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Hall, S. orcid.org/0000-0001-5563-5909, Leaver, A. orcid.org/0000-0001-6199-6057, Seabrooke, L. orcid.org/0000-0001-5581-3293 et al. (1 more author) (2023) The changing spatial arrangements of global finance: financial, social and legal infrastructures. *Environment and Planning A: Economy and Space*. ISSN 0308-518X

<https://doi.org/10.1177/0308518x231159396>

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The changing spatial arrangements of global finance: Financial, social and legal infrastructures

EPA: Economy and Space

1–8

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DOI: 10.1177/0308518X231159396

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Abstract

The spatial arrangements of global finance have changed significantly over the last 30 years, entangling new actors, relations and sites. Infrastructures have developed to stabilize change and complexity. The collection advocates for a broader understanding of infrastructures that includes – but moves beyond – supporting technologies of Bloomberg terminals, telephony, and high-speed cabling. In particular, it highlights other infrastructural forms: financial institutions which govern and steer market action, social networks which organize financial practices and reproduce status-based power asymmetries and legal treatments which work across jurisdictions to open up opportunities for actors to innovate or avoid costs. This theme issue highlights how these different infrastructural forms support both changes and continuities in the global financial system and thus contributes to the literature on financialization, global financial networks and global wealth chains.

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Keywords

Global financial networks, financialization, infrastructure, social networks, law

Introduction

The social and spatial arrangements of global finance have changed significantly over the last 30 years, entangling new actors, relations and sites (Pike and Pollard 2010). Yet within that trajectory of change, there have also been important and enduring continuities – of financial institutions, global financial centres and elite power. This theme issue attempts to capture both the dynamism of finance as a mutable, ever-changing network capable of adapting to emerging areas of spatial opportunity and the spatially embedded, relational structures which advance specific interests and curtail others that endure over time. We contend that this capacity for fluidity and fixity is possible because of the specific infrastructures that support global finance. By infrastructures here we mean two things. Infrastructures are the socio-material technologies that facilitate finance as a *space for action*, of which we become rudely aware when they do not work (Knorr-Cetina and Bruegger 2002; Kornberger et al. 2019; Campbell-Verduyn et al. 2019). But infrastructures are also a *source of power*, capable of expanding an authority's range and capacity to extract income and wealth, as well as concessions and consent over a population (Mann 1984; Braun and Gabor 2020).

The articles in this theme issue explore how these two meanings play out within the spatial arrangement of the financial, social and legal relations that underpin the global financial system. Financial institutions provide the space and boundaries for legitimate action within financial markets, creating opportunities and constraints for particular actors. Social networks stabilize how actors in the market read one another, as well as create enduring relations and power asymmetries which shape markets. International legal structures provide avenues for arbitrage, ambiguity and absences (Grasten et al. 2021), as well as the design of corporate structures to protect the interests – not of stakeholders – but the social unit of the firm (Robé 2020; Palan et al. 2021). Below we extend this discussion of financial institutions, social networks and legal management as infrastructures that help us to understand the changes and continuities in the spatial organization of finance.

Our hope is that this theme issue contributes to a growing body of work on the interrelation of, and interpenetration between, finance, economy and space (Clark et al. 2009; French et al. 2011; Langley and Leyshon 2017; Zook and Grote 2016). Our collection is distinctive in two ways. First, we seek to demonstrate that financial networks gain power and wealth not only through the purposive action of large financial institutions through well-known sites of financial infrastructures but also by connecting with actors in other realms, sectors and spaces, including law and accounting firms, policy-makers and alternative financial services providers (see also, e.g., Christophers 2016; Ouma 2015; Wójcik 2013). Within this theme issue, the relations we map within those spaces may be economic or political in nature; they may be designed to open out new opportunities for product or service development; or they may provide regulatory shelter from constraints imposed elsewhere. Second, we set those relations within a spatial context at a time when global geopolitical arrangements are liquid. We thus emphasize the role of financial institutions, social networks and legal affordances in creating the infrastructure for elite manoeuvrability as they rework the spatial footprint of the contemporary international financial system. In what follows, we discuss the financial, social and legal contributions to this infrastructure, but we will first explain what we mean by 'infrastructure' in this theme issue introduction.

Infrastructures

The first conception of infrastructure we use is that associated with Science and Technology Studies and Social Studies of Finance, which emphasizes ‘material markets’ and ‘market devices’ and how the machine-based physical infrastructure matters for how finance works (Knorr Cetina and Bruegger 2002; Erturk et al. 2013; MacKenzie 2008). Often posed as the study of ‘boring things’ (Star 1999), this work stresses how infrastructures make the activity possible, how they are critical in the regularization of core processes, and how they are largely seen as black boxes to outsiders (Bernards and Campbell-Verduyn 2019). Infrastructures are not free-floating but spatially grounded. For example, the proximity of trading servers to exchange is of vital competitive advantage in high-frequency trading (MacKenzie et al. 2012), creating ‘micro-geographies’ of information inequality (Zook and Grote 2016). The spatial environments for financial infrastructure interact with the traders working within them, leading to the calibration of bodies with trading rhythms and, in the current age, algorithms (Borch et al. 2015; Borch and Lange 2017). Infrastructures also exist digitally, not only in the cloud but also in physical spaces that governments and firms are heavily reliant upon (Gjesvik 2022; Kemmerling and Trampusch 2022). They help replicate power asymmetries, including new forms of neo-colonial extraction (Campbell-Verduyn and Giunelli 2022). Infrastructures, in this sense, create a *space for action*, which is neither entirely open nor unalterable – it creates the facilities and rigidities within which relational and spatial reorganization takes place.

This conception of infrastructure is different from that of Mann’s (1984) – the second conception that informs this theme issue, which views infrastructure as a *source of power*. Mann’s (1984) idea of infrastructural power is more concerned with how the state expands its reach over a population and corporate capacity to extract revenue. This approach has previously been discussed in relation to how private finance builds or undermines ‘state capacity’ (Seabrooke 2006; Thurbon 2016). Under a new guise, Mann’s infrastructural power is being used to discuss authority relations between finance and governing authorities (Petry 2021; Coombs 2021). For example, Braun (2020) discusses how the European Central Bank has become entangled in repo markets and shadow banking, which allows financial actors to exert infrastructural power over central banks. The power of finance to extend their infrastructural power – to expand their range and control over how a governing authority treats its population – has taught central banks to ‘love financialization’ (Walter and Wansleben 2020; Sokol 2022).

Our theme issue draws on these ideas to consider how financial institutions, social networks and transnational legal management act as ‘infrastructures’ that produce new freedoms and create new spaces for action, as well as entrenching elite interests which endure because they are embedded infrastructurally. We will now discuss each in turn.

Financial institutions

The first theme is the establishment and extension of financial institutions as infrastructures that stabilize and spatialize innovation and help expand the reach of global finance over populations. In this theme issue, we can see how both socio-material infrastructures and Mann-like infrastructural power are both at work. Hall’s (2022) article examines how International Financial Centres like London shape the governance of financial networks and in so doing, facilitate broader geopolitical changes. The article examines how China’s global ambitions in the new normal period have been advanced through the enrolment of London’s financial infrastructure to internationalize the Renminbi. Hall identifies three ways in which these relations have fostered change – through regulation, market-making expertise and epistemic leadership. Both the socio-material infrastructure of London’s international banking and changing state-market relationships are at play here, and Hall

advances our understanding of the governance arrangements of changing financial networks at a time of significant geopolitical change in global finance.

Also on infrastructure, Dafermos, Gabor and Mitchell's (2021) 'macro-financial' contribution investigates the growing imbrication of shadow banking and emerging economy state investment practices, particularly the growing tendency for those countries to accumulate assets denominated in foreign currencies. The article discusses how global shadow banking networks are aiding the financialization of emerging economies by allowing states to fund and hedge their foreign-denominated assets, fostering new trans-border instabilities. The infrastructural dominance of the dollar amplifies vulnerabilities within the global system. This dominance is supported by the Fed's approach to global liquidity provision, which seeks to affirm US hegemony without stabilizing global finance.

Social networks

A second theme in this issue is the role of social networks as infrastructures that maintain regularities that stabilize innovation and complexity in global financial markets. Here, the articles examine the social imprints of infrastructures – the 'social relationships materialized' as Barney (2018) refers to them – instead of infrastructures in their more commonly understood technological form. Social networks as infrastructure facilitate 'the flow of goods, people, or ideas and allow for their exchange' (Larkin 2013: 328). These social network infrastructures can therefore reflect different types of relationships. Some are enduring, such as repeated interactions between actors which create trust and become habitual. Others emerge in issue-specific contexts such as regulatory reform agendas. In either case, a social network view provides additional insights into how actors become relationally entangled and sustain infrastructural life, just as physical–technical networks do (Lemanski and Massey 2022).

This approach to social networks as infrastructure complements the study of complex interactions between actors and places within the Global Financial Networks (GFNs) literature (Coe et al. 2014; Haberly and Wójcik 2022; Lai 2018). The GFN frame analyses the relationship between financial and advanced business service firms to understand agency and power in the networks that span on- and off-shore financial centres (Wójcik 2018). This work has highlighted how multiple actors are required to connect and coordinate across jurisdictions in order to allow markets to grow or regenerate more easily. Contributing articles in this theme issue develop a corresponding view of financial networks, applying a social network perspective to the study of relationships between these actors.

Beaverstock, Leaver and Tischer (2021) explore the dialectical relation between financial networks and space through their concept of the 'networked product' which denotes the 'purposeful, temporary entanglement' of jurisdictionally distributed law, accounting and technical financial expertise. This concept is used to describe both change and stability in the relational and spatial organization of credit derivative structuration before and after the 2008 crisis, drawing on the examples of the pre-crisis mortgage-backed collateralized debt obligation (CDO) market and the present-day corporate debt-backed collateralized loan obligation (CLO) market. They explore not only how different spatially situated experts bring their expertise to bear on these products but also how the similar technical and regulatory needs of these complex debt securities reproduce similar roles within similar jurisdictions. Using data harvested from offering circulars, they find enduring overlaps between pre-crisis CDO- and post-crisis CLO-GFNs, with often the same network participants involved in each. The article contemplates the prosaic way financial markets for ostensibly complex products reproduce; and the capacity for network stabilities to produce market instabilities.

Young et al. (2022) moves from structuration networks in financial markets to the linkages between finance and policy networks. He examines how financial networks gain power through

their connection with other realms by examining the evolving political relations of finance in the ‘new normal’ period. This article explores the continuities and changes in social ties between financial firms and their regulators in different institutional contexts. It measures the network closeness between firms and government regulators and relates those measures to a range of regulatory outcomes. The article finds that ‘while social ties between firms and regulators matter, they matter in different ways under different institutional contexts’; but that in a key respect, the changing financial practices, processes and places emerging since the North Atlantic Financial crisis do not appear to have generated a rupture from pre-crisis norms. Thus, the social network infrastructure between industry and regulation ensures that the innovation and complexity characterizes the global financial system carries on unabated.

Transnational legal management

A third concern in this theme issue is the importance of legal treatments as a form of infrastructure, not only within singular jurisdictions but also transnationally. It is well established that law underpins the ‘codes of capital’ (Pistor 2019) and that transnational financial management is supported by laws that allow firms to create elaborate corporate structures to protect themselves (Robé 2020). Legal treatments are linked both to financial institutions and to social networks that underpin a dominant interpretation of what is permissible. In this sense, law can be seen as spatially grounded, as a provision by a jurisdiction that can be exploited, and as ‘legal affordances’ that provide a menu of options to firms and financial interests.

Oddný Helgadóttir’s (2020) case study of the luxury freeports case highlights how high net worth individuals have sought alternative sources of tax-efficient wealth creation and storage. In such a context, the money of high net-worth individuals has moved into luxury commodity markets like fine art, which is stored in the secure units of freeports without meaningful customs surveillance and without payment of taxes and duties. The legal infrastructure of the freeport is supported by the public authorities and is a means to coordinate tax avoidance while also supporting high-status social networks through art showcases and similar events. Freeports are thus part of the ‘offshore world’ but are located in plain sight. In response to greater scrutiny of tax avoidance activities (Christensen and Seabrooke 2022), freeports have embedded themselves in the art world and elite social networks to legitimate their activities and existence.

Financial arbitrage based on legal provisioning is a crucial element in the article from Palan, Petersen and Phillips (2021). Drawing inspiration from Jean-Philippe Robé’s work (2011, 2020), Palan and co-authors explore how firms, abetted by networks of accounting and law experts, have re-engineered their corporate structures to create ‘opportunity spaces’ in accommodative offshore sites, in which they realize and control a significant proportion of group profits. Using a process of equity mapping based on firm-level data, the article isolates particular types of corporate entities that use legal provisions to act as ‘standalones’, ‘inbetweeners’ and ‘fuses’ within the corporate network. This is how the firm protects itself through the articulation of corporate strategy via legal entities.

Grasten, Seabrooke and Wigan (2021) suggest that the link between transnational financial and legal management should be understood as the use of ‘legal affordances’ within global wealth chains. Affordances are a product of interactions between an actor and the environment and are based on the infrastructure available and the social networks that underpin dominant interpretations. Drawing on a case study of ‘networked accumulation’ platform firms such as AirBnB, Bird and Uber, Grasten and co-authors argue that legal affordances come in three forms: arbitrage, ambiguities and absences. They document how financial and legal arbitrage is one strategy used by firms to minimize their tax burdens, but not the only game in town. Platform firms also rely on legal ambiguities to permit their on-the-ground practices – such as renting property, hiring

e-scooters and hailing rideshares. They also rely on legal absences, where there is no determination of legal treatment. This allows platform firms greater flexibility in how they conduct their trans-national financial and legal management, as well as how they treat employees and their physical liabilities. In this sense, legal affordances are infrastructural in so far as they either restrict action or facilitate permissive spaces around a particular company or product.

Moving forward

The articles in this theme issue present a series of innovative, site-based studies which examine the changing geographical arrangement of finance and flow of money within GFNs. Collectively they demonstrate that financial networks gain power and wealth not only through the purposive action of large financial institutions in leading financial centres but also by connecting with actors in other realms, sectors and sites, including law and accounting firms, policy-makers and alternative financial services providers. These relations should be understood as infrastructures that create a space for action and are a source of power. The relations forged may be designed to open out new opportunities for product or service development; or they may provide regulatory shelter from constraints imposed elsewhere. But they are embedded spatially and both evolve dialectically as financial infrastructures shape, and in turn are shaped by, the changing international arrangements of the economy.


Declaration of conflicting interests


The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Economic and Social Research Council - Grant ES/V002597/1 'Manchester, The Centripetal City: The Lessons Of Property-Led Regeneration For Core Cities And Their Proximal Towns In The Northern Powerhouse'.

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References

- Barney D (2018) Infrastructure. *Krisis* 2: 79–81.
- Beaverstock J, Leaver A and Tischer D (2021) How financial products organize spatial networks: Analyzing collateralized debt obligations and collateralized loan obligations as “networked products”. *Environment and Planning A*: 0308518X211029654.
- Bernards N and Campbell-Verduyn M (2019) Understanding technological change in global finance through infrastructures: Introduction to review of international political economy special issue ‘the changing technological infrastructures of global finance’. *Review of International Political Economy* 26(5): 773–789.
- Borch C, Hansen KB and Lange AC (2015) Markets, bodies, and rhythms: A rhythmanalysis of financial markets from open-outcry trading to high-frequency trading. *Environment and Planning D: Society and Space* 33(6): 1080–1097.

- Borch C and Lange AC (2017) High-frequency trader subjectivity: Emotional attachment and discipline in an era of algorithms. *Socio-Economic Review* 15(2): 283–306.
- Braun B (2020) Central banking and the infrastructural power of finance: The case of ECB support for repo and securitization markets. *Socio-Economic Review* 18(2): 395–418.
- Braun B and Gabor D (2020) Central banking, shadow banking, and infrastructural power 1. In: *The Routledge International Handbook of Financialization*. xxx: Routledge, pp.241–252.
- Campbell-Verduyn M and Giumelli F (2022) Enrolling into exclusion: African blockchain and decolonial ambitions in an evolving finance/security infrastructure. *Journal of Cultural Economy* 15(4): 524–543.
- Campbell-Verduyn M, Goguen M and Porter T (2019) Finding fault lines in long chains of financial information. *Review of International Political Economy* 26(5): 911–937.
- Christensen RC and Seabrooke L (2022) *The Big 4 under Pressure: Scanning Work in Transnational Fields*. Contemporary Accounting Research 39(4): 2941–2969.
- Christophers B (2016) For real: Land as capital and commodity. *Transactions of the Institute of British Geographers* 41(2): 134–148.
- Clark GL, Dixon AD and Monk AHB (eds) (2009) *Managing Financial Risks: From Global to Local*. Oxford: Oxford University Press.
- Coe NM, Lai KPY and Wójcik D (2014) Integrating finance into global production networks. *Regional Studies* 48: 761–777.
- Coombs N (2022) Narrating imagined crises: How central bank storytelling exerts infrastructural power. *Economy and Society* 51(4): 1–24.
- Dafermos Y, Gabor D and Michell J (2021) FX Swaps, shadow banks and the global dollar footprint. *Environment and Planning A: Economy and Space*: 0308518X221128302.
- Erturk I, Froud J, Johal S, et al. (2013) (How) do devices matter in finance? *Journal of Cultural Economy* 6(3): 336–352.
- French S, Leyshon A and Wainwright T (2011) Financializing space, spacing financialization. *Progress in Human Geography* 35: 798–819.
- Gjesvik L (2022) Private infrastructure in weaponized interdependence. *Review of International Political Economy*: 1–25.
- Grasten M, Seabrooke L and Wigan D (2021) Legal affordances in global wealth chains: How platform firms use legal and spatial scaling. *Environment and Planning A*: 0308518X211057131.
- Haberly D and Wójcik D (2022) *Sticky Power: Global Financial Networks in the World Economy*. Oxford: Oxford University Press.
- Hall S (2022) Locating state capitalism: Financial centres and the internationalisation of Chinese banks in London. *Environment and Planning A*: 0308518X221130080.
- Helgadóttir O (2020) The new luxury freeports: Offshore storage, tax avoidance, and ‘invisible’ art. *Environment and Planning A*: 0308518X20972712.
- Kemmerling M and Trampusch C (2022) Digital power resources (DPR): The political economy of structural and infrastructural business power in digital (ized) capitalism. *Socio-Economic Review*: 1–26.
- Knorr Cetina K and Bruegger U (2002) Global microstructures: The virtual societies of financial markets. *American Journal of Sociology* 107(4): 905–950.
- Kornberger M, Bowker GC, Elyachar J, et al. (2019) *Thinking Infrastructures*. Bingley: Emerald Group Publishing.
- Lai K (2018) Agency, power, and state–firm relations in global financial networks. *Dialogues in Human Geography* 8(3): 285–288.
- Langley P and Leyshon A (2017) Capitalizing on the crowd: The monetary and financial ecologies of crowd-funding. *Environment and Planning A: Economy and Space* 49(5): 1019–1039.
- Larkin B (2013) The politics and poetics of infrastructure. *Annual Review of Anthropology* 42: 327–343.
- Lemanski C and Massey R (2022) Is the grid people or product? Relational infrastructure networks in Cape Town’s energy-housing nexus.
- MacKenzie D (2008) *Material Markets: How Economic Agents Are Constructed*. Oxford: Oxford University Press.
- MacKenzie D, Beunza D, Millo Y, et al. (2012) Drilling through the allegheny mountains. *Journal of Cultural Economy* 5(3): 279–296.

- Mann M (1984) The autonomous power of the state: Its origins, mechanisms and results. *European Journal of Sociology* 25(2): 185–213.
- Ouma S (2015) *Assembling Export Markets: The Making and Unmaking of Global Food Connections in West Africa*. London: Wiley.
- Palan R, Petersen H and Phillips R (2021) Arbitrage spaces in the offshore world: Layering ‘fuses’ and partitioning of the legal structure of modern firms. *Environment and Planning A*: 0308518X211053645.
- Petry J (2021) From national marketplaces to global providers of financial infrastructures: Exchanges, infrastructures and structural power in global finance. *New Political Economy* 26(4): 574–597.
- Pike A and Pollard J (2010) Economic geographies of financialization. *Economic Geography* 86: 29–51.
- Pistor K (2019) *The Code of Capital*. Princeton: Princeton University Press.
- Robé JP (2011) The legal structure of the firm. *Accounting, Economics, and Law* 1(1): 1–88.
- Robé JP (2020) *Property, Power and Politics: Why We Need to Rethink the World Power System*. Bristol: Bristol University Press.
- Seabrooke L (2006) *The Social Sources of Financial Power: Domestic Legitimacy and International Financial Orders*. Ithaca: Cornell University Press.
- Sokol M (2022) Financialisation, central banks and ‘new’ state capitalism: The case of the US Federal Reserve, the European Central Bank and the Bank of England. *Environment and Planning A*. 0308518X221133114.
- Star SL (1999) The ethnography of infrastructure. *American Behavioral Scientist* 43(3): 377–391.
- Thurbon E (2016) *Developmental Mindset: The Revival of Financial Activism in South Korea*. Ithaca: Cornell University Press.
- Walter T and Wansleben L (2020) How central bankers learned to love financialization: The fed, the bank, and the enlisting of unfettered markets in the conduct of monetary policy. *Socio-Economic Review* 18(3): 625–653.
- Wójcik D (2013) The dark side of NY-LON: Financial centres and the global financial crisis. *Urban Studies* 50(13): 2736–2752.
- Wójcik D, et al. (2018) The Global Financial Networks. In: Clark GL, Feldman MP and Gertler MS (eds) *The New Oxford Handbook of Economic Geography*. Oxford: Oxford University Press, pp.557–574.
- Young KL, Marple T, Heilman J, et al. (2022) A double-edged sword: The conditional properties of elite network ties in the financial sector. *Environment and Planning A*: 0308518X221127704.
- Zook M and Grote MH (2016) The microgeographies of global finance: High-frequency trading and the construction of information inequality. *Environment and Planning A: Economy and Space* 49(1): 121–140.