CHAPTER 4

Infrastructural Power in Financial Governance

Its Meaning, Applications, and Varieties

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1 Widening the Infrastructural Gaze (Yet Further)

As Westermeier, Campbell-Verduyn, and Brandl (Chapter 1) propose in the introduction to this volume, social scientific studies of financial infrastructure come in two varieties. The common form of 'infrastructural gazing' locates agency within socio-technical relations. Orientated towards the technical details of markets and their materiality, this line of thought has its provenance in the social studies of finance and science and technology studies (Preda, 2001). Such infrastructural gazing keeps the big picture in sight when addressing power, authority, and legitimacy; but it does so by attending to the invisible background work performed by cables, market devices, and mathematical pricing models (Bernards and Campbell-Verduyn, 2019).

The other form of infrastructural gazing Westermeier, Campbell-Verduyn, and Brandl identify, and which this chapter focuses on, begins from the macro-political context. Rather than tracing innovations bottom-up, studies adhering to this approach start with questions such as: How is state authority transmitted throughout society? What are the implications of the increasing centrality of financial markets in economic life? How do transformations in money and taxation challenge assumptions about the boundaries between public and private spheres? Standard fare for political economists and economic sociologists one might think. But it was not until historical sociologist Michael Mann's (1984, 1993) concept of infrastructural power was introduced to interdisciplinary finance studies that a conceptual tool was available to bring financial infrastructure into the field's engagements with these questions. Mann's concept is now regularly invoked by scholars seeking to marry their interest in the fine details of financial infrastructure with macro-political debates about financialization (Walter and Wansleben, 2020; Wansleben, 2023), monetary hybridity (Braun, 2020), dollar hegemony (Schwartz, 2019), and central bank power (Coombs, 2022; Coombs and Thiemann, 2022; Wansleben, 2023).

This chapter contributes to the macro-political vein of scholarship on financial

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infrastructure by seeking to widen its gaze (yet further). Section 2 presents Mann's argument that infrastructural power underpins the state's capacity to penetrate civil society. Section 3 surveys applications of the infrastructural power concept within interdisciplinary finance studies. Section 4 seeks to increase the analytical precision of work on infrastructural power by developing ideal types of its instrumental-, communicative-, and network-forming varieties, illustrated with historical and contemporary examples. The conclusion indicates limitations of the concept for evaluating whether public or private actors hold greater power in financial governance.

2 The Meaning of Infrastructural Power

The idea of infrastructural power will be intuitive for scholars who place financial infrastructure at the centre of their analyses. Infrastructure is not agency-free background matter, but critical for how financial relations are constituted and reproduced. However, to understand what Mann means by infrastructural power requires attending to his analysis of how states exercise political power. This section begins by outlining Mann's concept, before returning to the question of how Mann's concept aligns with the science and technology studies-inspired view of financial infrastructure.

Mann first proposed his concept of infrastructural power in response to the 'Marxified Weberianism' of scholars such as Theda Skopcol, which views state organization as determined by class and international state relations (Mann, 1984). Mann rejects this understanding as reductionist. Concerned with accounting for processes of change rather than developing a universal state theory, the question motivating Mann's theorization of infrastructural power is: How did modern states come to exercise such extraordinary power over populations within their territories compared to the despotic power wielded by rulers in the Middle Ages?

Mann observes that absolutist sovereigns had almost unlimited executive authority. Despotic power does not require 'routine negotiation with civil society groups' (Mann, 1993, p. 59). And yet, despotic power is limited in scope – ancient and medieval sovereigns could do little to influence their subjects' day-to-day behaviour. Vice versa, while modern states have a much greater 'capacity to actually penetrate civil society and to implement logistically political decisions' (Mann, 1986, p. 170), the autonomy of their executives is circumscribed. Liberal democratic states routinely intrude into the everyday lives of their citizens but are mostly impotent to change the rules of the game, relying on civil society to validate and implement their decisions. The state has always had some degree of infrastructural power, Mann argues, but it was decisively supplemented by the Industrial Revolution of the nineteenth century and the world wars of the early twentieth century (Mann, 2008).

While Mann considers infrastructural power an exclusive modality of state political power, it is important to recognize that Mann's categories are *ideal types* – analytical constructs meant to assist comparative work and the discernment of historical patterns, not to carve up the social world into metaphysical essences (Mann, 1986, p. 4). As such, his distinction between despotic and infrastructural power is not in most historical situations a question of either/or. The two types of power coexist in dialectical tension, and increasing infrastructural power 'does not necessarily increase or reduce … despotic power' (Mann, 1993, p. 59).

Another implication of Mann's Weberian methodology is that it requires situating the concept of infrastructural power within the 'promiscuous' architecture of power types developed in the Sources of Social Power quadrilogy (Mann, 1986, 1993), which intermingle, bisect, and fuse at historical junctures (Mann, 1986, p. 17). Social power has, Mann argues, four main sources: Ideological, Economic, Military, and Political (the IEMP model):

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- *Ideological power*. Ideological power is the control of 'ultimate meanings, values, norms, aesthetics and rituals' achieved by religious and secular ideologies (Mann, 1993, p. 7). An example is the development of 'infrastructures of discursive communication' (Mann, 1993, p. 105) which gave rise to class and nation in the eighteenth century, first under the influence of organized religion and then with the development of printing presses in commercial capitalism. A more contemporary example would be the emergence of the 'neoliberal thought collective' in the twentieth century, which utilized think tanks and transnational networks of economists to spread their ideas (Mirowski and Plehwe, 2015).
- *Economic power*. Mann identifies economic power with an overall increase in 'collective' (positive-sum) capacities for organization as well as 'distributive' (zero-sum) power. While spreading in a diffuse fashion, economic power can augment the infrastructural power of states by increasing national production capacities and accentuating hegemonic structural advantages. Examples include when the British pound served as a global reserve currency under the nineteenth-century gold standard or when international currencies were pegged to the US dollar under the Breton Woods system in the twentieth century.
- *Military power*. Military power is '*concentrated-coercive*' (Mann, 1986, p. 26, original emphasis) power. It refers not only to the ability to fight and win wars against adversaries, but also to coerce labour for agriculture, mining, and the building of physical infrastructure and city fortifications. Given the challenges involved in projecting military force over long distances, military power is fundamentally *logistical*: it resides in the organization required to sustain armies relying on long supply chains.
- *Political power*. Political power is the control exerted by states spatially over national territory. Infrastructural power is a key resource for political power in the modern era. It derives from emergent developments in civil society which allow states to communicate their decisions and mobilize social and material resources to achieve their goals.

As should be clear, Mann's notion of infrastructural power, though defined in contradistinction to despotic power and reserved for describing the logistical capacities of states to impose their political will (Mann, 2008, p. 358), is imbricated with the wider array of power types proposed by his IEMP model.[1]

Stepping back from Mann's theorization of infrastructural power, a relevant question for placing Mann's analysis in dialogue with work on financial infrastructure (particularly Westermeier, Campbell-Verduyn, and Brandl's micro-oriented 'infrastructural gaze') is: What does Mann mean by 'infrastructure' and how does it align with the use of the term in science and technology studies? These questions are surprisingly difficult to answer. Mann uses the term 'infrastructure' loosely. It is not obvious if what Mann means by infrastructure differs substantially from his understanding of a power network. For example, when referring to the weak infrastructural power of ancient empires, Mann identifies their infrastructure with the aristocratic classes (Mann, 1986, p. 170). Mann's rare definitions of 'infrastructure', such as 'routinised media through which information and commands are transmitted' (Mann, 2008, p. 358), are suggestive but rather unsatisfactory. A contemporary reader expecting the agency of organizations and networks to be clearly delineated from the invisible background work of infrastructure might feel they are conflated in Mann's work. Certainly, Pinzur's (Chapter 3, this volume) distinction between institutions and infrastructures would be frustrated if applied to Mann's comparatively indiscriminate use of the term.

The unclear alignment between Mann's understanding of infrastructure and science and technology studies-inspired approaches does not mean that Mann's concept of infrastructural power cannot shed light on

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financial infrastructure.[2] Indeed, Mann's identification of markets as an infrastructure which states take advantage of to increase their power has been productively put to work by scholars to grapple with state–market hybridity and financialization processes. It is to this literature we now turn.

3 The Applications of Infrastructural Power

Mann's concept initially had little impact on the studies of financial markets which emerged with the new economic sociology and international political economy of the 1980s and 1990s; and it has only recently become a fixture of the conceptual landscape of the field of interdisciplinary finance studies (for an overview see Samman et al., 2022). In this section, I trace the imprint left by Mann's concept, noting how its reception within the field of interdisciplinary finance studies often treats infrastructural power as a synonym for financialized state action. This work is insightful but, if taken as definitional, risks excluding deeper historical dynamics and other modalities of infrastructural power in financial governance.

To this author's knowledge, Bruce Carruthers' *City of Capital* (1996) is the first example of Mann's notion of infrastructural power being put to work in scholarship on financial markets. Carruthers cites Mann when seeking to explain how the weak early modern English state was transformed between 1672 and 1712 into a political and war-making powerhouse (Carruthers, 1996, p. 37). The historical situation addressed by Carruthers tracks closely to Mann's distinction between 'despotic' and 'infrastructural' power. Carruthers observes that England's enemy at the time, absolutist France under Louis XIV, enjoyed almost four times the population and a strong centralized bureaucracy. England, on the other hand, remained a weak state throughout this period because the monarchy shared power with a fragmented set of institutions such as courts of law, Parliament, and local government (Carruthers, 1996, p. 15).

In an ironic twist, it was the difficulties Charles II encountered funding the Nine Years' War (1688–1697) against the French which encouraged innovations in public finances which increased the English state's infrastructural power. A shift to direct tax collection and the development of capital markets for long-term public debt allowed England (and, after the political union with Scotland in 1707, Britain) to emerge as a formidable rival to France. The development of joint-stock companies, such as the Bank of England, East India Company, and the South Sea Company, all heavily invested in government debt, allowed the construction of a powerful 'fiscal-military state' (Carruthers, 1996, p. 83) because these companies' shares could be easily traded in liquid, public markets. As a result, the English-cum-British state was able to increase its spending from £1.6 million per annum in 1662 to £7.9 million in 1712, funded at dramatically lower interest rates (Carruthers, 1996, p. 80). This is one reason why Adam Smith in *The Wealth of Nations* memorably described the Bank of England as a 'great engine of state' (Smith, 1970 [1776], p. 419). The role of the Bank in early modern English state formation did not lie just with printing the symbol of Britannia on its banknotes (Helleiner, 2003); financial markets and political power were intertwined in the development of new fiscal infrastructures which the English state successfully leveraged in its war efforts.

Moving forward a decade and a half, Martijn Konings' (2010) reflections on the 'pragmatic sources of modern power' was the first text situated within the new interdisciplinary field of finance studies to draw on Mann's concept of infrastructural power when addressing contemporary concerns. Konings asks why, despite repeated prophecies by political economists of the decline of US state power due to economic globalization, the power of the USA has proven so durable. He credits this to processes of institutionalization which unfold outside the boundaries of the formal state at the state–market nexus. Konings cautions that we should avoid a 'residual economism' (Konings, 2010, p. 83) predicated on the

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belief that the forces unleashed by liberalized markets will eventually tame the exceptionalism of US state power. Konings notes that the financial crises of the neoliberal era have led to an unprecedented growth in the organizational reach of American regulatory agencies as they sought to manage the instabilities provoked by liberalized markets. In the process, the USA became regularly involved in the management of the financial system, from the bailouts of banks to the backstopping of stock markets to the emergence of the Fed as market maker of last resort during the 2008 crisis. The USA saw its infrastructural power blossom not wither in the face of market turmoil.

Konings' article was an important trailblazer, but Benjamin Braun's (2020) study of the European Central Bank's (ECB's) promotion of market-based banking in the aftermath of the 2008 crisis has done the most to popularize Mann's notion of infrastructural power in interdisciplinary finance studies. Whereas Konings seeks to show how state power is bolstered by liberalized financial markets, Braun highlights an ambivalent dynamic where state power becomes dependent on financial infrastructures, impeding public interest reforms.

Braun finds support for this dynamic not in the idea of regulatory capture, financial sector lobbying, or in the structural power of finance, but in Mann's depiction of the hybridity of state–society relations, where the extension of state power through private sector infrastructures is a 'two-way street' (Mann, 1993, p. 59) which allows private sector interests to exert power over the state. Taking seriously the bilateral nature of infrastructural power helps Braun to explain the opposition of the ECB to the European Commission's post-crisis financial reform projects, such as the ill-fated proposal for a financial transactions tax on run-prone repurchase agreement transactions (repos). Because monetary policy in the Eurozone relies upon shadow banking for its transmission, the ECB was defending its interests by opposing reforms which would impact the liquidity of repo markets. Braun and Gabor (2020) extend the analysis transatlantically to the role played by the Federal Reserve in promoting shadow money in the late 1990s.

A final major study drawing on Mann's concept of infrastructural power is by Walter and Wansleben (2020). These authors close the loop between Greta Krippner's (2011) work on the origins of financialization and Braun's (2020) analysis of the entanglements between monetary policymaking and shadow banking. Walter and Wansleben credit Krippner as correctly pointing out that early 1980s monetarist experiments in targeting monetary aggregates led the Federal Reserve to realize that deregulated financial markets worked to their advantage. The Fed's decisions regarding interest rates were transmitted more quickly and with less friction through liberalized markets. Where Walter and Wansleben part ways with Krippner is in finding this not simply a fortuitous discovery by the Fed when it was using monetarism as a rhetorical shield for pursuing unpopular interest rate hikes. Instead, Walter and Wansleben detail how changing practices 'altered the very architecture of finance and redefined the sources of "infrastructural power"' (Walter and Wansleben, 2020, p. 627).

Walter and Wansleben identify central banks' infrastructural power with the new operational alignments central banks forged with market structures in the 1980s. This repositioned central banks' discount rate as an anchor for long-term refinancing costs, allowing central banks to target non-borrowed reserves in their open market operations. The change, however, came at the price of ceding control over credit growth in the economy. Citing Bourdieu's turn of phrase, Walter and Wansleben thus describe the Federal Reserve's and Bank of England's growing infrastructural power as in 'ontological complicity' with financialized capitalism (Walter and Wansleben, 2020, p. 629).

Other studies also draw on Mann's concept (e.g., Schwartz, 2019), but I focus on the Konings–Braun–Walter and Wansleben line of thought because it provides the common reference point for how infrastructural power is today understood within

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interdisciplinary finance studies. To summarize, 'infrastructure' for these authors is the complex of deregulated money markets central banks work through to transmit policy decisions. The 'power' being exercised is a two-way relation of influence between market actors and the state (with central banks understood as extensions of the state despite their ostensibly independent status). These studies explain why financialization should not be seen as a progressive erosion of state power by market forces but as increasing the state's infrastructural power. These thinkers also effectively utilize the bidirectional dynamics highlighted by Mann's concept of infrastructural power when accounting for governing authorities' increasing dependency on financial markets, which constrains the potential for public interest reforms.

These are significant accomplishments. Nevertheless, I want to argue that an exclusive focus on post-1970s financialization processes risks transforming Mann's concept into a mere synonym for financialized state power. I consider this problematic because, first, there is no reason why infrastructural power in financial governance should be uniquely associated with developments in recent history. As noted, Carruthers' (1996) study demonstrates that infrastructural power dynamics stretch back at least as far as the late seventeenth century with the formation of the English state's fiscal apparatus.[3] A second reason why it is problematic to associate infrastructural power exclusively with financialized state action is that this significantly narrows the range of applications of Mann's concept. As I shall show in Section 4, the idea of infrastructural power can be used to theorize diverse devices, governance techniques, and markets.

To better engage these diverse sources of infrastructural power in financial governance, in Section 4 I develop a typology inspired by Mann's Weberian IEMP model. For scholars engaged with the intricacies of technical practices, the typology is intended to help link the 'macro' to the 'micro' without loss of resolution. My examples are admittedly quite state-centric, in that they concern the power of public authorities *over* financial markets. However, in the cases I examine, because they rely on public authorities enlisting private sector actors in governance processes, they also grant private sector actors power over these processes and limit the potential for reform.

4 The Varieties of Infrastructural Power

4.1 Instrumental Infrastructural Power

Studies of infrastructural power make the excellent point that states and regulatory authorities do not relate to markets simply as rule-makers and rule-enforcers (Braun, 2020). States are fully endogenous actors, whose interventions and governance techniques shape the evolution of markets by affecting the portfolios, asset allocation, and profits of financial firms. I term these interventions *instrumental infrastructural power*. By using the word 'instrument' I am inspired by the common definition of financial instruments as assets which can be bought and sold on markets. I am also including the 'instruments' which central banks and bank supervisors speak of when describing how they intervene into the management of financial firms. This power is 'infrastructural' in Michael Mann's sense because it works through the same markets, calculative techniques, and asset classes which financial market actors themselves use.

An example of instrumental infrastructural power is the evolution of central banks' open-market operations (OMOs). In brief, OMOs involve the buying and selling of short-dated government bonds to target a specific interest rate in the money market (such as, e.g., the Federal Funds Market). When the central bank buys bonds from the market it credits reserves to banks' accounts and increases market liquidity; when the central bank sells bonds, banks are required to spend reserves to purchase them, which drains liquidity from the system. By modulating the availability of reserves, a central bank can affect the interest rate banks charge to lend to each other as well as

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driving banks to the discount window where the central bank can directly determine the interest rate it charges for supplying liquidity. In this way, by manipulating the price of short-term liquidity, central banks can intervene countercyclically to deflate inflationary pressures or stave off deflationary pressures in an economic downturn.

The development of OMOs was decisive for increasing central banks' instrumental infrastructural power in the twentieth century. At the beginning of the century, there was little sense that central banks should be guided by social purpose (Özgöde and Jürgenmeyer, 2023). They had by this point recognized their responsibilities as lenders of last resort, but their primary goals remained the stabilization of the money market and protection of the gold reserve (Eichengreen, 2008, p. 35).[4] The idea that central banks should seek to maximize employment, let alone lean into the winds of the business cycle, would have seemed implausible.

That would change in response to the US Depression of 1920–1921 (Mints, 1945, p. 271), which prompted the development of new state infrastructural capacities. After the depression, the Federal Reserve Banks found themselves with limited options to acquire business assets and invested heavily in treasury securities. In doing so, they discovered that their purchases could exert a tightening effect on money markets (Knodell, 1987). This innovation would be capitalized on by Fed Governor Benjamin Strong (1914–1928): first, by centralizing open market operations in the New York Fed and assembling a durable infrastructure of primary dealers as the conduits for the Fed's OMOs; secondly, by forging an alliance with the National Bureau of Economic Research, founded in 1920 (Özgöde and Jürgenmeyer, 2023). The alliance with this institution allowed Strong to re-envision OMOs as an instrument for countercyclical macroeconomic governance. Public policy goals would henceforth be pursued by enlisting the financial transactions of private sector actors. In tandem with the knowledge supplied by the payments system, FedWire, and afterwards the National Income and Product Accounts (NIPA system, the basis for gross domestic product (GDP) calculations, see Özgöde, 2020), the Fed constructed a centralized infrastructure allowing them to govern the economy through OMOs and to monitor the effects of their interventions.

There forward OMOs have operated as instruments which bolster state infrastructural power by allowing the central bank to penetrate deep into the workings of financial markets and the economy. The boundary between state and economy would be accordingly shifted with every change to the rules and norms governing this infrastructure (Coombs and Thiemann, 2022). Fed Chair William McChesney Martin's decision to focus OMOs on the purchase and sale of short-term treasury bonds was arguably the most consequential such decision, proscribing state action in markets to the short term until the launch of quantitative easing programmes in the twenty-first century (Conti-Brown, 2016, p. 43; Coombs, 2022).

In the decades since, OMOs have diffused globally to become central banks' preferred approach to monetary policy. The technique has also attracted criticism. Some claim that despite their original intention OMOs encourage central banks to follow the market rather than to lean into it countercyclically (Blinder, 2004). Hyman Minsky argues that the embrace of OMOs led to central banks withdrawing from day-to-day involvement in the economy, blunting their ability to stabilize financial markets (Minsky, 1977, p. 14). Quantitative easing programmes continue to unsettle both left and the right of the political spectrum, either for the inequalities they promote or for involving the state in markets with increasing intensity.

The value of adopting an infrastructural power view on these developments is that it places a question mark over whether there is any reverse gear from the use of OMOs by central banks. OMOs have not only become a highly durable infrastructure for implementing interest rate policies – part of the nuts and bolts of global finance – but

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are also deeply entwined with the power of states to control their economies and influence the terms of global trade. OMOs have helped make government debt the lubricant of global finance, with fiscal and societal implications which exceed the technical origins of the practice and which have reconfigured state–society relations in macroeconomic governance.

4.2 Communicative Infrastructural Power

The second variety of infrastructural power in financial governance works through what in Mann's IEMP model might be described as an ideological power network. I define *communicative infrastructural power* as the power central bankers exercise when they successfully enlist the public in the implementation of policies by shaping their expectations about the future. Differentiating between the communicative and instrumental varieties of infrastructural power helps to disentangle the confusing thicket of words, rhetoric, and action simultaneously at play in central bank interventions into markets.

Historically, communication was not a source of strength for central banks and regulatory authorities. For example, the nineteenth-century political economist David Ricardo once complained about the Bank of England's frustratingly gnomic responses to basic questions about their operations when questioned by parliamentary committees (Kynaston, 2017). Twentieth-century Bank of England Governor Montagu Norman (1920–1944) even coined a famous dictum which valorizes central bank evasiveness – 'Never apologise, never explain.'

A decisive shift away from central bank secrecy began with the adoption of inflation targeting in the late 1980s and 1990s (Krippner, 2007). Inflation targeting is about instilling public confidence in the commitment of the central bank to price stability. It requires convincing the market that the central bank is serious about achieving a specific rate of inflation and providing guidance about the interest rates which will be necessary to hit that target in the future. As Braun (2015) describes, the central bank needs to code its communications such that specific signal words will be interpreted as intended by their audience and result in predictable, performative effects.

Central bank communication has an infrastructural basis because it requires cultivating stable relationships with the media and market analysts and employing scientific techniques so that central banks' macroeconomic forecasts and policy commitments are deemed credible. To achieve this, central banks publish and disseminate regular monetary and financial stability reports; they publish their research in academic macroeconomics journals to demonstrate scientific expertise; and they make use of social media to spread their message as widely as possible. Furthermore, central banks' communicative power assumes the efficacy of their instrumental infrastructural power, such as the ability and willingness to conduct OMOs (and more recently, quantitative easing) to make good on their communicative promises.

If instrumental and communicative infrastructural power are so closely entangled, why differentiate between them? The advantages of maintaining an analytical distinction can be illustrated by reference to financial stability policymaking. After the 2008 financial crisis, the results of central bank stress tests of the banking sector were presented in a highly visible fashion for the first time, most famously with the 2009 Supervisory Capital Assessment Program conducted by the US Treasury and Federal Reserve. By rendering transparent the balance sheets of large bank-holding companies, the test helped to dissipate fear in the market and encouraged banks to begin lending to one another again (Langley, 2013).

It is tempting to understand the routine post-crisis stress tests conducted by central banks exclusively through a communicative lens: as exercises intended to shore up confidence in the banking system, persuade banks to raise more capital, and bolster the authority of regulatory supervisors. Certainly, stress tests have always had communicative and performative dimensions which keeps these goals in mind (Coombs,

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2020). However, post-crisis stress tests have also gained an increasingly instrumental form of infrastructural power. Stress tests act as instruments for intervening into bank management because scenario design allows supervisors to affect banks' capital allocation and risk management processes (Coombs, 2022). Both the communicative and instrumental dimensions of stress tests exert infrastructural power, but without differentiating them, the varied applications of the technique in financial governance are difficult to disentangle.

4.3 Network-Forming Infrastructural Power

The final variety of infrastructural power I term *network forming*. In his influential theorization of the state 'effect', Timothy Mitchell (1991) argues that the thorny problem of determining the limits of the state can be resolved by considering the limit not as a hard boundary, nor as a subjective impression. Rather, Mitchell argues that the distinction between 'state' and 'non-state' is a line drawn internally within institutions that straddles the fuzzy boundary of the formal state.

Mitchell's key example is the relationship between central banks, treasuries, and commercial banks. Central banks and treasuries are usually grouped unproblematically as part of the public sphere, while commercial banks are considered part of the private sphere of non-state capitalist enterprises. Mitchell argues that in truth the line between these organizations is much less clear, since they are tied together in continuous 'networks of financial power and regulation' (Mitchell, 1991, p. 90). It is in this sense that network formation can be considered a variety of infrastructural power. The ability to form and sustain such networks allows the state to draw on the organizational resources of civil society, as can again be illustrated with the example of central banking.

A key task faced by central banks since at least the nineteenth century has been to hold together the organizational networks Mitchell alludes to when seeking to mitigate market turmoil. The economic historian Anthony Hotson (2017) argues that the remarkable stability experienced in London's money markets from the late nineteenth century to the 1970s should not be attributed solely to greater willingness of the Bank of England to act as lender of last resort, the introduction of deposit insurance, or capital regulations. Hotson details how, unlike the current world of multipurpose bank-holding groups, the money markets of this period were segmented into functionally specialized institutions: acceptance houses, clearing banks, discount houses, and building societies. Through its routine discount market assistance, ability to corral elite accepting houses into bailing out their competitors, and its endorsement of committees and trade associations governing the liability management of different categories of lenders (e.g., clearing houses could not adjust the rates they paid on deposits), Hotson shows that the Bank of England played an important role in maintaining an institutionally resilient market structure.

The infrastructural power of central banks is not limited to preserving financial networks. Central banks also play an active role in reaching into civil society and promoting policy agendas through the construction of *new* networks. A recent example is in the emerging field of climate policy. In September 2015, Bank Governor Mark Carney (2015) delivered a speech on the 'Tragedy of the Horizon' at Lloyd's of London, which identified a new supervisory task for public authorities in bringing long-term climate-related planning to financial firms. The first initiative to stem from this was the Task Force for Climate-Related Financial Disclosures, which successfully pushed financial actors to disclose their climate risks. In 2017, eight central banks launched the Network for Greening the Financial System (NGFS) housed at the Banque de France. The network now links together 114 central banks and supervisory authorities, as well as international organizations such as the World Bank and International Monetary Fund. The network has become an important discursive site for developing ideas related to facilitating

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a green transition and has developed climate scenarios which serve as the 'baseline' for regulatory authorities' climate stress-testing initiatives (Thiemann, Büttner, and Kessler, 2023).

In the terms offered by Mann's IEMP model, the NGFS is an ideological power network for global governance. The network increases state infrastructural power in the jurisdictions of its permanent members by developing new standards which shape the risk management apparatuses and balance sheets of financial firms in line with public policy goals. Successful network formation can therefore also lead to the exertion of new forms of instrumental and communicative infrastructural power.

5 Conclusion

This chapter has taken a macro-political perspective on financial infrastructure, examining the meaning, applications, and varieties of Michael Mann's concept of infrastructural power. Unlike the micro-oriented 'infrastructural gaze' inspired by science and technology studies, Mann's notion of infrastructural power foregrounds state–society relations. In interdisciplinary finance studies, the concept has been productively applied to make sense of state–market hybridity, providing an alternative to zero-sum perspectives which see state power as diminished by the increasing centrality of financial markets in economy and society.

At the same time, I have argued that in this literature Mann's concept is at risk of being treated as a synonym for financialized state action. This should be avoided as it unnecessarily narrows the concept's potential scope. By instead situating the idea of infrastructural power within Mann's broader body of work on the evolution of social power, I have made the case for the infrastructural power concept having deeper historical applicability (back to early modern state formation) and for its relevance for theorizing the implications of diverse financial governance instruments and techniques for state–society relations (from the development of capital markets to OMOs to stress testing of banking). The instrumental-, communicative-, and network-forming varieties of infrastructural power proposed by this chapter are intended to assist in categorizing and differentiating between the infrastructural media through which state power is exercised.

That said, despite this chapter advocating the analytical benefits of the infrastructural power concept, it is worth concluding by briefly acknowledging the concept's analytical limitations. Precisely because the idea of infrastructural power breaks down the assumption of a zero-sum power balance between state and financial markets – instead emphasizing hybridity, interdependencies, and the state-governing capacities enabled by working through markets and private sector infrastructures – it has the potential to obfuscate hard questions concerning who has more power and agency. On the one hand, this could lead to an overemphasis on the power finance exerts over public authorities; on the other, it could lead to a view which overstates the power of states vis-à-vis the financial markets they work through (Coombs, 2024).

Another matter unresolved by this chapter concerns the relationship between Mann's understanding of infrastructure and science and technology studies theorizations. To be sure, these two infrastructural gazes are not mutually exclusive. They address different 'scales' of reality and ask different questions but share a common interest in the pragmatic and logistical technologies of modern governance, whether exercised bureaucratically or through markets. Is a 'unified theory' necessary? Perhaps not. Mann's Weberian methodology would treat these gazes not as falling on discrete aspects of reality but as alternative analytical constructs. A synoptical view may be unnecessary for making sense of a world where socio-technical constructions and state power are interwoven materially and organizationally but evolve somewhat autonomously. A stereoscopic view, which holds the 'micro' and the 'macro' in productive tension, might yield greater theoretical depth.

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Notes

1. Finding these overlapping power networks analytically frustrating, Gorski (2006, p. 109) notes that it is not clear which power networks infrastructural power is supposed to be embodied in or where it comes from; as he puts it, the 'empirical reference remains vague' (p. 111).
2. Mann's favourite example of infrastructural power – the ability of states to collect income tax directly at source (Mann, 1984, p. 189; 1993, p. 61; 2008, p. 356) – involves a bureaucratic and technological infrastructure with a taken-for-granted quality consistent with science and technology studies theorizations.
3. Konings agrees, arguing that it is necessary to 'trace its [US financial power] lineages further back in time' (Konings, 2010, p. 87) to economic modernization processes in the early twentieth century. Coombs and Thiemann (2022) follow Carruthers back to the early modern era, identifying the emergence of infrastructural power in finance with the foundation of the first central banks.
4. The Byzantine, fragmented structure of the Federal Reserve System, founded in 1913, was in some part motivated by the desire to both prevent political control of the banks and bank control over politicians (Conti-Brown, 2016, p. 21), i.e., to prevent the emergence of centralized state infrastructural power.

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