detailed critique of some of these theories, see Werner (2005; 2013)].

Schumpeter (1912), on the other hand, argued that the role of banks is causally connected to economic growth and development, through their ability to create credit. To reflect on this connection, consider the question of the origin of the money supply.

**Where does money come from?**

It is an assumption in some influential economic models that the amount of funds available in an economy is limited. However, an economy characterised by a fixed total nominal amount of funds could not experience any nominal economic growth: growth means that more transactions take place during the observation period (say one year) than in the reference period (usually the previous year). It is impossible for transactions values to grow, without the amount of money used for transactions also growing. Thus for economic growth it is a necessary and sufficient condition that the amount of money used for transactions that contribute to GDP increases. This raises the important question of just how this money can increase.

Where, indeed, does money come from? And where does it go? These questions, with obvious spatial implications, have rarely been asked by researchers. In a modern economy, central bank supply of notes and coins amounts to only about 3% of transactions—those petty transactions paid for in cash. The rest is settled through the banking system. As I have argued (Werner, 1997; 2005; 2012), banks thus are not primarily financial intermediaries and

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accountants of record, but they are the creators of the money supply. In the UK about 97% of the money supply is newly created by the banking system, namely when loan applicants receive their funds as fictitious deposit entries—invented by the banks which are allowed to engage in such highly creative accounting. This is the process of credit creation (see also Ryan-Collins et al, 2012), providing evidence for a geographer's critique of 'fictitious capital' (Roberts, 1994). Most economists did not spot this pivotal role of banks, since the most influential economic models and theories simply do not include banks [eg, Woodford (2003), or any of the so-called DSGE (dynamic stochastic general equilibrium) models, widely used by central banks].<sup>(1)</sup>

### **Good credit, bad credit—and crises**

There are a number of implications. First considering the general, nonspatial aspects: if bank credit is extended for productive investments that expand the amount or value of goods and services, sustainable and inflation-free growth can be generated. The bank credit expands the money supply, but this is matched by an increase in the value of goods and services, avoiding inflationary pressure, while the loans can be serviced and repaid from the income generated. If bank credit is extended for unproductive transactions, it is unsustainable and produces inflation, of two kinds. Firstly, credit for consumption results in consumer price inflation, since the amount of money supplied is increased, and hence the demand for goods and services, but there is no concomitant increase in the amount of goods and services. Secondly, if banks create credit for transactions that do not contribute to GDP—namely asset and financial transactions—this will tend to push up asset prices and commence an unsustainable Ponzi scheme that does not generate income, but merely capital gains. For asset price rises and hence capital gains to continue, however, ever-more bank credit creation for asset transactions is required. As soon as the music (credit creation for asset transactions) stops, asset prices will fall, and it will be found there are not enough chairs (speculators, requiring but not obtaining further asset price rises, will go bankrupt). Failing borrowers cause bad debts in the banking system, which render banks risk averse, so that they reduce credit creation further, including for GDP transactions. This results in further bad debts, but also in falling GDP growth, unemployment, and declining tax revenues—and a potential fiscal problem, especially when governments engage in the highly costly exercise of bailing out the quickly bankrupted banks (a fall in the value of banks' assets by only 10% depletes more than the capital and hence implies *banca rotta*—the word's etymology did not come about by chance). For a recovery, bank credit creation for GDP transactions (the 'real economy') needs to be stimulated [policies to achieve this were originally described with the expression 'quantitative easing' (see Werner, 1995)].<sup>(2)</sup>

<sup>(1)</sup>For a critique of the methodology of mainstream approaches, see Werner (2005) and for DSGE models in particular, see de Grauwe (2010).

<sup>(2)</sup>This disaggregation of credit flows by quantity and quality was proposed in the Quantity Theory of Credit (Werner, 1997) and applied to the UK in Lyonnet and Werner (2012). Policies to stimulate a recovery via expanded credit for GDP transactions are discussed in Werner (2012), which has been echoed by the Bank of England in its Funding for Lending Scheme (FLS), announced in June 2012. FLS was designed to "incentivise banks ... to boost their lending to ... the 'real economy'" (Bank of England *Quarterly Bulletin* 2012, Q4). The definition for 'lending to the real economy' employed by the Bank of England for FLS was almost identical to the empirical definition of credit for the real circulation as defined by the Quantity Theory of Credit and applied to the UK in Lyonnet and Werner (2012), which had been submitted to the Bank of England in July 2011. A further spatial disaggregation of credit has been attempted for Japan, but still needs to be implemented in the UK.

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**Bank credit reshapes the economic landscape**

We see that the banks' decision of how much money to create and who to give it to determines the economic destiny of the country and, indeed, quickly and literally reshapes the economic landscape, across a variety of spaces. Whether banks decide to fund mainly large-scale speculative ventures—such as by providing leverage to hedge and private equity funds based in London and the City's offshore dependencies, or to fund many small and medium-sized enterprises (SMEs) engaged in energy efficiency or carbon reduction projects employing many low-skilled or semiskilled staff in the remoter parts of the country will not only determine whether there will be stable and sustainable noninflationary growth or instead a credit-driven boom–bust cycle that causes banking crises. These decisions about the extension of bank credit will also have diverging effects on the geographical distribution of economic activity, income, taxation, location of habitation, transport and traffic patterns, and so forth. Yet, surprisingly little research has been conducted by social scientists of any persuasion, including economists, on this issue. Of the almost 4000 research articles produced and made available online by the major central banks in the twenty years to 2008 (US Federal Reserve Board, New York Fed, Bank of England, European Central Bank, and Bank of Japan), virtually none covered topics such as banks' ability and role in creating credit and the disaggregation of credit in different types and to different regions (Cheng and Werner, 2013).

**International aspects of banking**

The financial crisis of 2008 is often dubbed as having been 'global'. In fact, it was located mainly in Europe and the US. Nevertheless, the investments by European banks in the US financial markets (especially in the form of structured credit derivatives of securitised high-risk mortgage investments, or funds and special purpose vehicles that invested in these—all of which were in the end valued as largely worthless) had a significant negative impact on their financial stability, effectively bankrupting a number of major European banks. Thus it is clear that banking often has international consequences. This is particularly true for the major banks operating out of the square mile of sovereign territory known as the City of London Corporation. Many of them are not UK banks, but may hail from other countries. Furthermore, the volume of international transactions vastly exceeds domestic banking transactions, since it includes the foreign exchange deals that amount to more than \$5 trillion daily. Much of the activity of banks based in the City or its offshore dependencies may not be regulated by domestic regulators, as it is classified as 'offshore': HSBC USA is considered part of the US banking system and is subject to regulation there. JP Morgan London is a major player in the UK banking system and its onshore business is supervised by the Bank of England. While it is a convention in international banking that accounts in any currency can ultimately be traced to banks that are regulated by the central bank that is associated with the respective currency of the territory, since the 1950s, the Bank of England has allowed largely unregulated 'offshore' finance out of London in any currency. Cross-border transactions expanded also in the eurozone—further fuelling the credit-driven asset bubbles that had been produced under the watch of the European Central Bank by banks in Ireland, Portugal, Spain, and Greece that had been creating credit at rapid pace mainly for asset speculation. However, international banking and its institutional details and consequences, surprisingly, also remain underresearched.

**Large-scale banking versus local banking**

To be sure, there is a recent and growing body of research on SME lending. Berger and Udell (2002) provide reasons why small banks are more likely to lend to small firms. Empirically, Zarutskie (2013) found in a study on US lending that bank size and bank age are significant factors determining bank lending, including to SMEs. Hakenes et al (2009)

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also investigate the impact of regional banking on local economic growth, using German data, and find a positive correlation, especially in the less-developed regions. Knyazeva and Knyazeva (2012) analyse the role of geographic distance between banks and borrowers for bank lending decisions in the US. They conclude that a longer distance between banks and borrowers results in significantly higher spreads charged on loans. However, none of these studies explicitly treats banks as creators of the money supply; they often focus on interest rate effects, they do not go far enough in identifying diverse credit extension patterns or their causes and consequences, and they fail to emphasise the many spatial implications.

The monetary system we possess—of money creation not restricted to a geographically centralised government agency or central bank, but a delegated system of private sector money creators that are potentially situated in spatially diverse locations, distributed unevenly across the country—creates opportunities and risks, and may explain many of the phenomena social geographers have noted.

Economies of scale dictate a number of features that have spatial implications: the fewer banks there are in a country, the larger each one tends to be. The larger banks are, the more they tend to favour large-scale projects (Berger et al, 2005), which tend to be geographically situated in clusters and centres (such as hedge funds and private equity funds, based mainly in Mayfair).

A comparison between Germany and the UK, two countries with diverging spatial distribution structures of economic activity, serves to illustrate the point: In the UK the five major high street banks account for over 90% of bank deposits. Small, regional banks with local headquarters account for less than 5% of bank deposits. The large banks maintain a network of branches, but this is biased towards collecting deposits, while far fewer loans are granted to the many SMEs in the regions. Thus banks effectively serve to extract savings from the regions and inject new money in the centre—a form of bank-organised domestic capital flight. It is obvious why large banks are not interested in small borrowers in the provinces. If Lloyds Bank wishes to grow by 5%, it must increase its £1000 billion asset book by £50 billion. It can do so by cutting cheques of £1 billion each to fifty major hedge and private equity funds, which use the money to leverage their financial speculation. Alternatively, it can try to respond to the demand for small loans of, say, £20 000 each by SMEs all over the country, but it would then have to conduct credit checks and full-scale due diligence on 2.5 million firms to achieve the same asset growth. Not only is it easier and less costly to lend to fifty hedge funds instead. The bonuses for the staff employed are likely to be bigger as well. So it is clear where large banks will place their emphasis. As a result, it stands to reason that bank scale would tend to be positively correlated with customer size.

Scale economies for banks, however, become diseconomies for regional and SME development: the larger a bank, the less it will be interested in small-scale loans, which are demanded more by firms and households in the regions. Thus UK banks favour large loans in urban centres. In Germany, by contrast, banking is dominated by almost 2000 small, locally headquartered banks distributed all across the country, and whose activity is geographically restricted, often by law, to their home ‘turf’. These small, local banks in the regions (the *Sparkasse* savings banks and *Volksbank* or *Raiffeisenbank* cooperative banks) account for 70% of bank deposits. UK-style high street banks account for only 13% of bank deposits. The many local banks are focused on their immediate geographical area and thus tend to lend to smaller firms and households. They cannot simply flee their potentially unattractive location or try to lend to far-flung large-scale projects. Hence they cannot ‘exploit’ economies of scale in the credit business (but they can stay competitive as banks, because they pool their back-office operations and gain administrative economies of scale in this way). This generates benefits for spatial distribution of economic activity, income, and wealth equality,

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and, indeed, stability: such small, local banks have not been directly affected by the credit crunch. While the large German banks have reduced their lending since 2008—just like the banks in Britain—the dominant small, local banks have increased their lending, ensuring that SMEs have continued to grow, explaining the resilience of the German economy to the financial crisis. The reason for this is that small banks had sounder loan portfolios from local lending, and hence did not become risk averse when the financial crisis hit the large banks. The latter were nursing significant losses from large-scale speculative financial investments that the small banks had not engaged in. Another reason for greater stability of growth and employment is the presence of diseconomies of lending scale with respect to employment and hence the larger impact on employment per unit of money lent to and invested by SMEs.

How important the geographical restriction of bank activity must be can be seen in the case of the deregulation of the Spanish *Caja* savings banks: while initially similar to the German savings banks, once their spatial restriction to the local area was eliminated, their behaviour changed for the worse. Asked to compete against each other for market share, they began lending in regions far removed from their headquarters, and project sizes trended up. As a result, the quality of their lending deteriorated. This behaviour had major implications for the nation: it fuelled the speculative credit bubble that has since crashed the Spanish economy and caused a sovereign debt-cum-banking crisis. At the same time the German savings banks have continued to restrict their lending to their local area. Avoiding the harmful financial speculation, these geographically restricted local banks have therefore thrived. So have their customers, the SMEs, which matter a lot for the overall economy, since they account for between 60% and 70% of employment in most industrialised countries. The sharp dichotomy in Spanish and German unemployment rates underlines the huge costs of the neglect of the geography of banking.

### **Local currencies**

If we now remember that banks do not lend existing money, but that they are the creators of the money supply, through their extension of loans, we obtain the most compelling reason yet why a banking system such as Germany's consisting of many small local banks that are geographically restricted in their area of activity must be more attractive. Since banks create new money when they extend credit this is tantamount to possessing a geographically well-distributed system of decentralised central banks, creating and injecting money fairly evenly across the geographic areas of Germany, and focusing on small firms. It stands to reason that this should deliver a more even spatial distribution of economic activity, and benefits such as greater stability, resilience, and equal distribution of wealth. This is indeed what German data suggest and why German economic activity is far more evenly distributed across space than that in the UK. Indeed, it should be a key reason why SMEs are so successful in Germany that they have often become major international exporters: the German countryside is littered with small, locally headquartered banks. Towns with little more than 2000 inhabitants may boast their own locally headquartered bank, and, supported by it, an SME exporting significant volumes of high-value goods.

### **Conclusion**

Banks, through their loan decisions, are a crucial command centre in the economy that affects most other aspects of the economy. Thus a fruitful new area of research for geographers and social scientists in general should be to examine the role of banking and banking system structure in the creation and allocation of credit that is disaggregated by various characteristics. This research is likely to help us better understand the causes of banking crises and the ingredients for stable, noninflationary, and sustainable growth. It should include the geographical aspects of bank credit creation, disaggregated by type (for consumption, productive investment, or financial speculation), and its impact on the spatial distribution of

economic activity and other variables following from it (such as the spatial distribution of dwellings, traffic, employment, income and wealth, and human activity in general). For the geography of banking is linked to the ingredients of a stable banking system that delivers sustainable growth: a decentralised banking structure consisting of many small, independent banks that restrict their activity to their immediate geographic location and lend primarily to SMEs is likely to prove superior to a centralised banking system dominated by a few large banks that have no geographic restrictions on their activities and lend mainly to financial speculators. Thus further research on these issues is likely to result in better informed banking policy that has a better chance to bring us closer to the promised land of stable, equitable, sustainable, and crisis-free economic growth—a goal that has remained elusive following the Basel approach to bank regulation that favours large banks and hence furthers concentration in banking. The research is also likely to show that, instead of focusing resources on an ever smaller number of ever larger banks, it should be cheaper and more effective to capitalise new networks of geographically restricted small local banks.

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