

# Geographies of money and finance I: Cultural economy, politics and place

Progress in Human Geography 35(2) 234-245 © The Author(s) 2010 Reprints and permission: sagepub.co.uk/journalsPermissions.nav 10.1177/0309132510370277 phg.sagepub.com



# Sarah Hall

University of Nottingham, UK

### Abstract

In this report, I review the intersection between cultural economy and economic geography research on money and finance. To date, economic geographers have engaged most extensively with cultural economy work on the calculative practices that (re)produce the international financial system. However, I argue that there is scope for economic geography to broaden its engagement with this literature by developing understandings of the co-constitutive relationship between variegated geographical contexts and calculative practices. Such an approach is valuable because it responds to calls for cultural economy research to consider the political and normative dimensions of money and finance more fully.

### Keywords

agencement, cultural economy, financial crisis, markets, performativity

# I Introduction

The geographies of money and finance have changed markedly since Andrew Leyshon's previous progress reports in the late 1990s (Leyshon, 1995, 1997, 1998). Put simply, the financialized growth of the NICE decade (non-inflationary constant expansion) has given way to an unprecedented finance-led recession. However, this familiar story of boom and bust hides the scope and significance of recent developments. During the early 2000s, it would have been unthinkable that national governments in western Europe and the USA would need to step in to support their banking systems, that the investment banking business model would face near-collapse and that the remuneration packages of financial elites would become the subject of significant public debate. Meanwhile, as households and firms became increasingly tied into the international financial system throughout the 2000s, so the ensuing crisis has had ramifications beyond the confines of leading financial centres through home repossessions, redundancies and firm closures.

These events have provided the impetus for the continued growth of geographical research on money and finance. The result is a vibrant intellectual terrain that is characterized by considerable variety in terms of theoretical approach, substantive research concerns and, to a lesser extent, the geographical location of research sites. Theoretically, in common with economic geography more generally, research has become increasingly outward-looking and engaged with work in sociology, anthropology,

### **Corresponding author:**

School of Geography, University of Nottingham, University Park, Nottingham NG7 2RD, UK Email: sarah.hall@nottingham.ac.uk political science and, to a lesser extent, economics. Significant research strands have developed that: examine the growing power of financial markets and the uneven geographical consequences of their influence over households and firms through the lens of financialization (French et al., 2010; Pike, 2006; Pike and Pollard, 2010); explore how the international financial system is reproduced through the grounding of global financial flows in placespecific institutional spaces (Clark and Wójcik, 2007; Clark et al., 2009) and; focus on the range of non-human technologies involved in (re)producing financial markets from a cultural economy perspective (Clark and Thrift, 2005; Hall, 2006; Pryke, 2007). Meanwhile, substantive research foci range from established concerns such as international financial centres (Cook et al., 2007; Faulconbridge et al., 2007; French, 2002; Wócjik et al., 2007) to a growing interest in household and retail finances (French and Kneale, 2009; Leyshon et al., 2004; Smith et al., 2006) and 'alternative' forms of financial service provision (Leyshon et al., 2003). Finally, while the majority of this work remains concentrated in Anglo-American economies, there has been growing interest in emerging markets, particularly in Asia (Beaverstock and Doel, 2001; Lai, 2006, 2010) and eastern Europe (Smith and Swain, 2010).

I will pursue some of these strands of research in my subsequent two reports, but in this report I focus on the intersection between economic geography and cultural economy approaches to money and finance. I have chosen to begin with this literature because its understanding of markets as 'calculative collective devices' (Callon and Muniesa, 2005) or 'agencements' (Callon, 2007), in which technologies such as electronic trading platforms, financial economic theories and credit scoring techniques play a key role, reflects the growing importance of such technologies in both the financialized boom of the 2000s and the ensuing finance-led recession. Indeed, through this focus, cultural economy approaches have responded to Leyshon's (1998: 442) call for geographical research on money and finance to 'speak the language' of finance more fluently. However, just as these technologies have been heavily criticized for their role in triggering the 'global' financial crisis (Tett, 2009; Wainwright, 2009), so cultural economy research has been criticized for the ways in which it potentially reifies forms of 'rational', neoclassical economic calculation and hence overlooks questions of power and politics in the reproduction of the international financial system (Pryke and du Gay, 2007; Slater, 2002;).

In this report, I suggest that these potential limitations of cultural economy perspectives can be explained partially by the genealogy of the literature as a whole, developing as it did in the heartlands of high finance during a period of unprecedented financial expansion in the 2000s. As such, it is a necessarily selective reading of what are geographically variegated periods of financial growth and crisis (on which see Aalbers, 2009a; Sidaway, 2009). Moreover, and echoing other interdisciplinary dialogues between economic geography and heterodox economics (see Peck, 2005), these critiques reflect the selective uptake of cultural economy approaches within the wider social sciences. In particular, while much research has focused on cultural economy readings of the technologies through which the international financial system is (re)produced, much less has been made of the ways in which these technologies intersect with specific, place-based contexts what MacKenzie (2003) terms 'worlds' - to create a geographically variegated international financial system.

In response, I argue that insights from recent geographical scholarship on money and finance beyond cultural economy can be used to address these silences by demonstrating not only how place-based assets shape processes of financial market making, but also by exploring the possibility for creating 'alternative', more progressive, 'worlds' through financial markets. I develop this argument in three parts. In the next section, I chart the genealogy and development of cultural economy approaches to money and finance over the last 10–15 years. Next, I examine the critiques of this literature before detailing how the wider literature on the geographies of money and finance might be incorporated more fully into cultural economy research agendas in order to produce more spatially sensitive understandings of contemporary finance and its politics.

# II Cultural economy, money and finance

Although cultural economy approaches to money and finance developed most significantly in the 2000s, they build on wider heterodox economic insights that have developed key concepts such as networks and embeddedness to understand how 'the economic' is constituted through social relations. Indeed, economic geographers have used these socio-economic approaches widely in the study of money and finance. First, echoing work on the geographies of knowledge circulation and learning more generally, and building on the seminal contribution of Clark and O'Connor (1997), research has emphasized the role of dense networks of interaction between individuals and firms within international financial districts in facilitating processes of financial innovation. Through the creation of 'buzz' (Bathelt et al., 2004), such networks are argued to help overcome the significant knowledge asymmetries and uncertainties that typify client-provider relations within finance (Clark, 2005). While much of this work has looked at leading financial centres such as London and New York (Faulconbridge, 2004; Hall, 2007a), research has also focused on: provincial financial centres (French, 2002; French et al., 2010), emerging financial centres (Lai, 2010); struggling financial centres (Engelen, 2007); and translocal knowledge networks between financial centres (Clark and Wojcik, 2001; Lai, 2006; Sidaway and Bryson, 2002).

Second, following the work of Polanyi (1944) and Granovetter (1985), research has explored the ways in which these processes of innovation are embedded both societally and territorially (Hess, 2004). Societal embeddedness refers to the ways in which cultural, social and political relations, at multiple spatial scales from the local through to the transnational, shape economic activities. In terms of finance, economic geographers have used this perspective to consider how the unique cultural attributes of financial centres such as attitudes to risk, business norms and bodily performances help facilitate the development of trust-based relationships that are deemed essential for the exchange of knowledge and information within financial markets (see, for example, Clark and Wójcik, 2001; Hall and Appleyard, 2009; Pryke and Allen, 2000; Thrift, 1994; Wójcik, 2007; ). Meanwhile, in terms of territorial embeddedness, economic geographers have drawn on institutional insights to consider how regulatory environments shape processes of financial innovation. Particular emphasis has been placed on the relational nature of regulation as regulatory bodies and governments seek to use regulation strategically as seen in recent debates surrounding the competition between London, New York and emerging financial centres (French et al., 2009; Hall, 2007b). Moreover, beyond financial centres, the variegated (re)production of regional financial landscapes through the intersection between regulatory regimes and the activities of market actors has been examined (Clark and Wójcik, 2007).

While these socio-economic approaches to money and finance conceive of a realm termed 'the economic' or 'finance' that can be separated from, or embedded within, social relations, cultural economy research adopts a poststructuralist epistemology to emphasize the constantly entangled nature of economic, cultural, social and political relations. In terms of economic geography, this research agenda has been shaped

significantly by insights from actor-network theory and science studies, particularly Michel Callon's (1998) work on processes of market making (Berndt and Boeckler, 2009) and 'economization' (Caliskan and Callon, 2009). This work examines how markets, and economic actors more widely, are not preformed and given, but are made up of the entwining of humans and a range of non-human actors such as technologies, theories, tools and beliefs. Crucially, Callon (2007) labels these entanglements 'agencements'. In so doing, he seeks to move beyond simple descriptions of the combination of humans and technologies within markets and instead emphasizes their collective agency by arguing that agencements are 'arrangements endowed with the capacity of acting in different ways depending on their configuration' (Callon, 2007: 320). Money and finance represents one of the spheres in which this approach has been developed most fully through a research agenda commonly termed the social studies of finance. Three related research strands are particularly significant.

First, a series of ethnographies have been conducted within leading financial centres in order to reveal the range of actors that, in Callon's (2007) terms, comprise the agencements of international finance. In so doing, these ethnographies have challenged the façade of powerful and seemingly 'rational' financial markets to reveal their fragilities, contradictions and emotive qualities. For example, Zaloom (2006) examines how the growth of electronic trading technologies changed the nature of market sociality through a comparative study of open outcry (face-to-face) trading in the pit of the Chicago Board of Trade and electronic (faceto-screen) trading at a London futures dealing firm. Her research reveals that even in the seemingly 'modern' and 'rational' world of screen-based trading, numbers representing market prices are constantly being interpreted by traders in their everyday work as they seek to create a 'social narrative' to explain unanticipated price movements and the activities of other traders. Meanwhile, Ho (2009) worked in investment banking in the late 1990s in order to understand how a commitment to shareholder value was reproduced through daily working practices on Wall Street, despite its deleterious consequences for both corporate America and the investment banks themselves. While the focus of these ethnographies has often been within the centres of neoliberal finance capitalism (see also Abolafia, 1996), studies have also been conducted in emerging markets such as Shanghai and on 'alternative' financial markets such as Islamic banking (see Hertz, 1998, and Maurer, 2005, respectively).

Second, the 'sociotechnical agencements' (Callon, 2007) identified in these ethnographies have been interrogated further through microsociological research into the material technologies involved in (re)producing financial markets. This research goes beyond identifying a series of material components of markets such as computers, price-recording technologies and consumer credit scoring that simply facilitate social relations in markets (see Knorr Cetina, 2005, Preda, 2006, and Poon, 2007, respectively). Rather, the term 'market device' is used to emphasize how such technologies become entangled with other market actors to shape markets and their consequences (Muniesa et al., 2007). For example, Knorr Cetina and Bruegger (2002a) have explored the ways in which computer screens 'frame' global foreign exchange markets for traders such that their interaction with the screens becomes a central part of their identity as financial traders. Geographically, Knorr Cetina and Bruegger (2002b) argue that these screens are also important because they fold a series of global market relationships into 'micro-structures' within a trading room, echoing work on topological spatial imaginaries more generally (on which see Amin, 2002).

Third, particular attention has been paid to one type of 'market device' - economic theory - and its role in making markets.

Led by the seminal contribution of Donald MacKenzie. this literature examines the performative qualities of financial theory. Drawing on Austin's (1979) work on 'speech acts', MacKenzie (2006) argues that economic theory shapes the financial markets in which it is used (what he terms effective performativity) rather than simply being used in, or describing, financial markets (what he terms generic performativity). One of the most notable expositions of this is MacKenzie's (2003: 852) ground-breaking study of the Nobel Prize-winning Black Scholes option pricing theory in which he demonstrates how the use of this theory 'altered patterns of pricing in a way that increased the validity of the model's predictions, in particular helping the model to pass its key econometric test: that the implied volatility of all options on the same stock with the same expiration should be identical' (see also MacKenzie and Millo, 2003; Millo, 2007).

While much of this cultural economy literature has been developed by sociologists and anthropologists, geographers have sought to demonstrate the role of space and place in shaping financial market agencements and their consequences through a growing interest in the cultural dimensions of finance (Tickell, 2003). For example, Clark et al. (2004) examine how the discursive framing of finance through new forms of specialist financial media have impacted upon the working practices of investment and fund managers in leading financial centres. Meanwhile, geographers have also built on the wider literature in economic geography on knowledge circulation and learning to challenge taken-for-granted assumptions about the nature of financial knowledge as a highly mobile, homogeneous market device. Here research has emphasized the geographically variable nature of financial knowledge in cases ranging from the global foreign exchange market (Clark and Thrift, 2005) to corporate finance (Hall, 2006, 2008).

Indeed, taken together, cultural economy research on financial markets as agencements

has done much to reveal the range of activities and actors involved in the reproduction of financial markets and the contradictions and tensions associated with this. However, critics have voiced concerns that in moving beyond political economy-inspired concerns surrounding the geographically uneven nature of finance (see, for example, Leyshon and Thrift, 1997; Martin, 1999) cultural economy approaches overlook the political nature of financial markets and their heterogeneous geographical implications (see, for example, Engelen and Faulconbridge, 2009; Pryke and du Gay, 2007).

# III Cultural economy and politics

One of the most keenly debated aspects of cultural economy approaches has been its insistence that through the multiple elements of market agencements discussed above, 'homo economicus ... is not the expression of some type of pre-given natural human behaviour, but a relational effect of distributed collective calculative devices' (Berndt and Boeckler, 2009: 543). Here, critics have suggested that by emphasizing the use of economic theory by human actors within (financial) markets, cultural economy approaches serve to reinforce and reify the power of rational calculation as articulated in neoclassical economics and hence downplay the political nature of market agencements (Slater, 2002; see also Christophers, 2009). For example, in contrast to examining the performativity of economic theory, Miller's (1998) work on virtualism focuses attention on the activities of powerful actors such as the IMF, World Bank and audit culture more generally as they seek to make the messy actualities of everyday economic life conform to economists' models.

The 'global' financial crisis reinforces the power of this critique by demonstrating the ways in which daily economic practices constantly 'overflow' their attempted framings through economic theories (Callon, 1998). For example, the model of securitized mortgage finance that fuelled the sub-prime mortgage market growth and collapse in the USA in the 2000s involved "bundling" together a stream of future obligations arising from mortgage repayments to provide the basis for the issue of, and the payment of principal and interest on securities' (Langley, 2006a: 283). However, this model relied on householders acting as responsible 'investor subjects' (Langley, 2006b). When changes in macro-economic conditions combined with the expiry of householders' enticing 'teaser' mortgage interest rates to produce high levels of defaults, sub-prime mortgage markets began to diverge from their framings in residential mortgage backed securities with now well-known and serious consequences for financial markets more generally (see Aalbers, 2009b; Tett, 2009; Wainwright, 2009). Developments such as these reinforce earlier calls for a greater political sensitivity to cultural economy research on money and finance (see, for example, de Goede, 2005; Pryke and du Gay, 2007).

In some ways, the emphasis in cultural economy work on money and finance on the performativity of financial theory reflects the genealogy of the literature as a whole. It developed primarily in the 2000s during an unprecedented period of financial services expansion with an empirical focus on the financial centres at the heart of the international financial system, notably London and New York. In these places, the 2000s was a period dominated by rapid financial innovation in which financial risk management, notably through derivatives, and new ways of 'managing' debt, particularly securitization, allowed financial services to amass unprecedented profits, reward their employees through significant remuneration and bonus packages while becoming increasingly political powerful (see Augar, 2009, in the case of London). This growth also impacted upon wider economic geographies through, for example, more affordable credit to firms and householders as lenders relaxed their borrowing requirements and the emergence of new business models associated with hedge funds and private equity firms (see, for example, Beunza and Stark, 2004; Hardie and MacKenzie, 2007). Consequently, a focus on how these new types of financial market agencements worked from a cultural economy perspective has been important in advancing social scientific understandings of this period of finance-led capitalism.

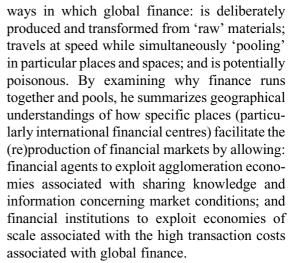
However, the geographical and temporal specificity of much cultural economy research on money and finance has led to a necessarily partial understanding of international finance. Most notably, cultural economy scholars have comparatively neglected elements of the international financial system beyond the leading financial centres of the USA and the UK that experienced the 2000s in rather different ways. For example, in the case of the UK, economic geographers have examined the changing fortunes of provincial financial centres (French et al., 2010) and revealed the ways in which the financial models and discourses, such as shareholder value, reproduced in London's financial district have travelled beyond the City with significant implications for regional economic restructuring (see Pike, 2006). Research has also examined the development of financial markets beyond Anglo-American capitalism during the 2000s and their relationships with established financial centres (Beaverstock, 2007; Beaverstock and Doel, 2001; Hardie, 2006; Lai, 2006, 2010). Building on these insights, recent work has highlighted the heterogeneous geographical experiences of the erroneously termed 'global' financial crisis (Sidaway, 2009; Smith and Swain, 2010; Wójcik, 2009).

This research points to the need for cultural economy approaches to money and finance to be more reflexive in terms of how selected research sites offer necessarily partial accounts of the international financial system. In response, in the rest of this report, I review recent work on the geographies of money and finance that offers the possibility for developing a more politically and geographically nuanced cultural economy of money and finance.

### IV Cultural economy and place

While understandings of the geographical heterogeneity of the international financial system have not been developed widely within cultural economy approaches to money and finance, they resonate with calls from cultural economy scholars to examine the relationship between market agencements and the wider socio-economic relations in which they are (re)produced. For example, the use of the term agencement is favoured over assemblage because 'nothing is left outside agencements' (Callon, 2007: 320). Hence, researching agencements goes beyond simply describing the arrangements between various actors and socio-technical devices to consider the relationship between these assemblages and the wider social, cultural and political spaces in which, and upon which, they act (see also Lovell and Smith, 2010). Meanwhile, MacKenzie (2003) calls for research to focus on 'an equation and its world' - a reference to the wider contexts through which financial market agencements take form and have agency. The importance of these market worlds is demonstrated, for example, by the legal reforms needed to distinguish, or 'singularize' (Callon and Muniesa, 2005), derivatives contracts from gambling in the USA and the UK (MacKenzie, 2006). However, while this research acknowledges the importance of the wider contexts in which financial markets are (re)produced, it is rather less clear on the specific nature of these 'worlds'.

In this respect, economic geographers have developed sophisticated accounts of the institutional, cultural and political bases of financial systems that offer the potential to remedy this oversight. For example, building on earlier geographical interventions (Leyshon and Thrift, 1997; Martin, 1999; Thrift, 1994), Clark (2005) has developed the metaphor that 'money flows like mercury' in order to emphasize the



These arguments have been developed through the adoption of institutional perspectives that focus on the geographical heterogeneity of these 'pools' of global finance and the differential ways in which they shape financial practice. For example, the intersection between corporate governance and financial markets has been examined in order to document the geographical and historical specificity of different places (both nationally and subnationally) in terms of their regulatory principles and their culturally specific financial working practices that result in a hybrid financial landscape (Clark and Wójcik, 2007; Dixon and Monk, 2009). These findings are important because they reveal the variegated nature of financial markets, rather than supporting arguments that they will simply converge or diverge from essentialized (Anglo-American) market forms as suggested by the varieties of capitalism literature (see also Peck and Theodore, 2007).

Of particular importance for my argument here is work that has examined how this geographical heterogeneity shapes particular forms of financial market agencements as exemplified by Engelen et al.'s (2010) call for a more explicitly geographical understanding of financial innovation. In this work, they argue that greater attention needs to be paid to the intersection between wider macro-economic conditions (such as market deregulation) and more dynamic conjunctural opportunities that, together with location specific attributes of leading financial centres such as their infrastructure and concentration of human capital, open up the space for financial innovation to occur. Similarly, building on a wider interest in the operation of markets for the trade of carbon futures and options (Bailey and Maresh, 2009; Bumpus and Liverman, 2008; MacKenzie, 2009), Knox-Hayes (2009) has examined the importance of institutional proximity (understood as shared working practices and business outlooks between market actors) in facilitating the growth of carbon markets in London and New York.

However, it is not only in specifying the geographical heterogeneity of the 'worlds' that co-constitute financial agencements that economic geography has a significant role to play in advancing cultural economy approaches to money and finance. Research has also revealed the different types of economic theories, beyond orthodox financial economics, that can be performed within financial markets and the different 'worlds' that such performances might produce. For example, building on anthropological research into Islamic finance (Maurer, 2003, 2005; Pollard and Samers, 2007) examine how the growth of Islamic banking and finance in both Muslim dominated and non-dominated countries points to the entangled nature of Islamic and 'western' financial systems. More broadly, they use this analysis to call for a greater postcolonial sensibility within economic geography that takes seriously the partial and situated knowledge of research conducted in a small number of 'western' research sites and modes of knowledge production. Clearly this perspective has the potential to respond to criticisms of the geographically specific nature of much of the cultural economy literature and challenge discourses surrounding the 'global' financial crisis more generally.

Such an approach also echoes calls to examine 'the interstitial space between 'virtual' models and its 'real' effects' (Ho, 2009: 36) as, in the



language of Callon and Muniesa (2005), different calculative regimes compete to become the accepted norm within financial markets (see also de Goede, 2005). This space becomes particularly important when considering the possibility for different types of financial theory to be deployed in order to perform different types of economic futures. In this respect, in addition to work on carbon trading, research has examined the development of financial products that attempt to manage other types of environmental risks such as weather derivatives (Pollard et al., 2008; Pryke, 2007). Moreover, Smith (2005, 2009; Smith et al., 2006) has used a cultural economy approach to raise normative questions concerning how housing markets might be performed differently if new forms of calculative devices were used. In particular, she has focused on the possibility that the development of markets for the trade of housing derivatives may be able to help protect the investment risk that homeowners currently have tied up in their property – a risk that has become all too apparent in recent years following rising default and foreclosure rates, particularly amongst sub-prime borrowers, that played a significant role in triggering the 'global' financial crisis (Aalbers, 2009b; Wyly et al., 2009).

# **V** Conclusions

In this report, I have focused on the intersection between cultural economy and economic geography research on money and finance. From the late 1990s onwards, cultural economy research has drawn on insights from science studies and actor-network theory in order to open up the 'black box' of global finance by examining the range of technologies, artifacts and socioeconomic relations that constitute the international financial system (MacKenzie, 2005). In particular, this approach has focused on the role of financial economic theory in performing markets through the activities of academic economists (or what Callon, 2007, terms confined economists) and financial practitioners (termed economists in the wild). By drawing on this literature, economic geographers have been able to respond to earlier criticisms of work on the geographies of money and finance concerning its lack of fluency in the 'language of finance'. Moreover, cultural economy perspectives are valuable in understanding the role of financial theory in the 'global' financial crisis and the performativity of other forms of economic theory that are currently attracting growing media and political attention, notably behavioural economics (see Thaler and Sunsteain, 2008).

However, in common with other inter disciplinary exchanges involving economic geography, the trade in ideas with cultural economy can be characterized largely as a selective importing of ideas (Berndt and Boeckler, 2009; Peck and Theodore, 2007) with particular emphasis being placed on the role of non-human market actors. In this report, I have examined how this trade deficit might be productively remedied by using economic geography research on money and finance to respond to calls from cultural economy scholars to develop understandings of the role of wider social, political and cultural relations that co-constitute financial markets. A more holistic interdisciplinary dialogue along these lines has the potential to examine how on, the one hand, these market 'worlds' create the possibilities for certain kinds of calculation and yet, on the other hand, raise normative questions about what kind of 'worlds' could or should be (re)produced through the international financial system. The ongoing finance-led recession only underscores the importance of developing these more politically engaged cultural economies of money and finance and the research reviewed in this report suggests that economic geographers are extremely well positioned to develop such a research agenda.

### Acknowledgements

The arguments made in this report were developed with the support of an ESRC First Grant (RES-061-25-0071). I would also like to

acknowledge dialogues with Jon Beaverstock, Shaun French and Andrew Leyshon that have contributed to my thinking in this report.

### References

- Aalbers M (2009a) Geographies of the financial crisis. *Area* 41: 34–42.
- Aalbers M (2009b) The sociology and geography of mortgage markets: reflections on the financial crisis. *The International Journal of Urban and Regional Research* 33: 281–90.
- Abolafia MY (1996) *Making Markets: Opportunism and Restraint on Wall Street.* Cambridge, MA: Harvard University Press.
- Amin A (2002) Spatialities of globalization. *Environment* and Planning A 34: 385–99.
- Augar P (2009) Chasing Alpha: How Reckless Growth and Unchecked Ambition Ruined the City's Golden Decade. London: The Bodley Head.
- Austin JL (1979) *Philosophical papers*, third edition. Oxford: Oxford University Press.
- Bailey I, Maresh S (2009) Scales and networks of neoliberal climate governance: the regulatory and territorial logics of European Union emissions trading. *Transactions of the Institute of British Geographers* NS 34: 445–61.
- Bathelt H, Malmberg A, and Maskell P (2004) Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation. *Progress in Human Geography* 28: 31–56.
- Beaverstock JV (2007) World city networks 'from below': international mobility and inter-city relations in the global investment banking industry. In: Taylor PJ, Derudder B, Saey P, et al. (eds) *Cities in Globalization: Practices, Policies and Theories*. London: Routledge, 52–71.
- Beaverstock JV, Doel M (2001) Unfolding the spatial architecture of the East Asian financial crisis: the organizational response of global investment banks. *Geoforum* 32: 15–32.
- Berndt C, Boeckler M (2009) Geographies of circulation and exchange: constructions of markets. *Progress in Human Geography* 33: 535–51.
- Beunza D, Stark D (2004) Tools of the trade: the sociotechnology of arbitrage in a Wall Street trading room. *Industrial and Corporate Change* 13: 369–400.
- Bumpus AG, Liverman DM (2008) Accumulation by decarbonisation and the governance of carbon offsets. *Economic Geography* 84: 127–55.

- Caliskan K, Callon M (2009) Economization, part 1: shifting attention from the economy towards processes of economization. *Economy and Society* 38: 369–98.
- Callon M (1998) An essay on framing and overflowing: economic externalities revisited by sociology. In: Callon M (ed.) *The Laws of the Market*. Oxford: Blackwell, 244–69.
- Callon M (2007) What does it mean to say that economics is performative? In: MacKenzie D, Muniesa F, and Siu L (eds) Do Economists Make Markets? On the Performativity of Economics. Princeton, NJ: Princeton University Press, 311–57.
- Callon M, Muniesa F (2005) Economic markets as calculative collective devices. *Organization Studies* 26: 1229–50.
- Christophers B (2009) Complexity, finance and progress in human geography. *Progress in Human Geography* 33: 807–24.
- Clark GL (2005) Money flows like mercury: the geography of global finance. *Geografiska Annaler B* 87: 99–112.
- Clark GL, O'Connor K (1997) The informational content of financial products and the spatial structure of the global finance industry. In: Cox K (ed.) Spaces of Globalization: Reasserting the Power of the Local. New York: Guilford Press, 89–114.
- Clark GL, Thrift N (2005) The return of bureaucracy: managing dispersed knowledge in global finance. In: Knorr Cetina, K, Preda A (eds) *The Sociology of Financial Markets*. Oxford: Oxford University Press, 229–49.
- Clark GL, Wójcik D (2001) The City of London in the Asian crisis. *Journal of Economic Geography* 1: 107–31.
- Clark GL, Wójcik D (2007) The Geography of Finance: Corporate Governance in the Global Marketplace. Oxford: Oxford University Press.
- Clark GL, Dixon AD, and Monk AHB (eds) (2009) Managing Financial Risks: From Global To Local. Oxford: Oxford University Press.
- Clark GL, Thrift N, and Tickell A (2004) Performing finance: the industry, the media and its image. *Review of International Political Economy* 11: 289–310.
- Cook G, Pandit G, Beaverstock J, et al. (2007) The role of location in knowledge creation and diffusion: evidence of centripetal and centrifugal forces in the City of London. *Environment and Planning A* 39: 1325–45.
- de Goede M (2005) Virtue, Fortune and Faith: A Genealogy of Finance. Minneapolis, MN: University of Minnesota Press.
- Dixon AD, Monk AHB (2009) The power of finance: accounting harmonization's effect on pension provision. *Journal of Economic Geography* 9: 619–39.



- Engelen E (2007) 'Amsterdamned'? The uncertain future of a financial centre. *Environment and Planning* A 39: 1306–24.
- Engelen E, Faulconbridge J (2009) Introduction: Financial geographies the credit crisis as an opportunity to catch economic geography's next boat. *Journal of Economic Geography* 9: 587–95.
- Engelen E, Erturk I, Froud J, et al. (2010) Reconceptualizing financial innovation: frame, conjuncture and bricolage. *Economy and Society* 39: 33–63.
- Faulconbridge JR (2004) London and Frankfurt in Europe's evolving financial centre network. *Area* 36: 235–44.
- Faulconbridge JR, Engelen E, Hoyler M, et al. (2007) Analysing the changing landscape of European financial centres: the role of financial products and the case of Amsterdam. *Growth and Change* 38: 279–303.
- French S (2002) Gamekeepers and gamekeeping: assuring Bristol's place within life underwriting. *Environment and Planning A* 34: 513–41.
- French S, Kneale J (2009) Excessive financialisation: insuring lifestyles, enlivening subjects and everyday spaces of biosocial excess. *Environment and Planning* D 27: 1030–53.
- French S, Lai K, and Leyshon A (2010) Banking on financial services. In: Coe N, Jones A (eds) *The Economic Geography of the UK*. London: SAGE.
- French S, Leyshon A, and Thrift N (2009) A very geographical crisis: the making and breaking of the 2007– 2008 financial crisis. *Cambridge Journal of Regions, Economy and Society* 2: 287–302.
- French S, Leyshon A, and Wainwright T (2010) Financializing space. *Progress in Human Geography*, forthcoming.
- Granovetter M (1985) Economic action and social structure: the problem of embeddedness. *American Journal of Sociology* 91: 481–510.
- Hall S (2006) What counts? Exploring the production of quantitative financial narratives in London's corporate finance industry. *Journal of Economic Geography* 6: 661–78.
- Hall S (2007a) 'Relational marketplaces' and the rise of boutiques in London's corporate finance industry. *Environment and Planning A* 39: 1838–45.
- Hall S (2007b) Knowledge makes the money go round: conflicts of interest and corporate finance in London's financial district. *Geoforum* 38: 710–19.

- Hall S (2008) Geographies of business education: MBA programmes, reflexive business schools and the cultural circuit of capital. *Transactions of the Institute of British Geographers* NS 33: 27–41.
- Hall S, Appleyard L (2009) 'City of London, City of Learning?' Placing business education within the geographies of finance. *Journal of Economic Geography* 9: 597–617.
- Hardie I (2006) The power of the markets? The interantioanl bond markets and the 2002 elections in Brazil. *Review of International Political Economy* 13: 53–77.
- Hardie I, MacKenzie D (2007) Assembling an economic actor: the *agencement* of a hedge fund. *The Sociological Review* 55: 57–80.
- Hertz E (1998) *The Trading Crowd: An Ethnography of the Shanghai Stock Exchange.* Cambridge: Cambridge University Press.
- Hess M (2004) Spatial relationships? Towards a reconceptualization of embeddedness. *Progress in Human Geography* 28: 165–86.
- Ho K (2009) *Liquidated: An Ethnography of Wall Street.* Durham, NC: Duke University Press.
- Knorr Cetina K (2005) How are global markets global? The architecture of a flow world. In: Knorr Cetina K, Preda A (eds) *The Sociology of Financial Markets*. Oxford: Oxford University Press, 38–61.
- Knorr Cetina K, Bruegger U (2002a) Traders' engagement with markets: a postsocial relationship. *Theory, Culture* and Society 19: 161–85.
- Knorr Cetina K, Bruegger U (2002b) Global microstructures: the virtual societies of financial markets. *American Journal of Sociology* 107: 905–50.
- Knox-Hayes J (2009) The developing carbon financial service industry: expertise, adaptation and complementarity in London and New York. *Journal of Economic Geography* 9: 749–78.
- Lai KPY (2006) 'Imagineering' Asian emerging markets: financial knowledge networks in the fund management industry. *Geoforum* 37: 627–42.
- Lai KPY (2010) Marketization through contestation: reconfiguring China's financial markets through knowledge networks. *Journal of Economic Geography*, forthcoming.
- Langley P (2006a) Securitising suburbia: the transformation of Anglo-American mortgage finance. *Competition and Change* 10: 283–99.



- Langley P (2006b) The making of investor subjects in Anglo-American pensions. *Environment and Planning D Society and Space* 24: 919–34.
- Leyshon A (1995) Geographies of money and finance I. *Progress in Human Geography* 19: 531–43.
- Leyshon A (1997) Geographies of money and finance II. Progress in Human Geography 21: 381–92.
- Leyshon A (1998) Geographies of money and finance III. Progress in Human Geography 22: 433–46.
- Leyshon A, Thrift N (1997) Money/Space: Geographies of Monetary Transformation. London: Routledge.
- Leyshon A, Burton D, Knights D, et al. (2004) Towards an ecology of retail financial services: understanding the persistence of door-to-door credit and insurance providers. *Environment and Planning A* 36: 625–46.
- Leyshon A, Lee R, and Williams C (eds) (2003) *Alternative Economic Spaces*. London: SAGE.
- Lovell H, Smith SJ (2010) *Agencement* in housing markets: the case of the UK construction industry. *Geoforum*, in press.
- MacKenzie D (2003) An equation and its worlds: bricolage, exemplars, disunity and performativity in financial economics. *Social Studies of Science* 33: 831–68.
- MacKenzie D (2005) Opening the black boxes of global finance. *Review of International Political Economy* 12: 555–76.
- MacKenzie D (2006) An Engine, Not a Camera: How Financial Models Shape Markets. Cambridge, MA: The MIT Press.
- MacKenzie D (2009) Making things the same: gases emission rights and the politics of carbon markets. *Accounting, Organizations and Society* 34: 440–55.
- MacKenzie D, Millo Y (2003) Constructing a market, performing theory: the historical sociology of a financial derivatives exchange. *American Journal of Sociology* 109: 107–45.
- Martin R (ed.) (1999) *Money and the Space Economy*. Chichester: Wiley.
- Maurer B (2003) Uncanny exchanges: the possibilities of 'making change' with alternative monetary forms. *Environment and Planning D: Society and Space* 21: 317–40.
- Maurer B (2005) *Mutual Life, Limited: Islamic Banking, Alternative Currencies, Lateral Reason.* Princeton, NJ: Princeton University Press.
- Miller D (1998) Conclusion: a theory of virtualism. In: Carrier JG, Miller D (eds) Virtualism: A New Political Economy. Oxford: Berg, 187–215.

- Millo Y (2007) Making things deliverable: the origins of index-based derivatives. *Sociological Review* 55: 196–214.
- Muniesa F, Millo Y, and Callon M (2007) An introduction to market devices. *Sociological Review* 55: 1–12.
- Peck J (2005) Economic sociologies in space. *Economic Geography* 81: 129–75.
- Peck J, Theodore N (2007) Variegated capitalism. *Progress in Human Geography* 7: 731–72.
- Pike A (2006) 'Shareholder value' versus the regions: the closure of the Vaux Brewey in Sunderland. *Journal of Economic Geography* 6: 201–22.
- Pike A, Pollard J (2010) Economic geographies of financialization. *Economic Geography* 86: 29–51.
- Polanyi K (1944) *The Great Transformation: The Political and Economic Origins of Our Time*. New York: Farrar and Rinehart.
- Pollard JS, Samers M (2007) Islamic banking and finance: postcolonial political economy and the decentring of economic geography. *Transactions of the Institute of British Geographers* NS 32: 313–30.
- Pollard JS, Oldfield J, Randalls A, et al. (2008) Firm finances, weather derivatives and geography. *Geoforum* 39: 616–24.
- Poon M (2007) Scorecards as devices for consumer credit: the case of Fair, Isaac and Company Incorporated. *Sociological Review* 55: 284–306.
- Preda A (2006) Socio-technical agency in financial markets: the case of the stock ticker. *Social Studies of Science* 36: 753–82.
- Pryke M (2007) Geomoney: an option on frost, going long on clouds. *Geoforum* 38: 576–88.
- Pryke M, Allen J (2000) Monetized time-space: derivatives – money's 'new imaginary'? *Economy and Society* 29: 264–84.
- Pryke M, du Gay P (2007) Take an issue: cultural economy and finance. *Economy and Society* 36: 339–54.
- Sidaway J (2009) Geography, stupid? A note on the credit crunch. *Environment and Planning A* 41: 258–60.
- Sidaway JD, Bryson J (2002) Constructing knowledges of 'emerging markets': UK-based investment managers and their overseas connections. *Environment and Planning A* 34: 401–16.
- Slater D (2002) From calculation to alienation: disentangling economic abstractions. *Economy and Society* 31: 234–49.

لمسارات

- Smith A, Swain A (2010) The global economic crisis, Eastern Europe and the former Soviet Union: models of development and the contradictions of internationalization. *Eurasian Geography and Economics* 51: 1–34.
- Smith S (2005) States, markets and an ethic of care. Political Geography 24: 1–20.
- Smith SJ (2009) Managing financial risks: the strange case of housing. In: Clark GL, Dixon AD, and Monk AHB (eds) *Managing Financial Risks: From Global to Local*. Oxford: Oxford University Press, 233–57.
- Smith SJ, Munro M, and Christie H (2006) Performing (housing) markets. Urban Studies 43: 81–98.
- Tett G (2009) Fool's Gold. London: Little, Brown.
- Thaler RH, Sunsteain CR (2008) Nudge: Improving Decisions about Health, Wealth and Happiness. Princeton, NJ: Princeton University Press.
- Thrift N (1994) On the social and cultural determinants of international financial centres: the case of the City of London. In: Thrift N, Corbridge S, and Martin R (eds) *Money, Power and Space*. Oxford: Blackwell, 327–55.
- Tickell A (2003) Cultures of money. In: Anderson K, Domosh M, Thrift N, (eds) Handbook of Cultural Geography. London: SAGE, 116–30.
- Wainwright T (2009) Laying the foundations for a crisis: mapping the historico-geographical construction of residential mortgage backed securitization in the UK. *International Journal of Urban and Regional Research* 33: 372–88.
- Wójcik D (2007) Geography and the future of stock exchanges: between real and virtual space. *Growth and Change* 38: 200–23.
- Wójcik D (2009) Geography, stupid! A note on the credit crunch. *Environment and Planning A* 41: 258–60.
- Wójcik D, Beaverstock J, and Sidaway J (2007) European financial geographies. Growth and Change 38: 167–73.
- Wyly E, Moos M, Hammel D, et al. (2009) Cartographies of race and class: mapping the class-monopoly rents of American subprime mortgage capital. *International Journal of Urban and Regional Research* 33: 332–54.
- Zaloom C (2006) *Out of the Pits: Traders and Technology from Chicago to London*. Chicago: Chicago University Press.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

