



Submitted Paper

# Reimagining geographies of public finance

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## Abstract

The study of public finance—the role of government in the economy—has faded in geography as attention to private finance has grown. Disrupting the tendency to fetishize private financial power, this article proposes an expanded conception of public finance that emphasizes its role in shaping geographies of inequality. We conceptualize the relationship between public and private finance as a dynamic interface characterized today by asymmetrical power relations, path-dependent policy solutions, the depoliticization of markets, and uneven distributional effects. A reimagined theory and praxis of public finance can contribute to building abolitionist futures, and geographers are well positioned to advance this project.

## Keywords

public finance, abolitionist geographies, intersectionality, inequality, financial geographies, central banking, fiscal geographies

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I just want to say a few words about why we're here at the Federal Reserve.... You guys probably don't know this, but this is the most exclusive building in Minnesota. There's twelve of these in the entire country.... And we're coming here ... to let them know that we understand that it's money that has caused the shedding of blood, not just cops. And it's their money that incentivizes us to devalue human life. We're going to do a die-in right here to let them know we want them to *print our money*. Print our money!

—Black Lives Matter organizer, Minneapolis, Minnesota, 4 July 2020

On 4 July 2020, hundreds of people participating in a Black Lives Matter (BLM) protest staged a die-in in front of the Federal Reserve Bank of Minneapolis. In online footage of the event (Roller, 2020), the camera focused on a massive banner reading “Sovereignty,” as an organizer on a bullhorn described how central bank money “has caused the shedding of blood.” Moments later, the entire crowd lay down in the middle of one of Minneapolis’s largest thoroughfares, protesting the social violence brought on not only by anti-Black police brutality but also by the state’s (in)actions during the COVID-19 pandemic. With the protest, organizers cast into sharp relief the connection between public finance, state violence, and racial capitalism, politicizing central bank actions and their uneven distributional impacts.

In this paper, we excavate some of these oft-denied politics in a call to recenter public finance in geography, disrupting recent tendencies to fetishize the power of private finance (Christophers, 2015; Ouma, 2015). We do so via an analytical emphasis on the shifting, mutually constitutive relationship—which we conceptualize as an interface—between public and private finance. We articulate four key characteristics of this interface and emphasize the uneven, intersectional patterns of benefit and harm that it generates. Our goal is to chart a new role for financial and other spatially oriented scholarship in building abolitionist futures (see Gilmore, 2007, 2017, 2021; Heynen and Ybarra, 2021). In short, our agenda for geography is not only to question the systems that “print money” to

bail out high finance during times of crisis, as noted by the BLM activists in Minneapolis, but also to demand a future in which public finance prints “*our money*,” using money as the activists demanded: to support the life, labor, places, and spaces of Black and Indigenous people, people of color, women, LGBTQ and gender-nonconforming people, disabled people, the working and workless poor, and others marginalized by racial capitalism.

In 2020, global patterns of pandemic-related economic stimulus revealed just how crucial the state is to the functioning of financial markets. With the onset of COVID-19, central banks around the world took extraordinary measures to backstop financial markets, using tools developed and honed during the global financial crisis (GFC) of 2008. Far beyond the familiar fiscal strategies of incentivizing private investment, these methods included quantitative easing, in which central banks “print” money to buy government bonds and corporate debt to ensure liquidity and boost investor confidence. Then as now, these measures brought little or no direct benefit to local and subnational governments, small businesses, and workers (NACO, 2020), even as record profits were recorded in the financial sector and the ultrarich saw their wealth balloon (Dayen, 2020; Fuhurmann, 2020).<sup>1</sup> Amid the growing divergence between the resilience of the financial sector and the shock to the everyday operations of the economy—that is, the divergence between Wall Street and Main Street—we explore the role of public finance in producing this reality and highlight geographical research on public finance that presages how these arrangements might be otherwise. We connect this project to critiques of public finance by scholars and activists calling to defund the police, fight austerity, ban evictions, end racialized surveillance and incarceration, and counter environmental racism through a “Green New Deal” (Aronoff et al., 2019; Benjamin, 2019; Bigger and Millington, 2020; Bonds, 2019; Derickson, 2016; Gilmore, 2007, 2021; Goh, 2020; Hall, 2020; Harries et al., 2020; Hawthorne, 2019; Jenkins, 2021; Klein, 2019; Knuth, 2018; Massaro, 2020; Pulido, 2016; Ranganathan, 2016; Safransky, 2014; Shabazz, 2015; Wang, 2018). Rather than seeing these as separate struggles, we view them as linked to the

circulation of private capital that is intertwined with government spending and monetary policy. We submit that understanding, and reshaping, these links is essential to forging a financial geography that can imagine a more progressive and racially just future.

Our call for a reimagined geography of public finance proposes an expanded geographical conception that emphasizes the *interface* between public and private finance. This approach disrupts a common analytical privileging of private actors' role in shaping financial geographies. We draw on Roy's (2003: 35) invocation of the urban-rural interface to consider how, in practice, this financial interface comprises "a set of socio-spatial linkages" that defy conventional categorizations of either public or private. The interface concept calls attention to the persistent interaction of these categories and the consequent challenge of delineating a clear-cut boundary between them. Moreover, because private finance can "interface" with the public sector through multiple sites, scales, and technologies, we conceptualize the interface not as a discrete space but as a relation that can present itself at virtually any point in space-time. This geographical approach differs from other heterodox approaches (e.g., Polanyian, Keynesian, and post-Keynesian perspectives) that focus on confirmed seats of power at specific scales (e.g., the nation) and rely on conceptions of the state as an inherently restorative or protective site against the violence of private finance, rather than scrutinizing the state's entanglement *with* the projects of private finance. Consequently, we also submit that this interface is not a geographical metaphor (cf. Bok, 2019) but a sociospatial relation that results in far-reaching material outcomes connected across scales and sites.

While acknowledging that the interface between public and private finance is dynamic, assuming different forms in different times and places, we argue that four key features characterize this relation today. First, we identify a structural *asymmetry* in which public finance consistently supports the profitability of the private financial sector, but not vice versa. The state's role in the contemporary public-private interface is often to "de-risk" private investment—not by removing risk, but by transferring it to the public sector. Thus the "use" of public

finance to backstop private finance's profitability already blurs the boundaries between these two sectors. In this sense the interface is an explicitly political relation, despite the tendency, especially under neoliberalism, to treat state interventions in private markets as technical in nature.<sup>2</sup> Second, we discuss how private financial logics and practices have captured imagination and decision-making in public financial processes. Neoliberal state restructuring and intensified financialization have generated a *path-dependent* tendency for public actors to pursue financial solutions to policy problems. This leads to a third tendency, in which these choices are *depoliticized* and naturalized. Finally, the interface between public and private finance generates *distributional inequalities*, which have both social and spatial dimensions. Exposing these inequalities, we contend, is a vital political goal that should propel geographical and other spatially oriented research on public finance. Beyond illustrating how public and private finance are mutually constituted through this relational interface, our goal is to emphasize that, while the logics of private finance have come to dominate contemporary interfacing activities—with grave distributional consequences for the vast majority of people on earth—things could, in fact, be otherwise (cf. Lake, 2002).

Highlighting the foundational place of public finance in both contemporary social inequalities and new financial geographies provides, we argue, a novel analytical lens for examining the interface between states, markets, and private actors. This lens links financial geographies to how the interface unfolds across scales and sites, ranging from the city to the macroeconomy. Accordingly, the paper is organized to explore the interface in particular international, national, and subnational contexts that allow us to understand the common processes that operate across sites and scales. The first section frames our intervention within the public finance literature. [Section 2](#), which focuses on the international scale, shows how private finance has been recast as the only solution for existential crises facing the global community, including pandemics and climate change. In [section 3](#), we focus on central banks to examine how nation-states shape flows of financial capital, linking to the burgeoning literature

on state capitalism and other geopolitical processes undergirding “the emergence of new landscapes of state intervention” (Alami and Dixon, 2020: 3). Section 4 turns to the local scale, discussing the financing of urban infrastructure and financial solutions to the pandemic’s economic downturn to highlight the uneven distributional impacts generated at the interface of public and private finance. In section 5, we conclude with possibilities for an expanded geographical conception of public finance.

## 1. Public finance in the literature

Our study of public finance is situated within a long history of scholarly thought exploring the relationship between capital and the state. This wide-ranging literature includes debates over how to theorize the capitalist state (Clarke, 1991; Jessop, 2002; Miliband, 1970; Poulantzas, 1969) and discussions of the changing role of the state in the economy given the impacts of capitalist globalization since the 1970s (Mezzadra and Neilson, 2019; Weiss, 1998). Within geography, specifically, the study of public finance has largely been secondary to that of private finance. Remarkably, geographers have scarcely engaged with public finance since economic geographer Bennett’s 1980 book, *The Geography of Public Finance: Welfare under Fiscal Federalism and Local Government Finance* (but see Cameron, 2008; Pacione, 2001; and more recent interventions from Tapp and Kay, 2019 and Whiteside, 2021). Bennett emphasized the need for a “geography of public finance [that] does not lose sight of the question of distribution between people” (1), an agenda that has regrettably not animated the study of public finance in other disciplines. Instead, the purview of public finance research since 1980 has narrowed significantly. While economists conceptualize public finance in broad terms, as “the study of the role of the government in the economy” (Gruber, 2016: 3), in the discipline of public administration, public finance is generally limited to fiscal policy. The emphasis is thus on studying governments’ financial activities (e.g., budgets, debt issuances) and developing techniques to evaluate and measure the “financial condition” of various public entities—such as cities, public utilities, housing agencies, and national

economies—with the idea that sound fiscal health is vital to the “effective, efficient, and economical delivery of public services” (Wang et al., 2007: 4). These measurement strategies, we note, are borrowed from orthodox economic logics originating in the private sector, prioritizing the prerogatives of private finance in processes of public finance. They also skirt critical political economy’s concerns with resource allocation, or why some communities have vast wealth and others do not. With this limitation in mind, we propose an expanded conception of public finance in geography, one that traces how public entities interface with the circulation of private financial capital and, critically, the ramifications for questions of distribution (Kass, 2020). From this perspective, the role of a geography of public finance is to better understand not simply how public actors enable the circulation of financial capital but how the two are always connected. The distributional and social justice implications of these connections mean that critical scholars within, but also beyond, financial geography have a remit to engage with this topic.

We make this argument by drawing together established literature on financial geographies with scholarship rooted in racial capitalism and inter-sectional perspectives on the workings of financial capitalism. The field of financial geography, which studies the spatial dynamics of money and finance, has grown rapidly since the 2008 GFC (Aalbers, 2015; Karaagac, 2020; Lai, 2017). This work has sought to understand the spatial aspects of an increasingly powerful financial sector by exploring global financial networks (Lai, 2018; Töpfer, 2018), the roles of international financial centers (Poon, 2003; Wojcik, 2013), the cultures of elite financial actors (Hall, 2007), and “how finance shapes everyday life within contemporary capitalist societies” (Lai, 2017: 6). Scholars have also explored the growing power of finance to reshape relations in all realms of the economy and everyday life (Fields, 2017; Horton, 2019; Karaagac, 2020; Pollard, 2013). Implicit in these literatures has been a centering of private financial actors in an attempt to unpack “the black box of elite financial subjects and the spatialities of their work” (Hall, 2012: 406), along with a framing of the state as a static actor that merely attempts to regulate financial flows (e.g., Pike and Pollard, 2010).

Recent interventions have complicated the inherited narrative that finance is a terrain dominated by private actors. Within and beyond financial geography, work on the deepening links between finance capital and the state illustrates how the state (and fiscal policy) has played an integral role in financialization as a financial actor itself, and investigates the political consequences of state-led capitalism and financialization (Alami et al., 2021; Bryant and Spies-Butcher, 2020; Monk, 2010; Weber 2010). Examples of this line of inquiry include Topfer's (2018) and Petry's (2020) examinations of how Chinese state power shapes global financial networks, research by Hall (2018) and Pike et al. (2020) on the roles of national and municipal governments in actively promoting the increased power of the financial sector, and Mawdsley's (2018: 271) work on how supranational "hybrid state-capital formations" enable financial speculation in development projects. These studies have begun to demonstrate the integral role of state (and quasi-state) bodies in shaping the flows, cultures, and institutions that make up the financial sector, focusing on how the state is involved with and deepens global capitalism and financialization. Our point, however, is that these are not the only dynamics relating the public sector to private finance. Our intervention calls attention to seemingly mundane aspects of government finance that not only reinforce the process of financialization but also affect the distribution of finance itself. In short, we are asking a more overtly political question—one that denaturalizes the foundations of the tacit priorities of public finance. Here we take up Lai and Samers's (2020: 3) call for "renewed research interest into the political economy of money and finance, specifically the geographical and structural shifts in power between states, between states and markets, and between groups of social and economic actors." Inspired by Bob Lake's (2002: 815) work on the political potential of government power, we are interested not simply in the "quantitative redistribution" of public finance but also a "qualitative redirection of the purposes to which that power is applied."

We propose that such a renewed focus on geographies of public finance be rooted in scholarship on intersectionality (Crenshaw, 1991; Eaves and Al-Hindi,

2020), Black geographies (Bledsoe and Wright, 2019; McKittrick, 2011), and racial capitalism (Gilmore, 2021; Hudson, 2017, 2018; Melamed, 2015; Ranganathan, 2020; Robinson, 1983/2000). This work has enriched geography (Price, 2010; Valentine, 2007) by theorizing and demonstrating the group-differentiated impacts of social processes and by showing how social differentiation—particularly by race—is a constituent part of capitalist accumulation. The concept of intersectionality brings attention to the roles of colonialism, racism, sexism, and nationalism in generating social inequality, pointing to their interlocking classed, raced, and gendered impacts (Collins, 2019). Scholars of Black geographies and racial capitalism have further clarified how global capital accumulation is premised on anti-Blackness (Bledsoe and Wright, 2019), on the making of racial categories (da Silva, 2007; Robinson, 1983/2000), and on the perpetuation of raced, gendered, and class-based inequalities. This literature has powerfully demonstrated the connections between private financial capital, racial violence, and sociospatial inequality (e.g., Melamed, 2015) at a range of scales, from the nation (Marable, 2015) to the city (Ponder and Omstedt, 2019; Pulido, 2016) to the home (Taylor, 2019). Indeed, much of this work already speaks to how the state mediates processes of distribution and (racial) inequality. As summarized by Gilmore (1999: 183), "the state at all levels" is now "focused on capital's needs, particularly on how to minimize impediments and maximize opportunities for capital recruitment and retention." An expanded geography of public finance, we argue, should center the role of public finance in the (re) production of inequality and racial violence to study how, in the words of Ranganathan (2020: 493), the "nitty-gritty of finance" reveals the "the inseparability between racial hierarchy and the financial architectures and mechanisms of capitalism." In scrutinizing the racialized interface between state and capital, geographies of public finance must also account for the growth of activist movements around alternative conceptions of—and priorities for—public finance, so as to fully explore its transformative, abolitionist potential.

Before moving on to the next section, a brief note on positionality is in order. We are a group of US and Canadian scholars whose research agendas focus almost entirely on North America. As such, we stress

that this intervention is an opening move rather than a completed project. While many of the examples are drawn from North America, our analysis is intentionally porous and our framework open to adaptation to different contexts. The integration of public finance with intersectionality, Black geographies, and racial capitalism is not an intellectual project specific to North America (Hudson, 2018), nor should the public-private financial interface as we depict it here be understood as representative of all the ways it is configured elsewhere (but see Bledsoe, 2020). Future research in the directions we propose will undoubtedly benefit from an expanded selection of empirical sites and case studies.

## 2. The public-private interface at the international scale: Finance as the solution to every problem

This section focuses at the international scale, drawing on global financial processes to highlight the asymmetric and path-dependent characteristics of the public-private financial interface. We illustrate these tendencies through two new terrains of financial speculation: catastrophe bonds and green finance.

The interface between public and private finance is increasingly characterized by a structural asymmetry in which the state works to backstop and augment the profitability of private finance. This practice is often described as de-risking—a misnomer, since risk is not eliminated but merely shifted to the public sector. While private enterprise is frequently lionized for taking bold risks, in practice most market actors (even those specializing in high-risk investments) seek to minimize their risk exposure. When the private sector has greater power to set the terms of contracts, or when government has a less sophisticated understanding of risk or is captured by the idea that the private sector can do things better, the result is a transfer of costs and risks to the public sector (Ashton et al., 2012; Siemiatycki and Farooqi, 2012; Whiteside, 2019). Things have not always been this way: relations between public and private finance are dynamic, political, and contingent. The current conjuncture, in which those relations systematically privilege the private sector, is a result of both the erosion of perceived fiscal capacity and

historical developments within public debt markets (Gilmore, 1999; Harvey, 2003; Sbragia, 1996).

In addition to asymmetries of power and risk, the engagement between public and private finance is marked by a growing reliance on private financial solutions to social, economic, and environmental problems. This market orientation is self-reinforcing, reshaping both the ideology and the machinery of governance. As private finance becomes the go-to tool for addressing a host of issues, the result is a kind of inertia or path dependence—a narrowing of imaginations and a reorientation of institutional frameworks through which the state's capacity to conceive, plan, and deliver nonmarket solutions (such as stimulus in times of crisis) is eroded (Braun, 2020; Gabor, 2021). Walks and Clifford (2015) call this tendency “bricolage” (see also Engelen et al., 2011). As Braun (2020: 396) writes, these public-private transactions create “infrastructural entanglements” that further augment the power of the financial sector, including by leading to preferential political treatment and a reliance on private financial infrastructure. In the wider discourse, the idea that public institutions should work to support the profitability of private finance becomes depoliticized and naturalized. Geographers and others have observed this tendency, for example, in tax regimes that increasingly serve as strategic spaces for private finance (Tapp and Kay, 2019) and reproduce racial injustices (Henricks and Seamster, 2017; Hickel, 2021) or in models of “blended finance” that leave decisions about the flow of capital to projects addressing ecological and social crises in the hands of private investors whose returns are underwritten by a “state-philanthropy nexus” (Christiansen, 2021; Cohen and Rosenman, 2020). The deepening entanglement of public and private finance also relegates important public policy decisions to the private sector, where they are insulated from popular scrutiny and democratic accountability (Braun, 2020; Lake, 2015).

Internationally, the asymmetrical and path-dependent character of the interface is illustrated by recent efforts to financialize responses to crises. One example is the World Bank's Pandemic Emergency Financing Facility, a \$500 million “catastrophe” bond intended to provide emergency aid to poor countries in the event of a pandemic. When it was

issued in 2017, investors flocked to the bond hoping to earn high interest rates, which were paid by the governments of France and Germany as a “donation” to global development (World Bank, 2017). The high interest rate was meant to compensate investors for the potential loss of their principal, which would be used for emergency relief if a pandemic struck. The 2020 coronavirus pandemic triggered the use of the funds, but investors were not hard hit: their aggregate loss of \$196 million was offset by the \$115 million in premiums they had already collected from the bond’s government donors (Clarke, 2020). While the bond has been criticized for its ineffectiveness in providing timely aid to countries in need (Tan, 2020), it also reveals how public finance interfaces with private finance in global development to enable the launch of novel financial instruments organized to enrich investors. Instead of spending directly on relief, the strategy of the French and German governments was to subsidize *capital* in doing so, paying out premiums in order to de-risk private investment. This case reveals just how profoundly financial logics have captured the imaginations of government decision-makers, such that efforts to fight infectious disease and other humanitarian concerns are funded not through direct aid but indirectly through financial markets (Johnson, 2013). While the Pandemic Emergency Financing Facility marked “the first time pandemic risk in low-income countries” was “transferred to financial markets,” the World Bank executed over \$1.6 billion in other catastrophe risk transactions in the decade before the bond’s launch (World Bank, 2017). Public finance, in this relationship, plays an integral role in supporting the development of new investment tools and in subsidizing investors to entice them into novel markets and asset classes.

Along similar lines, harnessing private finance to gamble “in nature’s casino” (Lewis, 2007) has become an institutionalized policy solution to address both international development and the climate crisis. A dramatic illustration is the World Bank’s approach to achieving the United Nations Sustainable Development Goals. Forgoing the more conventional use of direct aid, the bank’s Maximizing Finance for Development initiative has promised to issue \$12 trillion in securities to fund public-private partnerships carrying out infrastructure and development projects

(Gabor, 2012; Mawdsley, 2018). World Bank president Jim Yong Kim explained in 2017 that the role of states in the program was to “de-risk” investment—that is, provide subsidies and guarantees—and “escort” private capital into new asset classes in the Global South (Gabor, 2021). Geographers have explored how similar processes are unfolding in the realm of “green finance” (Asiyanbi, 2018; Bracking, 2015; Dempsey and Suarez, 2016), in which supranational organizations have lauded financial markets as the most effective way to address the economic impacts of climate change, biodiversity loss, and ecological degradation. In each case, supranational public finance institutions support the private sector by creating infrastructure, policy, and state capacity in developing nations—by creating stable conditions for private gain. In the face of a deepening climate crisis that exceeds the ability of any single nation-state to address it, the World Bank (2020) has argued that only global finance has the capital—and, crucially, the capacity to distribute risk—at a scale to match the problem. Such claims naturalize the perpetuation of financial arrangements that enrich private investors, often at the expense of the vast majority. Once again, the state’s retreat from addressing such problems creates a situation in which there appears to be no alternative to market-based solutions.

As these examples show, supranational bodies and governments are increasingly employing novel public-private financing arrangements to address global social, environmental, and economic issues previously tackled through direct public spending. These entanglements are characterized, first, by a structural asymmetry in which public financial bodies seek to attract private investment by absorbing risks and costs and, second, by a path dependence in which states find themselves increasingly without the capacity to implement or even imagine nonmarket solutions to pressing global problems.

### **3. Politicizing central banks: Architects in the reproduction of material inequality**

In this section, we focus on central banks as increasingly important actors shaping the interface between public and private finance at the national

scale.<sup>3</sup> Drawing on the actions of the US and Canadian central banks during the COVID-19 pandemic, we emphasize how structural asymmetries and distributional inequalities are exacerbated by central banks' reliance on private finance as the primary infrastructure of the economy.

For geographers interested in how state or quasi-state economic interventions influence distributional equity, few institutions have more contemporary relevance than central banks. Central banks formulate monetary policy—control of a country's money supply—with the general goal of promoting predictable economic growth. This approach rests on the premise that macroeconomic growth will trickle down to support individuals and communities, an assumption embedded in central bank interventions to stimulate the economy during both the 2008 and COVID-19 crises. According to Mann (2010: 614), however, “the material geographies of monetary policy” that shape these interventions are highly uneven, particularly from a distributional perspective (see also Hickel, 2021). Central banks face, “but must nevertheless ignore” (Mann 2010: 614), uneven regional conditions in areas like employment and inflation, meaning that the impacts of their actions are not evenly shared. The political nature of central bank activities, and their impacts, is depoliticized by the commonsense refrain that central banks are neutral—a pretense belied by the increasingly activist character of central bank support for private financial markets during crises, in turn justified by a framing of private finance as critical infrastructure that ties the entire economy together.

US central bank action in managing the COVID-19 crisis most clearly illustrates how private financial markets have become the dominant means through which public financial interventions occur. Early in the crisis, it became apparent that neither the legislative nor executive branch of the US government would provide direct aid to households at the scale needed to support people's survival. At the same time, the Federal Reserve, or Fed, which operates independently of the executive branch and Congress, began to pump trillions of dollars into financial markets through quantitative easing. It did so through both traditional means (e.g., purchasing government bonds) and new approaches (e.g., purchasing

corporate debt). These interventions were justified as necessary to help vulnerable populations, given the failure of political actors to fund adequate fiscal stimulus (Chappell, 2020). In fact, many pundits accused Congress and the Trump administration of relying on the Fed as a way to avoid direct fiscal intervention through economic stimulus. The major legislative package that was eventually passed placed even more responsibility on the Fed, calling on the central bank to support up to \$6 trillion in lending to financial markets—an amount that far exceeded the \$282 billion in direct payments made to Americans.<sup>4</sup> While direct intervention through fiscal policy would have opened up a political discussion on how stimulus should be directed and who should benefit, the offloading of responsibilities onto the Fed (operationalized through increased lending to financial markets) depoliticized these decisions by placing them with the supposedly politically neutral Federal Reserve and its toolkit of finance-based interventions (Dutta et al., 2020; Hickel, 2021; Van 't Klooster and Fontan, 2020).

The details of central bank support for financial markets as a crisis response do more than just reveal how private actors have captured the public sector's imagination on questions of policy. They illustrate how years of state restructuring have made public finance fundamentally reliant on private financial infrastructures to achieve its goals (Braun, 2020; Gabor, 2016). During both the 2008 GFC and the COVID-19 crisis, central banks went beyond their long-established role of supporting regulated banking institutions and began accepting risky collateral and extending support to nonbank financial actors, including large-scale private-sector asset managers BlackRock and Vanguard. They did so based on the argument that these nonbank financial actors have become integral infrastructure in the functioning of the world's financial system (Gabor, 2016; Le Maux, 2017).<sup>5</sup> For example, as COVID-19 set off investor panic, the Fed used public capital to rescue money-market mutual funds (MMMFs), important purchasers of municipal and corporate debt run by nonbank actors. The Fed did so by lending money to banks (on very generous terms) so that they could buy up MMMF assets, thereby preventing investor losses and the concomitant collapse of this \$3.7



trillion market.<sup>6</sup> These actions illustrate how central banks use private financial infrastructure to enact their policy goals (Braun and Gabor, 2020). Mirroring the path-dependent reliance on finance at the international scale, this practice bolsters the “infrastructural power” (Braun and Gabor, 2020) of finance to mobilize public money for private gain. In this way, the Federal Reserve’s roundabout approach to preventing the collapse of municipal and corporate debt markets also cemented private financial power over the economy.

The emergency response to COVID-19 by the Bank of Canada (BoC) similarly illustrates the asymmetrical interface of public and private finance and the resultant distributional inequalities. In the first 6 months of the crisis, the BoC quadrupled the assets on its balance sheet to C\$537 billion by purchasing government bonds, mortgages, and corporate debt. As Canadian households and small businesses struggled to make rent, the BoC promoted liquidity for the corporate bond market by purchasing debt issued by the country’s largest companies.<sup>7</sup> At its core, this program exposed several of the distributional inequalities generated at the interface between public and private finance. The BoC’s measures bailed out corporate actors and not regular people, whom the bank encouraged to use credit to pay for necessities during the pandemic (BoC, 2020). Among corporate actors, it privileged those large and sophisticated firms that can issue bonds on financial markets, and not the shops, restaurants, and smaller enterprises hard hit by crisis (Van ’t Klooster and Fontan, 2020). Among financial firms, the BoC’s actions privileged those concentrated in the real estate, infrastructure, and “energy” (oil and gas) sectors. Such actions deepen social, economic, and environmental inequalities by supporting environmentally damaging fossil fuel production (Van ’t Klooster and Fontan, 2020).

The geographical impacts and distributional inequalities generated at the public-private finance interface are further illustrated by Canada’s use of the housing sector in its COVID-19 response, recycling the approach used during the 2008 GFC, when “the state effectively became the mortgage market” (Walks and Clifford, 2015: 1636). In March 2020, the BoC launched an “exceptional” program to make

weekly C\$5 million purchases of mortgage-backed securities, amassing C\$9 billion in Canada Mortgage Bonds by September. In addition, acting through its housing agency, the Canada Mortgage and Housing Corporation (CMHC), the federal government acted to “support and stabilize the economy and the financial system” by buying a further C\$150 billion in Canada Mortgage Bonds from banks, providing them with cash to issue new loans while guaranteeing risk-free investor returns.<sup>8</sup> Remarkably, CMHC made no mention of housing-related goals in its description of the program (CMHC, 2020). Meanwhile, a direct-spending program to acquire “Rapid Housing” for vulnerable families was announced a full 6 months later, with a commitment of C\$1 billion—less than 1 percent of the bailout for private finance. Propping up finance by working through housing markets, as done by the BoC and CMHC, enriches financial elites and benefits privileged homeowners while fueling house price increases and generating pressures toward displacement and dispossession. As the BoC buys billions in private mortgages, new housing-market entrants face rising indebtedness, while low-income families and renters are pummeled by an affordability crisis, with equity-seeking groups (including women, racialized and Indigenous households, persons with disabilities, and immigrants) disproportionately affected.<sup>9</sup> In this way, the capture of infrastructural power by finance and its asymmetrical effects are profoundly geographic, and they should be studied by geographers in order to better understand their role in producing new geographies of inequality (Mann, 2010).

The seeming consensus that central bank interventions should support finance without considering crises of inequality and climate change has come under increasing challenge. In the US, politicians and activists have called for the Fed to design its programs to target racial inequality. In 2020, Congresswoman Maxine Waters demanded that “as the Covid-19 pandemic crisis and its economic impacts disproportionately affect communities of color... the Federal Reserve must do everything it can to ensure the recovery is equitably shared” (Rugaber, 2020). In Europe, calls to reconsider the supposed neutrality of monetary policy, particularly in regard to the climate crisis, have come from within the inner circles of

central banks themselves. After years of critiques noting that market-neutral asset purchases disproportionately help polluting industries in sectors like oil and gas (see [Langley and Morris, 2020](#); [Matikainen et al., 2017](#); [Van 't Klooster and Fontan, 2020](#)), some leaders of the European Central Bank (ECB) have begun to publicly call for a program of “green quantitative easing” ([Jourdan, 2019](#)). Rather than purchasing assets across economic sectors, “green” quantitative easing would actively steer central bank stimulus away from carbon-intensive industries. This shift, if undertaken, would be a remarkable break from decades of central bank policies emphasizing the importance of neutrality, and would acknowledge the centrality of public finance in shaping private-sector economic activity. As ECB president Christine Lagarde recently acknowledged, in the face of climate change, “it is a question that we have to ask ourselves as to whether market neutrality should be the actual principle that drives our monetary policy portfolio management” ([Arnold, 2020](#)). While current central bank programs (like the Fed and BoC programs discussed above) have used the supposedly neutral orientation of central banks as cover to stabilize the financial sector in ways that exacerbate inequality and climate disaster, the debate taking place at the highest levels of the ECB signals that this approach is under challenge. Such discussions highlight the possibility for public finance (central bank based or otherwise) to produce new geographies, a possibility we will examine further in [section 5](#).

#### **4. Infrastructure and municipal liquidity: The public-private financial interface at the local scale**

This section considers the local scale, highlighting how the entanglement of public and private finance is reshaping sociospatial processes that are central to urban geographic thought. A flashpoint was the 2008 GFC, when the financialization of home mortgages and lax public regulation thereof transformed urban landscapes around the world ([Aalbers, 2009](#); [Fields, 2017](#); [Martin, 2011](#); [Raymond et al., 2016](#); [Wylie et al., 2009](#); [Zwiers et al., 2016](#)). That crisis, and its echoes in the present, highlights an enduring feature

of the public-private interface in which the distribution of financial risks and rewards is written into urban space along racial, gender, and class lines. Here we illustrate this point through the examples of (1) new trends in infrastructure finance and (2) the relative lack of federal support for US municipal governments during the COVID-19 pandemic compared to support available for the financial sector through the Municipal Liquidity Facility. An intersectional lens applied to finance at the local scale, we suggest, calls attention to the uneven distributional impacts of the contemporary interface between public and private finance.

The financialization of infrastructure has become an active research area in urban and economic geography ([Ashton et al., 2012, 2016](#); [Furlong, 2020](#); [Grafe and Mieg, 2019](#); [Lin and Yi, 2011](#); [Pike et al., 2019, 2020](#); [Weber 2010](#); [Wu, 2010](#)). Infrastructure is increasingly regarded by capital markets as an asset class in its own right: total global capital fundraising in infrastructure grew from \$1 billion in 2000 to more than \$69 billion in 2018 ([Prequin, 2018](#)). Before this period, virtually all funding for infrastructure came from governments and traditional banks. Especially since the 2008 GFC, however, infrastructure has become an attractive target for institutional investors like pension funds and insurance companies because its stable returns and long time horizons are seen as a good match for their future liabilities (i.e., payments to beneficiaries). Through a wave of privatizations and corporate share purchases, global financial actors have acquired major equity stakes in urban and regional infrastructure assets, including utilities, energy networks, airports, shipping terminals, and toll roads ([Torrance, 2009](#)).

Like at the international and national scales, the financial sector is not driving this transformation alone. Instead, it is increasingly invited into cities by municipal governments to advance their goals, illustrating the dynamic nature of the interface as a site of mutually constitutive relations. Private-sector involvement in infrastructure finance has been encouraged by local government practices that conceive and manage infrastructure assets as revenue-generating opportunities for financial investors, in a twist on the conventional public-private partnership

model (see [Siemiatycki, 2011a, 2011b](#); [Whiteside, 2019](#)). Considering these shifting arrangements, [Pike et al. \(2019: 792\)](#) argue that we must understand the circulation of finance capital through urban infrastructure as not simply driven by private finance but rather as “a recursive process in which [public, private, and hybrid actors] are actively financialising *and* being financialised in their relations with other actors.” The voices promoting infrastructure investment are not only financial elites seeking to gain from public projects but also local politicians, bureaucrats, and boosters harnessing that investment to reshape cities. These encounters have resulted in remade urban landscapes of privatized services and rent extraction that funnel windfall profits to investors, alongside municipal projects that might otherwise have been impossible under austerity regimes ([Hackworth, 2007](#)) or even rejected on the grounds that they are not in the public interest. National governments, too, are unveiling new tools and agencies to shepherd financial actors into infrastructure “products” that are reshaping urban environments. For example, the Canada Infrastructure Bank, created in 2017, is an arm’s-length body that seeks to attract private infrastructure funding by giving investors access to low-interest loans and a share of future revenues. Urban scholars have highlighted the connections of such projects with colonial logics ([Colven, 2017](#); [Cowen, 2020](#)) and practices of racial capitalism ([Ponder and Omstedt, 2019](#); [Pulido, 2016](#)), using grounded empirics to illustrate how extractive, asymmetrical power dynamics of the public-private interface operate at the urban scale. Their granular case studies reveal aspects of the public-private interface that are often harder to grasp at the macroeconomic scale, but which are still intimately connected to the global circulation of capital.

To ensure a steady stream of profits for investors, these financing models depend on charging fees for use of the infrastructure in question—for drinking water, electricity, highways—foreclosing the possibility of free and universal provision. A further consequence is that the infrastructure assets pass from local control to ownership and governance by distant shareholders, thereby undermining local democratic oversight ([Torrance, 2008](#)). The details of such arrangements, often rooted in asymmetries of power, can also lead to irrational and socially costly

outcomes that lock in path-dependent financial relationships. For example, the terms of an agreement by which the City of Chicago leased its parking meters to a global infrastructure investment fund have resulted in a requirement that the city make a payout anytime it enacts a policy that would reduce parking revenues ([Farmer, 2014](#)). In this way, the seemingly technocratic nature of contract negotiations, local budgeting, and financial management plays a formative yet underappreciated role in determining material outcomes, which today are intimately tied to ongoing pressures of the pandemic and sociopolitical unrest. For geographers, these details are important. While research on urban growth machines, urban entrepreneurialism, and urban financialization examines state and municipal financial management as a means for understanding the financialization of urban policy ([Akers, 2013](#); [Beswick and Penny, 2018](#); [Davidson and Kutz, 2015](#); [Davidson and Ward, 2014](#); [Hinkley, 2017](#); [Peck 2012, 2014](#)), there has been less engagement with mundane aspects of subnational budgeting and financial management, which can nonetheless determine material outcomes in powerful ways.

Beyond infrastructure, thinking through local-scale responses to the COVID-19 pandemic in the US reveals much about the unequal distributional implications of the public-private interface. In contrast to central bank support for financial markets, described in [section 3](#), struggling municipal governments in the US received little to no fiscal or monetary support to adjust to rapidly falling revenues and increased costs early in the pandemic. Most notably, the Federal Reserve’s sole program addressing public finance at the municipal level, the Municipal Liquidity Facility (MLF), was designed primarily to alleviate investor panic rather than support municipal spending. This was despite headlines describing it as providing a “lifeline” for “cash-strapped” states and cities ([Piergo, 2020](#)). In reality, the MLF was less generous than similar programs the Fed offered to private-sector funds. A letter signed by the Government Finance Officers Association, the National League of Cities, and the US Conference of Mayors, among others, highlighted the MLF’s punitive pricing mechanism—rules that originally rendered every Black-majority city in the country ineligible for the program—and asked for “parity in

facilities offered to the private and public markets” (GFOA, 2020: 3).<sup>10</sup>

Despite its public description as a lifeline, the MLF was utilized by just two entities, the Metropolitan Transportation Authority of New York City and the State of Illinois. The poor uptake was rooted in both the details of the program (e.g., the punitive pricing mechanism) and the way it was interpreted and rolled out by Federal Reserve officials. From the perspective of the program’s architects, the MLF was meant to backstop the bond market (and its private investors) by providing liquidity, and thus preserve the operation of the broader financial system that was disrupted in March 2020 (Albright, 2020). As highlighted by critics such as Sahm (2020) and (Tankus, 2020b), this focus on increasing financial liquidity over supporting municipalities was a conscious choice: the legal structures that governed the MLF permitted a far more liberal use of federal funds in assisting municipal governments than the Fed actually pursued. The MLF’s conservative and private-finance-oriented design meant that its ultimate function was to prevent shocks throughout the wider financial system, while it did little to address the projected \$500 billion shortfall in state and local governments’ own-source revenue (Auerbach et al., 2020). As with the catastrophe bonds and other pandemic responses described above, the MLF’s design—symptomatic of a wider orientation of public finance toward private profit—reflects the asymmetrical power dynamics inherent in the contemporary public-private interface of finance and underscores who benefits most from public responses to crises.

Geographers interested in the consequences of public finance for historically marginalized groups should pay attention to the lessons of the dynamics of the public-private interface at the urban scale. As highlighted in a letter from three US senators to Federal Reserve Chair Jerome Powell, the discrepancy in the Fed’s support for private and public financial markets meant that “giant corporations will reap all the benefits of this recovery while cities and states are left behind and suffer needless economic devastation” (Warren et al., 2020: 1)—likely in ways that will accelerate racial disparities. Here the critical urban geographic approach of linking the production of space, with its attendant racialized, classed, and gendered dynamics, to the underlying structures of

capitalism is a powerful guide to what is at stake in understanding the public-private interface, reminding us who is most harmed by austerity, and how state and local governments have historically made up for reduced revenue shortfalls through pecuniary measures like traffic fines (US Department of Justice, 2015: 1) or more extreme measures such as switching the municipal water source to a contaminated river (Pulido, 2016) or shutting off the water supply to impoverished households altogether (Phinney, 2018).

Considering changes to urban infrastructure and the differential responses to the pandemic in terms of their distributional consequences brings to the fore a host of material consequences. In relation to the MLF, the Fed’s (and Congress’s) decisions not to help state and local governments directly during the pandemic will have myriad effects on urban life: government-imposed restrictions and mandated business closures without accompanying financial support, mass layoffs in the public sector (traditionally an important source of employment for racialized groups), insufficient capacity to process unemployment claims and provide timely benefits, and miles-long lines for food banks (see Rocco, 2020). Similarly, the decisions made to mobilize financial resources in support of private markets rather than public institutions in areas such as infrastructure will have profound distributional effects that echo for years to come.

## 5. For new geographies of public finance: Expanding the bounds of possibility

A central aim of this article has been to call for a geography of public finance that centers the *subjects* of public finance. Going beyond the narrow conception of public finance used in the study of government budgeting, we have sought to demonstrate the analytical and political value of refusing to allow a focus on the traditional “object” of public finance—the financial conditions of various governmental entities—to occlude its uneven material consequences for people. The various “publics” of public finance often experience these consequences through everyday conditions and events—like steeply

increasing fees for public transportation, municipal water, and electricity; falling quality of public infrastructure and schooling conditions; and lack of affordable housing, health care, and higher education options—but these are normally far removed from analyses of central bank decisions and municipal budgeting processes. An expanded geographical understanding of the subjects and spaces of public finance must therefore disrupt inherited norms that treat the field as technical, abstract, and aspatial. The geography of public finance is densely peopled with actors, such as the Black Lives Matter organizers with whom we began this article. These are people whose lived experience has clearly shown them whom public finance is currently accountable to—whose interests are centered and whose lives have become collateral damage through the provision of public subsidies for private financial stability. In making the case for a geography of public finance that is subject centered and attuned to the sociospatial materiality of outcomes rather than the financial condition of governmental entities, we call for research in the field that does not take as given the power of private financial actors to shape financial geographies, and goes beyond the accounting of public financial flows to track the uneven distribution of risks and rewards among these different publics (e.g., Appel, 2020).

The paper has also sought to open up the question of how public finance itself might be done differently. While the practice of—and most scholarship on—public finance is dominated by technical systems of thought that deny the politics of government spending decisions, there are many actually existing counterhegemonic ideas and practices working to challenge those conventions. Once again, critical geographical scholarship can orient us to the proliferation of such experiments, providing an “alternative mapping” (Gibson-Graham, 2006: 170) of the worlds made possible by a reimagined public finance.

Surveying this landscape, several themes emerge as salient. One centers on risk and rethinking the relationship of public finance to risk. Instead of shoring up corporate profits, de-risking private investments, and backstopping speculative transactions, what if public finance served to shore up community

care, de-risk social service provision, and backstop the expansion, maintenance, and repair of public infrastructure? A reimagined public finance that recognized the state’s vital role in such public provisioning would entail models of infrastructure investment that, in contrast to current funding arrangements, distribute benefits more equitably. Similar imaginaries underpin a growing body of writing that highlights the unprecedented actions taken by public financial institutions in the wake of the 2008 GFC and the COVID-19 pandemic (Langley and Morris, 2020; Ward, 2020). By revealing the extremely market-oriented character of public finance today—the sense in which we are truly in uncharted terrain—this literature helps to denaturalize the present state of affairs, to remind us that things could be otherwise.

There is also a growing chorus of calls to make public finance subject to democratic oversight or accountability. If, as we argued in section 2, institutions like central banks are not neutral or merely technical economic actors but are intrinsically political in their constitutions, ideologies, practices, and effects, it follows that they should be accountable to the people they serve through mechanisms of public debate and democratic governance. For Mann (2010), among others, the orthodoxy of “central bank independence” means that the prevailing model of monetary policy is fundamentally nondemocratic and intentionally beyond public control. The call to democratize public finance is relevant not only at the national scale but also at the levels of local and subnational governments and supranational and international institutions. Why, for example, is it political elites and policy makers within the World Bank, rather than those directly affected by the World Bank’s policies, who are in charge of deciding whether green finance should be driven by the private market (Asiyanbi, 2018; Bracking, 2015). Democratizing public finance will necessitate greater consideration of its spatial implications—through, for example, gathering and analyzing data on regional differences in economic activity and the distributional effects of monetary policy (Mann, 2010). While the 12 US Federal Reserve Banks do have a mandate to balance regional economic concerns, a stronger form of devolution might see central bank power spread across a network of regional development banks whose funding to

private-sector financial institutions is conditional on plans for local or regional production (Hockett, 2020).

As for efforts already underway, many activists and policy makers are proposing alternative conceptions of, priorities for, and institutions of public finance that demand attention from geographers. In the realm of *conceptions*, modern monetary theory (MMT) is a relatively new conceptualization of monetary and fiscal policy that is gaining traction in the US and elsewhere, especially among progressive members of the US Congress like Representatives Alexandria Ocasio-Cortez and Ayanna Pressley (Mathews, 2019; Pressley and Stein, 2020) and leftist economists (Fullwiler et al., 2019; Wray, 2015). The core thesis of MMT is that it is acceptable for states with sovereign currencies to run large deficits, because money is created when governments issue budget allocations—that is, when they spend. MMT suggests that this spending can occur without fear of hyperinflation or the need for social austerity, as tax increases can be applied to control inflation if and when it becomes a problem (rather than seeking to control inflation via interest rates). MMT has far-reaching geographical implications that deserve scholarly attention, including the blending of fiscal and monetary responsibilities (rather than the traditional separation of central banks and legislative bodies), the reversal of urban austerity as a policy norm during recessionary periods, and the irrelevance of subnational bond issuance for infrastructural funding. While MMT was developed within the allied field of heterodox economics, critical economic and financial geography has yet to widely embrace it or study its geographical implications (but see Epstein, 2020).

There is likewise a growing discussion of alternative *priorities* for public finance. Policy initiatives like the Center for Popular Democracy's Fed Up Campaign are calling for a re-envisioned central banking philosophy that prioritizes full employment, rising wages, and central bank accountability. New research on fiscal geographies (Tapp and Kay, 2019) points to various equity-promoting measures that could be implemented through tax policy, such as reforming tax codes that currently encourage investment in housing as a pure financial asset. (Hartmann, 2020), similarly, suggests that eliminating the tax-exempt status for charitable

foundations would help restore collective decision-making to private philanthropy or even eliminate philanthropy altogether and shift its functions to democratic bodies. These measures are distinct from public finance but closely intertwined with it. As noted in section 3, there are growing calls to empower central banks to move beyond so-called market neutrality and become agents of social transformation—for instance, by buying environmentally friendly bonds to support decarbonization efforts (Slobodian, 2020). Such measures could be integral to a Green New Deal in which central banks and other public financial actors could play a leading role through the purchasing of government bonds issued to support public investments in green infrastructure (Langley and Morris, 2020). Even more ambitiously, the People's Policy Project in the US has advocated for the creation of a sovereign wealth fund, drawing on experiences in the Nordic countries, that would gradually transfer capital to public ownership and return an annual dividend to all US citizens (Bruenig, 2018). Such an initiative, if enacted, would effectively use the mechanisms of public finance to facilitate a transition to a socialist economy. Again, there are considerable opportunities for geographers to enrich these conversations by interrogating the socio-spatial dynamics of these proposals.

Last, there is growing interest within progressive policy circles in developing alternative *institutions* of public finance. According to the Public Banking Institute (2021), since 2010 almost half of US states have introduced legislation that makes possible the establishment of publicly chartered banks. Public banks are obligated to the public interest rather than to private shareholders. Proponents state that this altered motive allows for reduced borrowing costs: eliminating interest payments on large public works would lower the cost of such projects by an average of 50 percent (Public Banking Institute, 2021). Our spatially informed approach of tracking the articulation between the global circulation of financial capital and its manifestations in shaping urban landscapes of inequality can provide a bridge between literature on financial geographies and debates over the implications of public banking for local and regional development trajectories, racial wealth and housing gaps, and more.

Ruth Wilson Gilmore reminds us that building abolitionist futures “starts from the homely premise that freedom is a place” (2017: 227), while Hannah Appel describes abolition as “a strategy and a vision for a world with reparative public goods” (2020). A reimagined theory and praxis of public finance is a crucial element in bringing about visions of abolitionist place making (Heynen and Ybarra, 2021). We have attempted in this article to clear a provisional path in that direction, arguing that an expanded conception of public finance offers both a fruitful research agenda for geographers and a promising avenue for progressive policy and political activism. Greater attention to the interface of public and private finance—an entanglement that we argue has become distorted by (1) asymmetries of power that consistently privilege the private sector, (2) path dependencies that favor market-based solutions to social problems, (3) the depoliticization and naturalization of private financial solutions, and (4) distributional inequalities that reinforce disparities of race, class, and citizenship—represents a first step along this path toward a public finance pressed into the service of racial, economic, and environmental justice.

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### Notes

1. In March 2021, President Joe Biden signed the American Rescue Plan Act into law. Included in that law is the allocation of \$350 billion in somewhat flexible aid to states, territories, and local governments, an unprecedented amount of federal aid. While the first tranche of that aid was distributed in May, little has been
2. We are indebted to Bob Lake for this point.
3. We recognize the varied histories of central banks and their ambiguous place on the public-private spectrum, but we argue that the expanding role of central banks since 2008 has moved them toward “quasi-fiscal/quasi-monetary” status (Bateman, 2020: n.p.), in which the direct effects of actions like asset purchases on traditional matters of public finance cannot be ignored.
4. This amount comprises direct payments to US citizens; expanded unemployment insurance payments, which had to be applied for, are not included.
5. The provision of liquidity to chartered banks is part of central banks’ role as lenders of last resort. The provision of liquidity to nonbank actors like mutual funds has been described as a shift to acting as market makers (Gabor, 2016; Le Maux, 2017) or investors (Langley and Morris, 2020) of last resort.
6. As Tankus (2020a) highlights, those participating in this liquidity facility face little risk (with potentially great reward) due to the terms of the program. Purchases made through the facility are not counted toward capital requirements, are for 100 percent of the value of the purchased collateral, and are considered “no-recourse” loans, meaning that the Fed can seize the assets but not claim payments if their value has declined.
7. These bonds were purchased by the BoC through the secondary market. The full list of eligible companies is available at: [www.bankofcanada.ca/markets/market-operations-liquidity-provision/market-operations-programs-and-facilities/corporate-bond-purchase-program/corporate-bond-purchase-program-list-of-sectors-and-issuers/](http://www.bankofcanada.ca/markets/market-operations-liquidity-provision/market-operations-programs-and-facilities/corporate-bond-purchase-program/corporate-bond-purchase-program-list-of-sectors-and-issuers/).
8. CMHC de-risks bonds by insuring underlying mortgages against default.
9. These groups are overrepresented among renter households, and thus disproportionately affected by rental housing affordability issues, while being less likely to benefit from homeowner-oriented policies.
10. The description of punitive pricing referred to the MLF’s “penalty rate” for borrowing from the fund, which required that the Fed lend out money at above-

market rates but, as Amarnath and Williams (2020) highlight, was applied at a higher level than required.

## References

- Aalbers M (2009) Geographies of the financial crisis. *Area* 41(1): 34–42.
- Aalbers MB (2015) The potential for financialization. *Dialogues in Human Geography* 5(2): 214–219.
- Akers J (2013) Making markets: Think tank legislation and private property in Detroit. *Urban Geography* 34(8): 1070–1095.
- Alami I and Dixon AD (2020) State capitalism(s) redux? Theories, tensions, controversies. *Competition & Change* 24(1): 70–94.
- Alami I, Dixon AD and Mawdsley E (2021) State capitalism and the new global D/development regime. *Antipode* 53(5): 1294–1319.
- Albright A (2020) Treasury opposes extending Fed's municipal lending program. Bloomberg, 6 August. Available at: [www.bloomberg.com/news/articles/2020-10-20/u-s-treasury-opposes-extending-fed-s-municipal-lending-program](http://www.bloomberg.com/news/articles/2020-10-20/u-s-treasury-opposes-extending-fed-s-municipal-lending-program) (accessed 11 February 2021).
- Amarnath S, Williams A and Datta A (2020) How the Fed jammed in a penalty rate requirement for all emergency lending when it didn't have to. Medium, 18 September. Available at: [https://medium.com/@skanda\\_97974/how-the-fed-jammed-in-a-penalty-rate-requirement-for-all-emergency-13-3-lending-when-it-didnt-3c4f5ba6a417](https://medium.com/@skanda_97974/how-the-fed-jammed-in-a-penalty-rate-requirement-for-all-emergency-13-3-lending-when-it-didnt-3c4f5ba6a417) (accessed 10 November 2020).
- Appel H (2020) Reparative public goods and the future of finance: A fantasy in three parts. *American Ethnologist*, 25 August. Available at: [www.americanethnologist.org/features/pandemic-diaries/post-covid-fantasies/reparative-public-goods-and-the-future-of-finance-a-fantasy-in-three-parts](http://www.americanethnologist.org/features/pandemic-diaries/post-covid-fantasies/reparative-public-goods-and-the-future-of-finance-a-fantasy-in-three-parts) (accessed 11 February 2021).
- Arnold M (2020) ECB to consider using climate risk to steer bond purchases, says Lagarde. *Financial Times*, 14 October. Available at: [www.ft.com/content/f5f34021-795f-47a2-aade-72eb5f455e09](http://www.ft.com/content/f5f34021-795f-47a2-aade-72eb5f455e09) (accessed 8 February 2021).
- Aronoff K, Battistoni A, Cohen DA, et al. (2019) *A Planet to Win: Why We Need a Green New Deal*. New York: Verso.
- Ashton P, Doussard M and Weber R (2012) The financial engineering of infrastructure privatization: What are public assets worth to private investors? *Journal of the American Planning Association* 78(3): 300–312.
- Ashton P, Doussard M and Weber R (2016) Reconstituting the state: City powers and exposures in Chicago's infrastructure leases. *Urban Studies* 53(7): 1384–1400.
- Asiyanbi AP (2018) Financialisation in the green economy: Material connections, markets-in-the-making and Foucauldian organising actions. *Environment and Planning A: Economy and Space* 50(3): 531–548.
- Auerbach A, Gale W, Lutz B and Sheiner L (2020) Fiscal Effects of COVID-19. *Brookings Papers on Economic Activity: BPEA Conference Draft*, Brookings Institution, Fall. Available at: <https://www.brookings.edu/bpea-articles/fiscal-effects-of-COVID-19/> (accessed 10 November 2020).
- Bateman W (2020) Quantitative easing, quasi-fiscal power and constitutionalism. Just Money, 28 December. Available at: [justmoney.org/will-bateman-quantitative-easing-quasi-fiscal-power-and-constitutionalism/](http://justmoney.org/will-bateman-quantitative-easing-quasi-fiscal-power-and-constitutionalism/) (accessed 8 February 2021).
- Benjamin R (ed) (2019) *Captivating Technology: Race, Carceral Technoscience, and Liberatory Imagination in Everyday Life*. Durham, NC: Duke University Press.
- Bennett RJ (1980) *Geography of Public Finance: Welfare under Fiscal Federalism and Local Government Finance*. London: Routledge.
- Berube A and Byerly-Duke E (2021) *Cities are taking it slow with American Rescue Plan funds*. Brookings Institution, 7 September. Available at: <https://www.brookings.edu/blog/the-avenue/2021/09/07/cities-are-taking-it-slow-with-american-rescue-plan-funds/> (accessed 23 September 2021).
- Beswick J and Penny J (2018) Demolishing the present to sell off the future? The emergence of “financialized municipal entrepreneurialism” in London. *International Journal of Urban and Regional Research* 42(4): 612–632.
- Bigger P and Millington N (2020) Getting soaked? Climate crisis, adaptation finance, and racialized austerity. *Environment and Planning E: Nature and Space* 3(3): 601–623.
- Bledsoe A (2020) The primacy of anti-Blackness. *Area* 52(3): 472–479.
- Bledsoe A and Wright WJ (2019) The anti-Blackness of global capital. *Environment and Planning D: Society and Space* 37(1): 8–26.
- BoC (2020) Our COVID-19 response: Keeping markets liquid. Bank of Canada. Available at: [www.bankofcanada.ca/](http://www.bankofcanada.ca/)



- 2020/06/keeping-markets-liquid/ (accessed 11 February 2021).
- Bok R (2019) “By our metaphors you shall know us”: the “fix” of geographical political economy. *Progress in Human Geography* 43(6): 1087–1108.
- Bonds A (2019) Race and ethnicity I: Property, race, and the carceral state. *Progress in Human Geography* 43(3): 574–583.
- Bracking S (2015) The anti-politics of climate finance: The creation and performativity of the Green Climate Fund. *Antipode* 47(2): 281–302.
- 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. In: Mader P, Mertens D and van der Zwan N (eds). *The Routledge International Handbook of Financialization*. London: Routledge, 241–252.
- Bruenig M (2018) *Social wealth fund for America. People’s Policy Project*. Available at: [www.peoplespolicyproject.org/wp-content/uploads/2018/07/SocialWealthFund.pdf](http://www.peoplespolicyproject.org/wp-content/uploads/2018/07/SocialWealthFund.pdf) (accessed 11 February 2021).
- Bryant G and Spies-Butcher B (2020) Bringing finance inside the state: How income-contingent loans blur the boundaries between debt and tax. *Environment and Planning A: Economy and Space* 52(1): 111–129.
- Cameron A (2008) Crisis? What crisis? Displacing the spatial imaginary of the fiscal state. *Geoforum* 39(3): 1145–1154.
- Chappell B (2020) Federal Reserve unveils “extensive new measures” to bolster U.S. economy. NPR, 23 March. Available at: [www.npr.org/sections/coronavirus-live-updates/2020/03/23/820057467/federal-reserve-unveils-extensive-new-measures-to-bolster-u-s-economy](http://www.npr.org/sections/coronavirus-live-updates/2020/03/23/820057467/federal-reserve-unveils-extensive-new-measures-to-bolster-u-s-economy) (accessed 11 February 2021).
- Christiansen J (2021) Fixing fictions through blended finance: The entrepreneurial ensemble and risk interpretation in the Blue Economy. *Geoforum* 120: 93–102.
- Christophers B (2015) The limits to financialization. *Dialogues in Human Geography* 5(2): 183–200.
- Clarke D (2020) Opinion: Now is not the time for the World Bank to step back on pandemic financing. Devex, 4 August. Available at: [www.devex.com/news/opinion-now-is-not-the-time-for-the-world-bank-to-step-back-on-pandemic-financing-97837](http://www.devex.com/news/opinion-now-is-not-the-time-for-the-world-bank-to-step-back-on-pandemic-financing-97837) (accessed 11 February 2021).
- CMHC (2020) *COVID-19: What does the IMPP Emergency Measure do? Canada Mortgage and Housing Corporation, 14 April*. Available at: [www.cmhc-schl.gc.ca/en/housing-observer-online/2020-housing-observer/covid19-what-does-imp-mergency-measure-do](http://www.cmhc-schl.gc.ca/en/housing-observer-online/2020-housing-observer/covid19-what-does-imp-mergency-measure-do) (accessed 9 February 2021).
- Cohen D and Rosenman E (2020) From the school yard to the conservation area: Impact investment across the nature/social divide. *Antipode* 52(5): 1259–1285.
- Clarke S (ed) (1991) *The State Debate*. Basingstoke, UK: Palgrave Macmillan.
- Collins PH (2019) *Intersectionality as Critical Social Theory*. Durham, NC: Duke University Press.
- Colven E (2017) Understanding the allure of big infrastructure: Jakarta’s Great Garuda Sea Wall Project. *Water Alternatives* 10(2): 250–264.
- Cowen D (2020) Following the infrastructures of empire: Notes on cities, settler colonialism, and method. *Urban Geography* 41(4): 469–486.
- Crenshaw K (1991) Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review* 43(6): 1241–1299.
- Da Silva DF (2007) *Toward a Global Idea of Race*. Minneapolis: University of Minnesota Press.
- Davidson M and Kutz W (2015) Grassroots austerity: Municipal bankruptcy from below in Vallejo, California. *Environment and Planning A* 47(7): 1440–1459.
- Davidson M and Ward K (2014) “Picking up the pieces”: Austerity urbanism, California and fiscal crisis. *Cambridge Journal of Regions, Economy and Society* 7: 81–97.
- Dayen D (2020) How the Fed bailed out the investor class without spending a cent. *American Prospect*, 27 May. Available at: [prospect.org/coronavirus/how-fed-bailed-out-the-investor-class-corporate-america/](http://prospect.org/coronavirus/how-fed-bailed-out-the-investor-class-corporate-america/) (accessed 11 February 2021).
- Dempsey J and Suarez DC (2016) Arrested development? The promises and paradoxes of “selling nature to save it”. *Annals of the American Association of Geographers* 106(3): 653–671.
- Derickson KD (2016) The racial state and resistance in Ferguson and beyond. *Urban Studies* 53(11): 2223–2237.
- Dutta SJ, Kremers R, Pape F, et al. (2020) Critical macro-finance: An introduction. *Finance and Society* 6(1): 34–44.

- Eaves L and Al-Hindi KF (2020) Intersectional geographies and COVID-19. *Dialogues in Human Geography* 10(2): 132–136.
- Engelen E, Ertürk I, Froud J, et al. (2011) *After the Great Complacency: Financial Crisis and the Politics of Reform*. Oxford: Oxford University Press.
- Epstein G (2020) The empirical and institutional limits of modern money theory. *Review of Radical Political Economics* 52(4): 772–780.
- Farmer S (2014) Cities as risk managers: The impact of Chicago's parking meter P3 on municipal governance and transportation planning. *Environment and Planning A: Economy and Space* 46(9): 2160–2174.
- Fields D (2017) Urban struggles with financialization. *Geography Compass* 11(11): e12334.
- Fuhrmann R (2020) *5 top investors who profited from the global financial crisis*. Investopedia, 9 September. Available at: [www.investopedia.com/financial-edge/0411/5-investors-that-are-both-rich-and-smart.aspx](http://www.investopedia.com/financial-edge/0411/5-investors-that-are-both-rich-and-smart.aspx) (accessed 11 February 2021).
- Fullwiler S, Grey R and Tankus N (2019) An MMT response on what causes inflation. *Financial Times*, 1 March. Available at: [www.ft.com/content/539618f8-b88c-3125-8031-cf46ca197c64](http://www.ft.com/content/539618f8-b88c-3125-8031-cf46ca197c64) (accessed 11 February 2021)
- Furlong K (2020) Geographies of infrastructure 1: Economies. *Progress in Human Geography* 44(3): 572–582.
- Gabor D (2012) The power of collateral: The ECB and bank funding strategies in crisis. *SSRN*, 19 May. DOI: [10.2139/ssrn.2062315](https://doi.org/10.2139/ssrn.2062315).
- Gabor D (2016) The (impossible) repo trinity: The political economy of repo markets. *Review of International Political Economy* 23(6): 967–1000.
- Gabor D (2021) The Wall Street consensus. *Development and Change* 52(3): 429–459.
- GFOA (2020) *International City/County Management Association, National Association of Counties, National Association of State Auditors, Comptrollers and Treasurers, National Association of State Treasurers, National League of Cities and United States Conference of Mayors. Letter to Steven Mnuchin and Jerome Powell*. Available at: [gfoaorg.cdn.prismic.io/gfoaorg/55818178-59da-41f8-ba44-383849bc85ed\\_MLFCoalitionLetter\\_FINAL.pdf](http://gfoaorg.cdn.prismic.io/gfoaorg/55818178-59da-41f8-ba44-383849bc85ed_MLFCoalitionLetter_FINAL.pdf) (accessed 11 February 2021).
- Gibson-Graham JK (2006) *A Postcapitalist Politics*. Minneapolis: University of Minnesota Press.
- Gilmore RW (1999) Globalisation and US prison growth: From military Keynesianism to post-Keynesian militarism. *Race and Class* 40(2–3): 171–188.
- Gilmore RW (2007) In the shadow of the shadow state. In: INCITE! Women of Color Against Violence (eds) *The Revolution Will Not Be Funded: Beyond the Non-profit Industrial Complex*. Durham, NC: Duke University Press, pp. 41–52.
- Gilmore RW (2017) Abolition geography and the problem of innocence. In: Johnson GT and Lubin A (eds) *Futures of Black Radicalism*. London: Verso, pp. 588–638.
- Gilmore RW (2021) *Change Everything: Racial Capitalism and the Case for Abolition*, Murakawa N (ed). Chicago: Haymarket.
- Goh K (2020) Planning the Green New Deal: Climate justice and the politics of sites and scales. *Journal of the American Planning Association* 86(2): 188–195.
- Grafé F-J and Mieg HA (2019) Connecting financialization and urbanization: The changing financial ecology of urban infrastructure in the UK. *Regional Studies, Regional Science* 6(1): 496–511.
- Gruber J (2016) *Public Finance and Public Policy*. 5th ed. New York: Worth Books.
- Hackworth J (2007) *The Neoliberal City: Governance, Ideology, and Development in American Urbanism*. Ithaca, NY: Cornell University Press.
- Hall S (2007) “Relational marketplaces” and the rise of boutiques in London's corporate finance industry. *Environment and Planning A* 39(8): 1838–1854.
- Hall S (2012) Geographies of money and finance II: Financialization and financial subjects. *Progress in Human Geography* 36(3): 403–411.
- Hall S (2018) Placing the state within geofinance. *Dialogues in Human Geography* 8(3): 281–284.
- Hall SM (2020) The personal is political: Feminist geographies of/in austerity. *Geoforum* 110: 242–251.
- Harries B, Byrne B, Garratt L, et al. (2020) “Divide and conquer”. Anti-racist and community organizing under austerity. *Ethnic and Racial Studies* 43(16): 20–38.
- Hartmann ME (2020) A “perversely bold” idea: Eliminate private foundations. *Philanthropy Daily*, 28 September. Available at: <https://www.philanthropydaily.com/a-perversely-bold-idea-eliminate-private-foundations/> (accessed 30 November 2021).
- Harvey D (2003) *The New Imperialism*. Oxford: Oxford University Press.

- Hawthorne C (2019) Black matters are spatial matters: Black geographies for the twenty-first century. *Geography Compass* 13(11): e12468.
- Henricks K and Seamster L (2017) Mechanisms of the racial tax state. *Critical Sociology* 43(2): 169–179.
- Heynen N and Ybarra M (2021) On abolition ecologies and making “freedom as a place”. *Antipode* 53(1): 21–35.
- Hickel J (2021) The (anti) politics of central banking: Monetary policy, class conflict and the limits of sovereignty in South Africa. *Economy and Society* 50: 57–77.
- Hinkley S (2017) Structurally adjusting: Narratives of fiscal crisis in four US cities. *Urban Studies* 54(9): 2123–2138.
- Hockett RC (2020) Spread the Fed: Distributed central banking in pandemic and beyond. SSRN, 18 May. DOI: [10.2139/ssrn.3597724](https://doi.org/10.2139/ssrn.3597724).
- Horton A (2019) Financialization and non-disposable women: Real estate, debt and labour in UK care homes. *Environment and Planning A: Economy and Space*. Epub ahead of print 9 July. DOI: [10.1177/0308518X19862580](https://doi.org/10.1177/0308518X19862580).
- Hudson PJ (2017) *Bankers and Empire: How Wall Street Colonized the Caribbean*. Chicago: University of Chicago Press.
- Hudson P (2018) To remake the world: Slavery, racial capitalism, and justice: Racial capitalism and the dark proletariat. *Boston Review*, 20 February. Available at: [bostonreview.net/forum/remake-world-slavery-racial-capitalism-and-justice/peter-james-hudson-racial-capitalism-and](http://bostonreview.net/forum/remake-world-slavery-racial-capitalism-and-justice/peter-james-hudson-racial-capitalism-and) (accessed 1 February 2021).
- Jenkins D (2021) *The Bonds of Inequality: Debt and the Making of the American City*. Chicago: University of Chicago Press.
- Jessop B (2002) *The Future of the Capitalist State*. Cambridge, UK: Polity.
- Johnson L (2013) Catastrophe bonds and financial risk: Securing capital and rule through contingency. *Geoforum* 45: 30–40.
- Jourdan S (2019) Green QE is about more than buying climate-friendly bonds. *Financial Times*, 18 December. Available at: [www.ft.com/content/6b4a8875-4985-4c14-ad74-3b1885b84380](https://www.ft.com/content/6b4a8875-4985-4c14-ad74-3b1885b84380) (accessed 11 February 2021).
- Karaagac EA (2020) The financialization of everyday life: Caring for debts. *Geography Compass* 14(11): e12541.
- Kass A (2020) Working with financial data as a critical geographer. *Geographical Review* 110(1–2): 104–116.
- Klein N (2019) *On Fire: The Burning Case for a Green New Deal*. London: Allen Lane.
- Knuth S (2018) “Breakthroughs” for a green economy? Financialization and clean energy transition. *Energy Research & Social Science* 41: 220–229.
- Lai KPY (2017) Financial geography. In: Richardson D (ed) *The International Encyclopedia of Geography: People, the Earth, Environment and Technology*. John Wiley & Sons, pp. 1–8.
- Lai KPY (2018) Agency, power, and state-firm relations in global financial networks. *Dialogues in Human Geography* 8(3): 285–288.
- Lai KPY and Samers M (2020) Towards an economic geography of FinTech. *Progress in Human Geography* 45(4): 720–739.
- Lake RW (2002) Bring back big government. *International Journal of Urban and Regional Research* 26(4): 815–822.
- Lake RW (2015) The financialization of urban policy in the age of Obama. *Journal of Urban Affairs* 37(1): 75–78.
- Langley P and Morris JH (2020) Central banks: Climate governors of last resort? *Environment and Planning A: Economy and Space* 52(8): 1471–1479.
- Le Maux L (2017) Financial structure changes and the central bank policy. *Journal of Economic Issues* 51(4): 1054–1073.
- Lewis M (2007) In nature’s casino. *New York Times Magazine*, 26 August. Available at: [www.nytimes.com/2007/08/26/magazine/26neworleans-t.html](https://www.nytimes.com/2007/08/26/magazine/26neworleans-t.html) (accessed 11 February 2021).
- Lin GCS and Yi F (2011) Urbanization of capital or capitalization on urban land? Land development and local public finance in urbanizing China. *Urban Geography* 32(1): 50–79.
- Matikainen S, Campiglio E and Zenghelis D (2017) *The Climate Impact of Quantitative Easing*. Grantham Research Institute on Climate Change and the Environment policy paper.
- Mann G (2010) Hobbes’ redoubt? Toward a geography of monetary policy. *Progress in Human Geography* 34(5): 601–625.
- Marable M (2015) *How Capitalism Underdeveloped Black America: Problems in Race, Political Economy, and Society*. Chicago: Haymarket.
- Martin R (2011) The local geographies of the financial crisis: From the housing bubble to economic recession and beyond. *Journal of Economic Geography* 11(4): 587–618.

- Massaro VA (2020) Relocating the “inmate”: Tracing the geographies of social reproduction in correctional supervision. *Environment and Planning C: Politics and Space* 38(7–8): 1216–1236.
- Mathews D (2019) Modern Monetary Theory, explained. Vox, 16 April. Available at: [www.vox.com/future-perfect/2019/4/16/18251646/modern-monetary-theory-new-moment-explained](http://www.vox.com/future-perfect/2019/4/16/18251646/modern-monetary-theory-new-moment-explained) (accessed 11 February 2021).
- Mawdsley E (2018) Development geography II: Financialization. *Progress in Human Geography* 42(2): 264–274.
- McKittrick K (2011) On plantations, prisons, and a Black sense of place. *Social and Cultural Geography* 12(8): 947–964.
- Melamed J (2015) Racial capitalism. *Critical Ethnic Studies* 1(1): 76–85.
- Mezzadra S and Neilson B (2019) *The Politics of Operations: Excavating Contemporary Capitalism*. Durham, NC: Duke University Press.
- Miliband R (1970) The capitalist state: Reply to Nicos Poulantzas. *New Left Review* (59): 53–60.
- Monk AHB (2010) Sovereignty in the era of global capitalism: The rise of sovereign wealth funds and the power of finance. *Environment and Planning A* 43(8): 1813–1832.
- NACO (2020) Letter to Jerome Powell, Steven Mnuchin, and Kent Hiteshew. Available at: [naco.sharefile.com/share/view/s79f3ee0e5354e71b](http://naco.sharefile.com/share/view/s79f3ee0e5354e71b) (accessed 11 February 2021).
- Ouma S (2015) Getting in between M and M<sup>or</sup>: How farmland further debunks financialization. *Dialogues in Human Geography* 5(2): 225–228.
- Pacione M (2001) Geography and public finance: Planning for fiscal equity in a metropolitan region. *Progress in Planning* 56(1): 1–59.
- Peck J (2012) Austerity urbanism: American cities under extreme economy. *City* 16(6): 626–655.
- Peck J (2014) Pushing austerity: State failure, municipal bankruptcy and the crises of fiscal federalism in the USA. *Cambridge Journal of Regions, Economy and Society* 7(1): 17–44.
- Petry J (2020) Financialization with Chinese characteristics? Exchanges, control and capital markets in authoritarian capitalism. *Economy and Society* 49(2): 213–238.
- Phinney S (2018) Detroit’s municipal bankruptcy: Racialised geographies of austerity. *New Political Economy* 23(5): 609–626.
- Pierog K (2020) *Fed lifeline for cash-strapped U.S. states and cities lifts muni market*. Reuters, 9 April. Available at: [www.reuters.com/article/us-health-coronavirus-municipals-idUSKCN21R354](http://www.reuters.com/article/us-health-coronavirus-municipals-idUSKCN21R354) (accessed 11 February 2021).
- Pike A and Pollard J (2010) Economic geographies of financialization. *Economic Geography* 86(1): 29–51.
- Pike A, O’Brien P, Strickland T, et al. (2019) *Financialising City Statecraft and Infrastructure*. Cheltenham, UK: Edward Elgar.
- Pike A, O’Brien P, Strickland T, et al. (2020) Book symposium: Pike et al.’s *Financialising City Statecraft and Infrastructure*. *Environment and Planning A: Economy and Space* 52(4): 790–813.
- Pollard J (2013) Gendering capital: Financial crisis, financialization and (an agenda for) economic geography. *Progress in Human Geography* 37(3): 403–423.
- Ponder CS and Omstedt M (2019) The violence of municipal debt: From interest rate swaps to racialized harm in the Detroit water crisis. *Geoforum*. Epub ahead of print 26 July. DOI: [10.1016/j.geoforum.2019.07.009](https://doi.org/10.1016/j.geoforum.2019.07.009).
- Poon JP (2003) Hierarchical tendencies of capital markets among international financial centers. *Growth and Change* 34(2): 135–156.
- Poulantzas N (1969) The problem of the capitalist state. *New Left Review* (58): 67–78.
- Preqin (2018) Infrastructure industry climbs a wall of capital (Microsoft Excel file). Available at: [www.preqin.com/docs/data/Preqin-Infrastructure-Capital-October-2018-Data-Pack.xlsx](http://www.preqin.com/docs/data/Preqin-Infrastructure-Capital-October-2018-Data-Pack.xlsx) (accessed 11 February 2021).
- Pressley A and Stein D (2020) Op-ed: The Fed has a “responsibility” to help reduce high unemployment in the Black community. CNBC, 21 July. Available at: [www.cnbc.com/2020/07/21/op-ed-fed-policies-have-contributed-to-black-unemployment.html](http://www.cnbc.com/2020/07/21/op-ed-fed-policies-have-contributed-to-black-unemployment.html) (accessed 11 February 2021).
- Price PL (2010) At the crossroads: Critical race theory and critical geographies of race. *Progress in Human Geography* 34(2): 147–174.
- Public Banking Institute (2021) FAQ. Available at: [www.publicbankinginstitute.org/faq/](http://www.publicbankinginstitute.org/faq/) (accessed 11 February 2021).
- Pulido L (2016) Flint, environmental racism, and racial capitalism. *Capitalism Nature Socialism* 27(3): 1–16.
- Ranganathan M (2016) Thinking with Flint: Racial liberalism and the roots of an American water tragedy. *Capitalism Nature Socialism* 27(3): 17–33.
- Ranganathan M (2020) Empire’s infrastructures: Racial finance capitalism and liberal necropolitics. *Urban Geography* 41(4): 492–496.

- Raymond E, Wang K and Immergluck D (2016) Race and uneven recovery: Neighborhood home value trajectories in Atlanta before and after the housing crisis. *Housing Studies* 31(3): 324–339.
- Robinson C (1983/2000) *Black Marxism: The Making of the Black Radical Tradition*. Chapel Hill: University of North Carolina Press.
- Rocco P (2020) State and local austerity is a death trap—rip it up and start again: Toward an alternative fiscal federalism. Notes on the Crises, 16 July. Available at: [nathantankus.substack.com/p/state-and-local-austerity-is-a-death](https://nathantankus.substack.com/p/state-and-local-austerity-is-a-death) (accessed 11 February 2021).
- Roller A (2020) Minneapolis protesters conduct die-in outside Federal Reserve building. Video, Newsflare, 4 July. Available at: [www.newsflare.com/video/366255/minneapolis-protesters-conduct-die-in-outside-federal-reserve-building](https://www.newsflare.com/video/366255/minneapolis-protesters-conduct-die-in-outside-federal-reserve-building) (accessed 11 February 2021).
- Roy A (2003) *City Requiem, Calcutta: Gender and the Politics of Poverty*. Minneapolis: University of Minnesota Press.
- Rugaber C (2020) Fed Should Address Racial Gaps in Jobs, Income, Dems Propose. Washington Post, (accessed 30 November 2021). Available at: <https://apnews.com/article/jerome-powell-maxine-waters-legislation-financial-services-business-9bbdb8c3bc409a57afb98ea89f0e6336>.
- Safransky S (2014) Greening the urban frontier: race, property, and resettlement in Detroit. *Geoforum* 56: 237–248.
- Sbragia A (1996) *Debt Wish: Entrepreneurial Cities, U.S. Federalism, and Economic Development*. Pittsburgh: University of Pittsburgh Press.
- Shabazz R (2015) *Spatializing Blackness: Architectures of Confinement and Black Masculinity in Chicago*. Chicago: University of Illinois Press.
- Siemiatycki M (2011a) Public-private partnership networks: Business-government networks in United Kingdom transportation projects. *Economic Geography* 87(3): 309–334.
- Siemiatycki M (2011b) Urban transportation public-private partnerships: Drivers of uneven development? *Environment and Planning A* 43(7): 1707–1722.
- Siemiatycki M and Farooqi N (2012) Value for money and risk in public-private partnerships. *Journal of the American Planning Association* 78(3): 286–299.
- Slobodian Q (2020) Central banks have pumped money into the economy, but it's no substitute for democracy. *Guardian*, 18 June. Available at: [www.theguardian.com/commentisfree/2020/jun/18/central-banks-pumped-money-economy-democracy-fairer-society](https://www.theguardian.com/commentisfree/2020/jun/18/central-banks-pumped-money-economy-democracy-fairer-society) (accessed 11 February 2021).
- Tankus N (2020a) The Federal Reserve's Coronavirus Crisis Actions, Explained (Part 1). In: Notes on the Crises. Available at: <https://nathantankus.substack.com/p/the-federal-reserves-coronavirus> (accessed 10 November 2020).
- Tankus N (2020b) Is it Legal for the Federal Reserve to Provide State & Local Governments Unlimited Credit Lines? In: Notes on the Crises. Available at: [https://nathantankus.substack.com/p/is-it-legal-for-the-federal-reserve?r=xewp&utm\\_campaign=post&utm\\_medium=email&utm\\_source=copy](https://nathantankus.substack.com/p/is-it-legal-for-the-federal-reserve?r=xewp&utm_campaign=post&utm_medium=email&utm_source=copy) (accessed 10 November 2020).
- Tapp R and Kay K (2019) Fiscal geographies: “Placing” taxation in urban geography. *Urban Geography* 40(4): 573–581.
- Tan W (2020) Investors in World Bank's “pandemic bonds” face big losses due to the coronavirus outbreak. CNBC, 17 March. Available at: [www.cnbc.com/2020/03/18/coronavirus-world-bank-pandemic-bond-investors-face-big-losses.html](https://www.cnbc.com/2020/03/18/coronavirus-world-bank-pandemic-bond-investors-face-big-losses.html) (accessed 11 February 2021).
- Taylor K-Y (2019) *Race for Profit: How Banks and the Real Estate Industry Undermined Black Homeownership*. Chapel Hill: University of North Carolina Press.
- Töpfer L-M (2018) China's integration into the global financial system: Toward a state-led conception of global financial networks. *Dialogues in Human Geography* 8(3): 251–271.
- Torrance MI (2008) Forging glocal governance? Urban infrastructures as networked financial products. *International Journal of Urban and Regional Research* 32(1): 1–21.
- Torrance MI (2009) Reconceptualizing urban governance through a new paradigm for urban infrastructure networks. *Journal of Economic Geography* 9(6): 805–822.
- US Department of Justice, Civil Rights Division (2015) Investigation of the Ferguson Police Department. Report. Available at: [www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/ferguson\\_police\\_department\\_report.pdf](https://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/ferguson_police_department_report.pdf) (accessed 11 February 2021).
- Valentine G (2007) Theorizing and researching intersectionality: A challenge for feminist geography. *Professional Geographer* 59(1): 10–21.

- Van 't Klooster J and Fontan C (2020) The myth of market neutrality: A comparative study of the European Central Bank's and the Swiss National Bank's corporate security purchases. *New Political Economy* 25(6): 865–879.
- Walks A and Clifford B (2015) The political economy of mortgage securitization and the neoliberalization of housing policy in Canada. *Environment and Planning A* 47(8): 1624–1642.
- Wang J (2018) *Carceral Capitalism*. Cambridge, MA: Semiotext(e).
- Wang X, Dennis L and Tu YS (2007) Measuring financial condition: A study of US states. *Public Budgeting & Finance* 27(2): 1–21.
- Ward C (2020) The annihilation of time by space in the COVID-19 pandemic downturn. *Dialogues in Human Geography* 10(2): 191–194.
- Warren E, Van Hollen C and Cortez Masto C (2020) Letter to Jerome H Powell and Steven T Mnuchin, 10 July. Available at: [www.vanhollen.senate.gov/imo/media/doc/2020.07.10%20Letter%20to%20Treasury%20and%20the%20Fed%20Re%20Racial%20Impact%20of%20Failing%20to%20Provide%20Aid1.pdf](http://www.vanhollen.senate.gov/imo/media/doc/2020.07.10%20Letter%20to%20Treasury%20and%20the%20Fed%20Re%20Racial%20Impact%20of%20Failing%20to%20Provide%20Aid1.pdf) (accessed 11 February 2021).
- Weiss L (1998) *The Myth of the Powerless State: Governing the Economy in a Global Era*. Ithaca, NY: Cornell University Press.
- Whiteside H (2019) Public-private partnerships: market development through management reform. *Review of International Political Economy* 27(4): 880–902.
- Whiteside H (2021) Beyond death and taxes: Fiscal studies and the fiscal state. *Environment and Planning A: Economy and Space*. Epub ahead of print 9 February. DOI: [10.1177/0308518X21993125](https://doi.org/10.1177/0308518X21993125).
- Wójcik D (2013) The dark side of NY–LON: Financial centres and the global financial crisis. *Urban Studies* 50(13): 2736–2752.
- World Bank (2020) Maximizing finance for development. Available at: [www.worldbank.org/en/about/partners/maximizing-finance-for-development](http://www.worldbank.org/en/about/partners/maximizing-finance-for-development) (accessed 11 February 2021).
- World Bank (2017) World bank launches first-ever pandemic bonds to support \$500 million pandemic emergency financing facility. Available at: [www.worldbank.org/en/news/press-release/2017/06/28/world-bank-launches-first-ever-pandemic-bonds-to-support-500-million-pandemic-emergency-financing-facility](http://www.worldbank.org/en/news/press-release/2017/06/28/world-bank-launches-first-ever-pandemic-bonds-to-support-500-million-pandemic-emergency-financing-facility) (accessed 11 February 2021).
- Weber W (2010) Selling city futures: The financialization of urban redevelopment policy. *Economic Geography* 86(3): 251–274.
- Wray LR (2015) *Modern Money Theory: A Primer on Macroeconomics for Sovereign Money Systems*. 2nd ed. Basingstoke, UK: Palgrave Macmillan.
- Wu W (2010) Urban infrastructure financing and economic performance in China. *Urban Geography* 31(5): 648–667.
- 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(2): 332–354.
- Zwiers M, Bolt G, Van Ham M, et al. (2016) The global financial crisis and neighborhood decline. *Urban Geography* 37(5): 664–684.