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Public Development Banks as Essential Infrastructure: Covid, the KfW, and Public Purpose

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ABSTRACT
The sudden impact of the Covid-19 global pandemic threw societies into crisis, with their capacity to respond effectively dependent on existing public infrastructure. This article examines the case of Germany and its large public development bank, the KfW, during the pandemic. This paper argues that the KfW's pandemic responses substantiate the bank as 'essential public infrastructure' and, moreover, as one that can function according to public purpose. That is, the KfW functions were *essential to* enabling society to respond to Covid-19 according to public purpose that was in the public interest. The lessons of the KfW, Covid-19, and public purpose have relevance to the future of public development bank financing of green and just transitions.

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1. Introduction

Access to banking services is an essential factor of economic inclusion and social reproduction in contemporary capitalist societies. Nation states have central banks, without which domestic and global financial systems would not function (Itoh and Lapavitsas 1999). Societies have developed myriad ways of mobilizing financial resources through market-based and bank-based credit institutions, with greater and lesser degrees of social cohesion and effectiveness (Strange 1988 [1994]; Marois 2012; Storm 2018). Most households and businesses will have bank accounts and access to financial services, less so in poorer communities but almost universally so in wealthier ones. Where marginalized and underserved communities lack access to reliable and appropriate banking services, people have organized to overcome these financial barriers as a matter of social justice and economic development (Cassell 2021; Hossein and Christabell 2022). Banking services are thus provided through a variety of public, private, cooperative, and community institutional forms that emerge, fade, and persist across different historical phases of capitalist development. This paper focuses on public banks, specifically public development banks in Germany in the context of the Covid-19 pandemic in 2020.

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As everywhere, the German economy and people's livelihoods were dramatically impacted by the sudden pandemic lockdown measures in 2020 designed to contain the spread of Covid-19 (see McDonald, Marois, and Barrowclough 2020). In response, the German government announced two supplementary budgets that authorized additional fiscal spending: one of €156 billion (4.9 per cent of Germany's Gross Domestic Product — GDP) in March 2020 and another of €130 billion (4 per cent of GDP) in June 2020 (IMF 2020). The public funds gave general budget support for healthcare provisioning, vaccine research, financial supports for students, workers and families, grants for small businesses and the self-employed, and expanded unemployment benefits. The budget also provided for various bank credit guarantees, as well as for green investment and digitalization subsidies, to support economic stabilization and recovery. While imperfect, the German government responses to Covid-19 were generally assessed positively (Rahn 2020; Varagur 2020; Wieler, Rexroth, and Gottschalk 2020; Hancké, Van Overbeke, and Voss 2022) As part and parcel of the government's response, the German public development bank (or 'promotional' bank in European Union terminology), the KfW, took on a role in delivering financial supports.

What does Germany's experience of tasking a public development bank with confronting the Covid-19 crisis tell us about the public provisioning of banking services and, indeed, of public purpose? It tells us something about the importance of having an established public development bank in place to respond at moments of crisis. Specifically, I argue that the KfW's pandemic responses substantiate the bank as 'essential public infrastructure' and, moreover, as one that functions according to public purpose. While explained further below, by 'essential' I mean vital to enabling a society to permanently respond to public priorities like health, stability, equity, and sustainability. By 'public' I refer to an entity or service that is positioned within the public sphere of a state by public ownership or legally binding mandate. By 'public purpose' I mean direction given by public authorities to public entities to fulfil a certain collective, if contested, public good or interest.

Three premises substantiate my argument. The first is conceptual: There is a need to rethink public banks and to redefine what constitutes public purpose in public services in order to offer a critical analytical framework for understanding why the public provisioning of financial services can be deemed as essential. The second is historical: The KfW shows the importance of having long-term financial institutional capacity in place at times of crisis. The third is practical: The KfW's Covid-19 responses were of a scale that had material significance at home and abroad. To conclude, I draw on the KfW case to reflect on public development banks more broadly as essential to the financing of green and just transitions globally.

2. Framing Public Development Banks as Essential Public Purpose Public Infrastructure

To rethink public development banks as essential public purpose public infrastructure there are three conceptual challenges. The first challenge is overcoming conventional understandings of what defines a service as public versus private. The second challenge is overcoming conventional views of public ownership of banks. The third challenge is understanding public purpose as a contested process. To overcome these conceptual challenges, there is a need to redefine public services, rethink public banks, and revise public purpose by drawing on the conceptual and analytical tools of critical political economy. This should enable scholars and policymakers to transcend the too often static and essentialised framings of publicly owned entities and their purposes, be they banks or other public entities.

In response to the first challenge, scholar of public sector services, McDonald, argues that there is a need to redefine our understanding of 'public' (2023, p. 5). This is because of the conceptual limits that conventional neoclassical approaches have imposed on what can and should be delivered as a public service. McDonald refers to these approaches as a 'neoclassical trap' (2023, pp. 44–48), stemming from methodological assumptions around the interchangeability of public and private service providers. Neoclassical economists see 'market failures' arising not from inherent failures in market economies but from conditions that prevent the optimal allocation of private capital based on their consumptive characteristics of rivalry and exclusion. In this worldview the solution is to (re)create the conditions necessary for capitalists to confidently invest through state subsidies, profit guarantees, favourable legislation, and other forms of cushioning that entice private firms into service delivery that might otherwise be under (or over) provisioned in competitive market terms. Even 'pure' public goods have now fallen under the sword and sway of such market manipulation, with previously unprofitable sectors such as public security, postal delivery, and public water now being made attractive to private investors via policies that effectively guarantee adequate rates of return (Likosky 2005; Megginson 2005; Trumbo Vila and Peters 2016).

Herein lies the trap. What is presented in liberal discourse as a philosophical choice between public and private service provision is in fact a continuum between the two, with all public services intrinsically suited for private sector provision as long as the conditions are right. And since individualized self-maximizing behaviours of private capital are seen to be inherently more efficient and productive than those provided by a (assumedly capricious and self-serving) state, the best way to enhance the public good is to advance privatization by overcoming market imperfections (cf. Vanberg 2005). There is an underlying and sticky neoclassical commitment that any service can and should be privatized — especially given that so-called government failure is a far darker risk than any potential market failure (see Shleifer 1998; Tullock, Seldon, and Brady 2002).

The appropriate analytical response is not to simply assert the opposite. That is, it is a conceptual and strategic dead-end to respond to the neoclassical trap by positing *inherent* benefits to public provisioning. This is because neoclassical notions of public are infused with the potentiality of private provisioning. The very notion of a public service is corrupted by a logic of private accumulation with a circular rationality that traps us within the confines of a market ethos. One gets caught in a war of binary oppositions.

Advancing beyond this false binary requires a different conceptualization of what constitutes a public or private service that goes beyond its market-oriented consumption characteristics. McDonald seeks to do so by setting out two new categories for determining a public or private service (2023, pp. 61–63) based on (a) how essential a service is to society and (b) what the benefits are of collective provisioning. The first category, 'essential', does not imply a timeless or ahistorical characteristic. Rather, it is used to assess the extent to which a service is essential *to* a person (or community) in terms of contributing to a leading a healthy and productive life regardless of the market value of that service.

The phrasing essential 'to' is consequential as it is procedural: how important is the use of that service *to* health or to productivity. This is qualitatively different than wondering how valuable a service might be as a commodity. The second category, 'collective', is about assessing whether (or to what extent) there is value or importance in a service being delivered or provided by a public agency, by government, or by an accountable non-profit public interest organization (for example, by a non-governmental organization, co-operative, community organization, and so on).

To illustrate 'essential' and 'collective', McDonald uses the example of the provisioning of clean drinking water. Water is biologically essential to a healthy body, but it also essential to productive economies and healthy society. In many societies, moreover, water has deeply important cultural and social significance (Spronk 2007). So, water provisioning can reasonably be deemed an essential service. There are also documented benefits to collective provisioning of water in terms of community and gendered health benefits derived from universal access, in terms of quality control and water safety, and in terms of affordability (vis-à-vis a natural monopoly) (Kishimoto, Lobina, and Petitjean 2015; Harris and Simms 2016; Harris et al. 2017; McDonald, Spronk, and Chavez 2020). Concretely, there are good reasons to class water provisioning as an essential and collective — hence *public* — service. McDonald provides us with a way past conventional understandings of how to define a service as public versus private. These categories of essential and collective can also help us to rethink the provisioning of banking services.

This brings us to the second challenge of overcoming conventional views of public ownership of banks. Not dissimilar to wider debates on service and infrastructure provisioning, the economic debates in the field of finance have largely tethered themselves to either defending or rejecting publicly-owned banks based on ownership form — that is, on banks being either public or private (see La Porta, Lopez-de-Silanes, and Shleifer 2002; see Marois 2022). This binary is another expression of the neoclassical trap that forces one to choose a preferred form of ownership and, consequently, to over-rely on pre-conceived and pre-social notions of public versus private bank ownership, which are validated based on subsequent market-based performance analyses. Attempts at understanding public banking in its own right are tunnelled in a vicious analytical circle wherein bank ownership form precedes and predetermines actual bank institutional functions (Marois 2021, pp. 9–10).

The most obvious practitioners of the 'ownership first' analytical trap are neoclassical economists adhering to the 'political' view of public banks. Advocates posit that public banks, by virtue of being publicly owned, are inherently inefficient and inferior banks (La Porta, Lopez-de-Silanes, and Shleifer 2002; Barth, Caprio, and Levine 2006; Demirgüç-Kunt and Servén 2010; Calomiris and Haber 2014). This structural dichotomy derives from liberal political economic understandings of all individuals as self-interested and self-maximising. When self-maximising individuals find themselves in charge of collective resources, like in government or in public enterprises, they will naturally abuse their positions for personal gain (Friedman 1962). This creates market inefficiencies, which are best resolved by pushing public services into private ownership and the competitive market. In banking, this has played out in maxims like 'bureaucrats make bad bankers' or in assertions of 'naiveté' for anyone who fails to grasp the underlying truth of the 'political view' (Shirley 1999; Barth, Caprio, and Levine 2006; World Bank 2012).

Heterodox economists also have their own ‘ownership first’ analytical trap, albeit one set by bending the meaning of public ownership in the opposite direction. Rather than publicly owned banks being destined to advance politicians’ self-interests, heterodox economists and the associated ‘developmental’ view of public banks tend to graft opposing characteristics and purposes onto the public ownership form. Public banks are seen as functioning according to ‘a logic of action that differs from that of the market’ (Ribeiro de Mendonça and Deos 2017, p. 24; *cf*. Marshall and Rochon 2019). Chief among all heterodox logics or rationales is that of providing ‘additionality’, that is, of public banks pursuing economic ends that would not otherwise happen without the intervention of a public bank (Skidelsky, Martin, and Westerlind Wigstrom 2011; Mazzucato 2013 [2015]). Forms of public banking additionality are then typologized into discrete market-supporting functions, like counter-cyclical lending, derisking, innovation, expanding of the capital stock of an economy, and so on (Mazzucato and Penna 2016; Naqvi, Henow, and Chang 2018). As a function of their public ownership form, public banks are viewed as meant to advance (capitalist) markets and growth in ways that private banks are unable or unwilling to do (cf. Bennett and Sharpe 1980). To be clear, the point made here is not that public banks do not perform such functions. Indeed they do. However, public banks do not perform these functions as a derivative of their public ownership form. There are other forces at play.

The shared trap among these two groups of economists is that, more implicitly or explicitly, ‘public’ bank ownership is treated as a fixed category, one negative the other positive, that precedes institutional functions (thus over-determining what these public institutions do) (Marois 2021, p. 10). This observation is not a controversial one in the literature. As economists La Porta, Lopez-de-Silanes, and Shleifer (2002, p. 267) wrote twenty years ago the ‘[o]wnership of banks thus promotes the government’s goals in both the “development” [heterodox] and the “political” [neoclassical] theories. … In both theories, the government finances projects that would not get privately financed. In the development theories, these projects are socially desirable. In the political theories, they are not.’ The polarization could not be clearer, as is the trap of being pushed into binary opposition. Follow up empirical studies have adopted practically the same polarized good/bad view of public banks (Levy Yeyati, Micco, and Panizza 2007; Andrianova, Demetriades, and Shortland 2012; Andrianova 2012; Panizza 2023) but without ever challenging the underlying static theoretical categories of public versus private ownership. Even as our historical and empirical knowledge expands, conceptual progress on ‘public’ banking stagnates.

There is a way past this conventional impasse and of meeting the second challenge. It involves acknowledging that public banks, just like private banks, can be poorly run, be poorly governed, and become a burden on society. And it means accepting that being run poorly is *not* an inherent, a priori, or pre-social characteristic of public ownership. While a factor in what a public bank can do and why, ownership itself *does not* determine institutional function. The empirical evidence of widely diverse public banks is simply too overwhelming to conclude anything else (De Luna-Martínez and Vicente 2012; Ferrari, Mare, and Skamnelos 2017; Scherrer 2017; Marois 2021; Griffith-Jones et al. 2023). The conceptual advancement here is that there is nothing *essentially* good, or bad, about being a public bank — and historical political economic analysis best not start from any such presumption (for scholarship reflective of this point, see von Mettenheim 2010; Butzbach and von Mettenheim 2014; Moslener, Thiemann, and Volberding 2018).

Rather, public banks are historically evolving financial institutions wherein 'change becomes possible and is a result of social forces making it so, if within the structural confines of gendered, racialized, and class-divided capitalist society' (Marois 2022, p. 357). Informed by Marxian and institutionalist theories of the state and its institutions, this 'dynamic' view of public banks breaks free of the shared economics trap by proposing a conceptualization that does not rely on fixed notions and expectations of 'public' ownership (see Marois and Güngen 2016; Marois 2021, 2022; *cf.* Ho 2013, 2017). A dynamic view of public banks turns neoclassical and heterodox economic thinking on its head. Rather than ownership form predetermining institutional functions, time- and place-bound socially contested institutional functions shape the evolving meanings of being a publicly-owned bank (Marois 2021, 2022). The historical-social struggles over what public banks do and why are what give rise to the institutional varieties we witness today. It follows that public banks are only ever so good or bad as social forces make them to be.

Finally, the third challenge in rethinking public development banks involves looking at 'public purpose' as a contested process. There are synergies here with a dynamic view of public banks, such as avoiding attempts to assign inherent and pre-social meanings to what are contested and evolving processes and concepts like public purpose (*cf.* Mertens 2021). At a basic level, a public purpose can refer to an action, service delivery, or direction taken by a government, public entity, or public authority. Alternatively, a public purpose can be given by a government to public entities in its jurisdiction. The stated aim of a public purpose is presumably in the interest of or for the common good of the general public or a collective community, population, or constituency as a whole or in some substantive measure. Public purposes are often formally expressed through laws, mandates, visions, objectives, and challenges so that they shape what a public entity does and for whom. When expressed and assessed transparently, a public purpose provides an accountability anchor for the public entity. However, a public purpose is neither fixed nor inherent. The functional end and ultimate beneficiaries of any given public purpose are socially-contested and evolving, subject as it is to gendered, racialized, and class-divided power struggles and normative determinations in time- and place-bound contexts within societies within the confines of global capitalism.

Public purposes have different procedural foundations and communities from private purposes, which are the concern and to the benefit of particular individuals, estates, and corporations. Market-oriented and neoclassical economists nonetheless argue that public purpose can be served by private interests, given proper regulation. For example, it is not uncommon for economists and public-private partnership advocates to assert that the public purposes of public goods provisioning can be (or may best be) provided solely by the private sector or via mission-oriented public-private partnerships (Sustainability First 2021; Mazzucato et al. 2023). Critical political economists reject such conventional belief system (Galbraith 1973; Cumbers 2012; Zullo 2019; McDonald 2023). It is increasingly evident that financial investors and free market advocates are seeking to bend public institutions to private purposes, for example, by using public funds to de-risk private investments—this is the foundation of the World Bank's blending and cascade approach (Badré 2018). The move to bend public financial support for private enterprise, innovation, and profitability has been critically referred to as the 'Wall Street Consensus' and as 'pro-market additionality' (Marshall 2012; Dafermos, Gabor, and Michell 2021; Marois 2021).

Just as it is a conceptual and practical dead-end to see public banks as inherently this or that, so too with public purpose. The meanings and practices of both evolve in relation to underlying power relations and within the structures of global capitalism. Neither public banks nor public purpose are neutral nor static. A dynamic view of public banks (and of public purpose) will enable us to soberly assess how essential KfW's public banking services were to Germany's pandemic responses and what the value of this collective banking provisioning was at the time of the pandemic outbreak. I begin by pointing to the importance of the KfW's historical legacy as a substantiating premise of my argument.

3. The Importance of KfW's Historical Legacy

The KfW has a unique history. Backed by US Marshall Fund aid money, the Anglo-American military government in post-World War Two Germany agreed in June 1948 to create a new reconstruction loan corporation, the KfW (Kreditanstalt für Wiederaufbau or 'Credit Institute for Reconstruction'), which was signed into public law in mid-November 1948 in the *Law Concerning KfW* (Table 1). The KfW was founded as a public development bank, designed as an institutional vessel to manage incoming post-War reconstruction funds, but it would soon evolve in response to domestic and European political economic dynamics (see Moslener, Thiemann, and Volberding 2018; Mertens 2021).

The KfW was not built in an institutional vacuum. Municipal public banks had been around in Europe, notably Spain, since the 1400s (Milian 2021). Over the next four centuries, the idea of public banks flourished from Venice to Amsterdam to Hamburg and Sweden, resulting in specialized municipal banks and national public central banks (see Roberds and Velde 2014). In Germany, the first Sparkassen public savings banks emerged in the 18th century, with local authorities expanding Sparkassen banks across Germany through the 19th and 20th centuries to support residents, communities, and municipal infrastructure (Francke and Hudson 1984, pp. 57–59; Cassell 2021). In France, the state created the public development bank, the Caisse des Dépôts et Consignations, in 1816 to deal with the costs of war-making. By the time of the KfW in Germany, public banks had long been part of European history.

While the KfW as a public development bank was neither a new nor novel idea, it was the beginning of a lasting institutional legacy in Germany that became part of a

Table 1. KfW institutional structure.

KfW	
Institutional form of Democratic Governance	Representative oversight in a 37-member governing Board, co-Chaired by two Ministers of Government; Cooperative relations between bank and government ministries
Mission	To promote the sustainable improvement of the economic, social, and ecological conditions of people's lives
Type of Bank (year established)	Development/Promotional (1948)
Ownership	Federal Republic of Germany 80%; German federal states 20%
No. of Branches	80 offices (no branch network)

Sources: Annual Reports; Orbis 24 July 2020. KfW website.

burgeoning culture of public banking. Notably, Germany's public banks have been founded with a particular view of public purpose. According to the Association of German Public Banks (AGPB), the German public banks act 'on behalf of public authorities' and 'perform tasks that support political goals' (AGPB 2014, p. 3). Public purpose emanates from within the public sphere of the state and in accordance with political priorities. The KfW reflects this understanding of purpose, itself understanding what it does as providing 'financing with a public mission' (KfW 2019b, p. 4).

The KfW does not function on its own; it exists within a network of 17 regional public development banks across Germany (Flögel and Gärtner 2020; Mertens 2021, p. 122), which includes diverse institutions like the NRW Bank (a development bank for the State of North Rhine-Westphalia) and the Investitionsbank Berlin (IBB) (a development bank of the city state of Berlin). The Sparkassen local public savings banks now comprise 385 independent municipally-based institutions with a combined 13,000 branches and over €2 trillion in assets that function according to a strict regional principle and public purpose (Cassell 2021). The KfW and the other public banks exist and persist alongside powerful cooperative savings banks (such as DZ Bank, based on the Raifeissen model) and powerful private sector universal banks (such as Deutsche Bank) — which in concert make up the famed German three pillar financial structure of public, cooperative, and private banks (Francke and Hudson 1984; Mertens 2021; Cassell 2021).

At its time of founding in the late 1940s, the first public task of the KfW was to implement the 'European Recovery Program' (ERP) to deal with the post-war refugee crisis, the mass destruction of housing, and the renewal of energy generation. The KfW would do so by providing low-cost and appropriate financing. Through the 1950s the KfW expanded services to include financing for export promotion, small- and medium-sized enterprises (SMEs), agriculture, and industry (Mertens 2021). The KfW evolved by taking on an international development role in the 1960s, responding to the 1970s energy crisis, and supporting economic stabilization and energy savings in the 1980s. Through each of these phases, KfW increased domestic SME financing, which has played a long-term socio-cultural role in connecting the KfW to households and communities across Germany (Deeg 1999; Moslener, Thiemann, and Volberding 2018). The KfW extended its connection to community following German reunification in 1991. It did so by offering financial support to former East German SMEs and municipalities, as well as for some 5 million housing refurbishments (that is, for about half of all East German houses). The KfW also became an early green reformer by offering some of the first environmental schemes in the mid-1980s. But its substantive turn towards the climate came after the Green Party formed part of a coalition government in the late-1990s and Germany subsequently adopted an official energy transition strategy (*Energiewende*) (Kuittinen and Velte 2018; Marois 2021, p. 203).

Through its history, the KfW has become, perhaps, the most widely known and respected (if imperfect) public development bank in the world (Marois 2017; Ervine 2018; Moslener, Thiemann, and Volberding 2018; Naqvi, Henow, and Chang 2018; Mertens 2021). It is large, with assets exceeding €550 billion (Table 2). This makes the KfW the 89th largest bank in the world, out of some 32,000 public and private institutions, and the 15th largest public bank, out of 910 public institutions globally (Marois 2021). It has more than twice the total assets of the World Bank. As a development

Table 2. KfW finances at a glance.

	2022	2021	2020	2019	2018	2017
Total assets (Euros billions)	554.6	551.0	546.4	506.0	485.8	472.2
Return on Avg Assets (ROAA) (%)	n/a	0.40	0.10	0.28	0.34	0.29
Return on Avg Equity (ROAE) (%)	n/a	6.71	1.66	4.43	5.54	5.12
Net Income (Euros millions)	2,416	2,215	524	1,366	1,637	1,428
Number of employees	7984	7734	7382	6705	6376	6113
Long term ratings	• Moody's Investors Service Aaa • S&P Foreign currency AAA • Fitch AAA					

Sources: Orbis Bank Focus 2022. Note: 2022 data from KfW 2023.

bank, it does not maintain a branch network (as it does not accept personal deposits) but the KfW has acquired a network of 80 offices within Germany and around the world, and it employs more than 7700 people (Table 2). For the last 14 years, *Global Finance* has ranked the KfW as the safest bank in the world, public or private. The KfW enjoys a triple-A credit rating, backed by Germany's sovereign guarantee.

The KfW is now constituted as a corporate banking group with five divisions, split into domestic and international operations (Marois 2021, p. 216). Domestically, the SME Bank (Mittelstandsbank) and the Municipal and Private Client Bank (Kommunal- und Privatkundenbank/Kreditinstitute) make up the bulk of KfW lending (about two-thirds). Most of the KfW's Covid-19 supports are accounted for domestically. In 2012, the KfW founded a fifth division, a charitable foundation called the KfW Stiftung, which is geared towards not-for-profit projects in Germany. Abroad, the KfW IPEX Bank (project and export financing) and the KfW Development Bank account for about a third of overall KfW lending.

The KfW is by legal mandate not a profit-maximizing bank. That is, the KfW has not built up its current mass of public financial capital by ruthlessly pursuing financial returns as a matter of fiduciary duty and/or competitive market imperatives. But neither is it a loss-making bank: even including the pandemic period, the KfW's average return on assets (ROAA) is 0.28 per cent (between 2017 and 2021) (Table 2). This netted the KfW an annual average return of €1.43 billion over this same period. By law, KfW returns are recycled back into the bank's reserves to be used to support further lending. Policy and political direction from within the German public sphere, not shareholder-driven profit maximization and market imperatives, give shape to the bank's functional orientation — its purpose (Deeg 1999; Naqvi, Henow, and Chang 2018). In the words of a KfW Regional Manager, the KfW's rationale is to do 'public tasks' (confidential interview, online, 12 October 2020). The KfW's rationale, or institutional ethos, is not an *inherent* feature of the KfW as a public bank. The KfW has been made and re-made this way, with no guarantee that it will remain as it is.

The KfW has the potential to function differently than private banks because it is held within the public sphere through ownership, mandate, and governance (Marois 2021, pp. 195–196; *cf.* Moslener, Thiemann, and Volberding 2018). The KfW is owned by the Federal Republic of Germany (80 per cent) and by the federal states (20 per cent) (Table 1; KfW 2023). The KfW is run according to public law, the *Law Concerning KfW*. The public purpose of the KfW is given in its mandate, which is to provide for the 'sustainable improvement of the economic, social, and ecological conditions of people's lives'. The bank is held to account for fulfilling its mandate through representative governance.

How the KfW functions is governed democratically via the KfW Supervisory Board of Directors (see Hubert and Cochran 2013; Marois 2017, 2021). The representative composition of the Supervisory Board is broad-based and legally defined by the KfW Law. The Board has 37 members: it includes two set places for the Federal Minister of Finance and the Federal Minister of Economic Affairs and Energy plus 35 additional members chosen from German politics and society by Parliament. These include 14 appointments divided between the German Bundestag (Lower House) and Bundesrat (Upper House) and five more federal government ministers. The mortgage banks, savings banks, cooperative banks, commercial banks and business credit institutions are each allocated a representative, as are the German municipalities, agriculture, crafts, trades, and housing associations. Board membership is rounded off by four trade union and two industry representatives. In annual rotation, the Board is co-chaired by the Minister of Finance and the Minister of Economic Affairs and Energy. In the words of Christian Seitz (2022), a high-level KfW Director in the Executive Board Office, 'The idea behind that [the composition of the Supervisory Board] is that the whole of German society should have a voice in our Supervisory Board of Directors — and that's a good thing'.

The KfW is thus positioned by ownership, law, and governance within the German public sphere. As such, the KfW, as a matter of public policy and political will, can be and has been shielded from direct exposure to global financialized market imperatives. The KfW is not *necessarily* shielded by the public sphere. Political will can equally expose public banks to competitive market imperatives through policy decisions — public banks can function as-if they were private profit-seeking entities (Marois and Güngen 2016). This was evident in the speculative actions of the KfW subsidiary IKB Deutsche Industriebank, in many of the Spanish *Cajas* in the lead up to the 2008–09 global financial crisis, as well as among Turkish public banks following the country's 2001 financial crisis (Marois 2012; Butzbach and von Mettenheim 2014; Moslener, Thiemann, and Volberding 2018). By contrast, market imperatives tend to directly act upon private banks (bailouts aside), compelling them to maximize shareholder returns and to function pro-cyclically (Epstein 2018; Kring and Gallagher 2019). For the KfW, however, the explicit German state's backing of the bank effectively puts the KfW's credit ratings on par with Germany as a sovereign advanced capitalist state (Table 2). This translates into a solid triple-A credit rating for the KfW, which in turn allows the KfW to gain preferential access to global financial markets and to receive the lowest possible interest rates, which are passed on to clients at home and abroad. Public sphere shielding is important as the bulk of incoming KfW capital comes via bond issuances in global markets (Naqvi, Henow, and Chang 2018, pp. 681–682; KfW 2019a, pp. 12–13; Seitz 2022). The KfW is not alone in the strategy. The sourcing of capital from global markets to redirect it and repurpose it towards public priorities is a common mechanism of public development banks in Europe and globally (Schwartz and Marois 2022; Juuti, Juuti, and McDonald 2022; Griffith-Jones et al. 2023; *cf.* Marshall and Rochon 2019, 2022).

Public purpose policy-driven lending is enabled in this way. For example, between 2011 and 2021 the municipal level KfW Energy-Efficient Urban Rehabilitation programme provided €130 million in grants and €1.3 billion in investments.[1] Research

[1] https://www.kfw.de/About-KfW/Newsroom/Latest-News/Pressemitteilungen-Details_705728.html.

shows that this KfW lending had a distinctly public-public character because it advanced energy transitions within towns and cities, through municipal entities, and for not-for profit institutions (Bach 2017). Between 2019 and 2020 at the level of households, the KfW energy efficient construction and refurbishment more than doubled lending from €11.2 billion to €26.8 billion.[2] The funds supported the ecologically-essential and politically-mandated *Energiewende* in ways that explicitly benefited from the KfW's location within the public sphere and in ways that advanced the public interest and policy (Moslener, Thiemann, and Volberding 2018).

There are conflicts and contradictions in what the KfW does and why (Mertens 2021; Marois 2021). For example, KfW industrial lending has grown significantly and played an important role in accelerating domestic growth, thus underpinning German economic expansionism (Naqvi, Henow, and Chang 2018). Yet German society is increasingly conscious of the environmental impacts of endless industrial growth, demanding that Germany and the KfW be 'greener' and ensure reductions in carbon emissions (*cf.* Angel 2017; Paul 2018). The KfW attempts to balance these often competing and contradictory demands, the results of which we can see in its metrics. About 40 per cent of all lending helps to reduce carbon — which means 60 per cent continues to carbonize the environment (KfW 2017, p. 2, 2019a, p. 3). That said, the KfW is at the forefront of public development banks globally that are aligning lending with the 2030 Sustainable Development Goals, including having developed a mapping schema and having begun to report according to the SDGs (*cf.* Geddes, Schmidt, and Steffen 2018; Seitz 2022).[3] Yet in response to the global energy crisis, the German government commanded of the KfW that it increase funding for carbonizing sources of energy. The KfW sees this as a source of institutional risk: 'KfW is stepping up its involvement in the fossil fuel sector on behalf of the Federal Government. This may result in sustainability rating downgrades and may be perceived as contradicting KfW's sustainability objectives.' (KfW 2023, p. 68)

That the KfW has a historical legacy and that this powerful institutional legacy is responsive to public policy and public purpose suggests that the KfW had the potential (if not the necessity) in place to respond to the Covid-19 crisis and to do so in the public interest. Connecting the legacy and the practical responses of the KfW to the Covid-19 crisis speak to justifications of public development banks as essential infrastructure.

4. The KfW's Covid-19 Financial Supports at Home and Abroad

The KfW's Covid-19 financial responses were of material significance at home and abroad. There was a clear need for these interventions. The Covid-19 pandemic hit all economies and societies hard. According to the World Bank, global GDP in 2020 was −3.3 per cent; in Germany, it was −4.6 per cent. At home the KfW was tasked by the government with helping to confront the impact of the Covid-19 pandemic through the deployment of financial resources and expertise to most sectors of society and economy. In response, the KfW 'lent like never before' (Seitz 2022). In the first half of 2020 KfW financing volume more than doubled in large part due to pandemic aid

[2]https://www.kfw.de/About-KfW/Reporting-Portal/Domestic-promotion/.
[3]https://www.kfw.de/nachhaltigkeit/About-KfW/Sustainability/Strategie-Management/KfW-und-SDG/.

programmes (KfW 2020b) and for 2020 overall total lending reached a record high, expanding by 75 per cent to €135 billion (KfW 2021, p. 37). In its own words, the KfW functioned to 'absorb the economic consequences of the coronavirus pandemic in Germany and abroad' (KfW 2021, p. 37).

By KfW estimates it has provided a total of €57 billion in domestic Covid-19 supports to businesses, non-profits, and students from the start of the pandemic to the end of 2021 and another €6.6 billion in foreign development assistance (KfW 2022a, p. 6). The KfW raised €42 billion in funds via the Economic Stabilisation Fund (Wirtschaftsstabilisierungsfonds, WSF) to support Covid lending since 2020 (KfW 2022a, pp. 66, 200). The KfW also benefitted from a €100 billion government loan (below) and from raising funds on international capital markets €66.4 billion in 2020 and €82.6 billion in 2021 (KfW 2022a, p. 66).

From the start of the Covid-19 outbreak in late February 2020, the KfW responded rapidly, almost immediately, to the Government's call for action.[4] By the second week of March 2020, and with then Chancellor Angela Merkel's announcement that the government would do whatever it took to address the Covid-19 crisis, the KfW understood that it would have a lead role, particularly in terms of the Economic Stabilisation Fund (WSF) announced near the end of March (FRGFA 2020). Discussions had been already underway between the KfW and the Government. Then Federal Finance Minister Scholz (and German Chancellor since December 2021) announced that the KfW would receive a €100 billion government loan to support mandated programme lending (Chazan 2020). Moreover, the KfW could lend *without limit* to businesses in trouble. On 23 March 2020, Federal Minister for Economic Affairs and Energy Peter Altmaier commented on the purpose of the KfW's flagship Covid-19 response, the KfW Special Programme 2020 (FMF 2020):

> It is now important to help companies quickly and without red tape. An important element here is to provide access to liquidity. The improved financing conditions set out in the KfW Special Programme 2020 will help to significantly support the economy in this respect. Applications will be processed quickly and without undue bureaucracy. Payments will be made as quickly as possible because we know that, for many enterprises, every week counts.

The KfW expanded its credit offerings and guarantees for all sizes of firms, credit insurers, and non-profit institutions, including injections of public equity into strategically important firms (IMF 2020). The pandemic supports were covered as mandated transactions under Article 2 (4) of the *Law Concerning KfW*, so lending was backed by a full federal guarantee that released the KfW from exposure to losses from mandated lending (KfW 2021, p. 37). The operating costs related to KfW Covid-19 programme lending, too, were covered by the Federal government so as not to put the KfW at risk of losses. The Federal government then relaxed financial requirements so that KfW-backed Covid-19 support loans channelled to other financial institutions (public, private, or cooperative) through on-lending would not negatively impact these institutions' leverage ratios or exposure limits. On top of KfW supports, local and regional governments in Germany provided additional financial supports to their own state and municipal public banks to back recovery.

[4]For detailed week by week reporting of KfW actions in 2020, see: https://www.kfw.de/About-KfW/Reporting-Portal/KfW-coronavirus-aid/.

Table 3. KfW Covid-19 aid programmes summary.

Programme name	Target	Funds committed (end 2021)
KfW Special Programme	Medium and large enterprises	€57 billion
KfW Instant Loans	Small- and medium-sized enterprises	
KfW Entrepreneur loans	Enterprises older than 5 years	
KfW ERP Start-up Loan	Enterprises younger than 5 years	
KfW Student Loan	Domestic and foreign students	
KfW Developemnt Bank Emergency COVID-19 Support Programme	Developing countries and emerging economies	€6.6 billion

Sources: (KfW 2022a, p. 6, 2022b, p. 3).

The KfW Special Programme focused on large-scale financial support in the form of investment and working capital for German medium-sized and large companies. The programme involved syndicated financing wherein the KfW took on direct participation of at least €25 million but no more than 50 per cent of the total debt. The KfW assumed 80 per cent of the risk, subject to certain conditions being met. Within a few months, the KfW had received 70,000 loan applications and had lent out nearly €34 billion (KfW 2020b). The lion's share of applications (some 97 per cent) came from SMEs, with almost all of the loans (99.8 per cent) being for up to €3 million in support. By September 2020, loan applications had topped 81,000 and KfW loan commitments neared €43 billion. At the end of 2020, the Special Programme 2020 was extended until the end of June 2021 and then again until April 2022 (KfW 2021, p. 37, 2022a, p. 11).

The Special Programme was the largest but not the only KfW support mechanism (Table 3; also see Massoc 2022; Hong and Lucas 2023). Throughout 2020 the KfW created (and tweaked) supports for companies, the self-employed, freelance workers, and not-for-profits to provide liquidity and to help cover operating costs (KfW 2020a). For example, the KfW Instant Loans programme offered very rapid, effectively instant, financial supports to medium-sized enterprises with straight-forward conditions. Medium-sized firms with more than 10 employees, active, and in good financial standing since at least January 2019 were eligible. The KfW gave long-term, low-interest loans — ten-year loans at 3 per cent interest — delivered via an issuing or on-lending bank, public or private. The Instant Loan was backed 100 per cent by the KfW, which was in turn backed by the Federal Government. The structure enabled the rapid release of credits because, once the conditions were met, no further risk assessment was needed.

The Instant Loan programme revealed some of the dynamism of the KfW in its response to the pandemic. As in other countries around the world, the German commercial banks balked at only receiving an 80 per cent guarantee for funds to be on-lent to struggling companies due to the pandemic. The commercial banks saw their capital at risk everywhere. Within days of first announcing the Instant Loan, as backed initially by a guarantee of 80 or 90 per cent, the KfW reviewed and then improved its programme. An updated 100 per cent guarantee loan programme was rolled out on 03 April 2020, which allowed commercial banks, public and private, to lend out Covid-19 support funds without risk as KfW Instant Loans (Mertens, Rubio, and Thiemann 2020, p. 6).

Additionally, the KfW developed the Entrepreneur Loan to assist with investments and to provide working capital for companies that are older than five years. For larger companies, the KfW assumed 80 per cent of the risk while for SMEs it assumed up to 90 per cent (for loans up to €100 million). For companies less than five years old, the

KfW created the ERP Start-up Loan with conditions similar to the Entrepreneur Loan. The KfW, moreover, directed financial support towards students via the KfW Student Loan. This was a zero-interest rate loan provided to domestic and foreign students until the end of March 2021. As of September 2020, about 24,000 students applied, with KfW loan commitments reaching €700 million. So as not to undermine the KfW's financial standing, the Federal government paid the KfW for loss of interest income (KfW 2021, p. 37). Not all losses in 2020 were covered by the Government, however. The KfW in the first half of 2020 announced Covid-19 related losses of €576 million (compared to a return of €904 million in the first half of 2019). These losses are a reflection of the KfW delivering on policy direction. Conventional 'political view' economists, however, would interpret such policy implementation as an expression of political self-service and market distortion.

While most KfW Covid-19 support went to the domestic economy, it was also active abroad through the KfW Development Bank arm and the provisioning of development finance support, including grants and aid. Overall KfW development financing increased by 16 per cent to €12.4 billion, with the KfW Development Bank providing €11 billion and DEG €1.4 billion (the KfW DEG, or Deutsche Investitions- und Entwicklungsgesellschaft, focuses on development finance for private enterprises). In terms of Covid-19 specific packages as of January 2022, the KfW was involved in 212 projects in 71 countries and had committed €6.6 billion.

According to Marc Engelhardt, Head of the Task Force of KfW Development Bank, the KfW offered Covid-19 financial support via the Federal Ministry for Economic Cooperation and Development's (BMZ) Emergency COVID-19 Support Programme 2020 (KfW 2020c). The KfW Development Bank responded to funding requests from partner countries, of which there are about 70 globally. KfW partners include the least developed countries with an average gross national income per capita of under US $992. The immediate concern in early 2020 was for the KfW to react to support health initiatives and social security and to help public and private entities weather the initial storm of the pandemic. According to Engelhardt, '[t]ime is an especially critical factor in this pandemic. This is why we want to pay out all of the additional Federal government budget funds this year, to make tangible improvements in our partner countries very fast.' Having acquired not only significant financial capacity, but also decades of institutional expertise and development memory, the KfW provided technical support around the design, preparation, and implementation of funded projects. As much as amassing financial capacity, being capable of providing internal technical support and expertise can be vitally important features of public development banks, particularly when collaborating between the global north and south (Moslener, Thiemann, and Volberding 2018; Mazzucato and Mikheeva 2020; Marois, Stewart, and Marodon 2023). Where existing national development banks are already in place in the partner countries, the KfW can work with and through these institutions by refinancing their domestic loan programmes. Otherwise, the KfW works with local clients and beneficiaries, whether they are public or private institutions, depending on the domestic programme.

The KfW made use of its Development Bank capacity in the global south, as evidenced in programmes in Peru, Senegal, and Zambia. In Peru in early 2020 the KfW, on behalf of the German BMZ, loaned the government €250 million (KfW 2020d). The loan's framework aimed to combat the impacts of Covid-19 through realizing climate and environmental goals. It did so, as in Germany, by providing financial support to small businesses and their employees to overcome the immediate economic crisis and then, as recovery takes shape, by channelling resources into green investments. The priority was rapid dispersal to help the informal workforce in Peru, which was disproportionately impacted by the pandemic and related lockdowns. This meant targeting micro-, small-, and medium-sized enterprises (MSMEs), many of which had little accumulated capital to weather the storm of economic restrictions imposed but nonetheless employ upwards of 50 per cent of Peruvians. The KfW fostered a public-public collaboration with COFIDE (Corporación Financiera de Desarrollo or Development Finance Corporation), a Peruvian public development bank founded in 1971 (see Dancourt and Jiménez Sotelo 2018). According to the KfW, COFIDE supported over 300,000 MSMEs during the first wave of the pandemic backed by KfW financing. It is not clear whether this KfW loan will in fact be green as there appear to be no formal conditions to ensure that the funds enhance sustainability. A KfW Regional Manager confirmed that firm survival and jobs in Peru were the first priority, and that the KfW was not yet able to turn efforts towards promoting energy efficiency green transitions through Covid-19 lending (confidential interview, online, 12 October 2020).

In Senegal, the KfW Development Bank facilitated the transfer of a German government grant worth €100 million (KfW 2020e). This activity also took the form of a public-public collaboration. The purpose of the grant was to help address the economic and social impacts of the pandemic. A further €124 million in grant money was to be provided by the European Union (EU), which combined contributions from EU Member States and the European Commission, as well as from two other EU multilateral public banks, the European Investment Bank and the European Bank for Reconstruction and Development (on the EIB and Covid-19; see Clifton et al. 2020). By October 2020 Senegal had received just under €212 billion in budget support (KfW 2020e). A key feature of this aid programme is that the funds provided were pure grants, and therefore non-repayable. The funds were intended to support MSMEs, related jobs, and to help the government meet health sector demands.

In Zambia, the KfW crafted another public-public collaboration via UNICEF (United Nations International Children's Emergency Fund) and with the Zambian Ministry of Health to provide €20 million in emergency Covid-19 pandemic containment financial support (KfW 2020f). The German BMZ provided the funds, which was directed by the KfW to hospitals for Covid-19 treatment and isolation centres and for broad-based support. The aid package included the delivery of personal protective equipment for medical staff in early September 2020, including surgical masks, gloves, oxygen devices, and Covid-19 test kits. Support also went towards staff training for Covid-19 tests. At the same time, the funds supported general health efforts, such as tuberculosis immunizations for infants and pregnant women. The KfW funds further targeted improved water and sanitation services in schools, health centres, and villages to help prevent the spread and impact of Covid-19. Finally, emergency income support for the poor and informal workers most impacted by the crisis in Zambia was provided. Via UNICEF, the BMZ and KfW allocated €8.75 million in cash transfers to top up existing government payments to the poor to help cover basic needs (KfW 2020f). Because of its public character and legacy, the KfW was able to channel emergency aid at the pace, scale and on public purpose terms appropriate to confronting the impact of Covid-19. This was done as a matter of policy, not profit.

5. KfW Pandemic Responses as Essential Public Infrastructure

Returning to the article's conceptual framing, can we reasonably claim that the KfW, as a public development bank, was essential to people, households, and communities being able to lead a healthy and productive existence during the first wave of Covid-19 — and thus be considered as essential public infrastructure? The evidence points to three good reasons to respond positively. These include the KfW's rapid and bold responses that were of material significance; its enactment of public purpose; and its pre-existing legacy.[5] These elements were key to the KfW's ability to help various communities at home and abroad get through the immediate crisis.

First, the KfW was able to respond rapidly and boldly with measures of material financial significance**.** The German economy, like all national economies, ground down to a near stop. Many businesses and livelihoods were at risk of being lost completely. Many were lost. However, the KfW, in collaboration with governing authorities, opened the lending taps and allowed financial liquidity to flow freely and quickly into the economy and society. Tens of billions of Euros were pushed out, domestically and internationally. The KfW responses were understood as essential to keeping public and private organizations in need of incoming capital afloat. The beneficiaries were practically universal, from large industry to the many thousands of MSMEs employing the vast bulk of people in society, to non-profit organizations, and even to students. Internationally, the KfW contributed directed lending to poorer communities. The claim here is not that the KfW resolved the pandemic, but that it was able to respond meaningfully and materially to support specific communities at a moment of crisis.

Second, the KfW responded not to protect profitability or shareholders' capital but as a matter of public purpose enacted through public policy. As a bank located within the public sphere of the German state by ownership, mandate, and law, the defined public purpose of the KfW meant that it was positioned to help advance public policy responses to the pandemic. The KfW responded to government direction within its legal framework and as held accountable through its governance framework. The KfW's responses were not directly subject to market imperatives, market value, or shareholder returns but to politically grounded public purpose and an understanding that deploying KfW capacity was essential to society at that moment. The benefits delivered were made possible because of the shielding of the German public sphere. Private banks simply were not delivering comparable first wave pandemic responses in the public interest (Baudino 2020; Casanova, Hardy, and Onen 2021). Rather, private banks in similar jurisdictions were disproportionately pursuing their private interests and profit margins in ways that undermined the public good (Friedline et al. 2022).

Third, the KfW's pre-existing legacy within Germany's public financial architecture underpinned its financial capacity to respond and to do so in accordance with public purpose. When the first wave of Covid-19 hit, the KfW already had a more than 70-year legacy of accumulated institutional capacity, knowledge, networks, and

[5]Moslener, Thiemann, and Volberding (2018) make a related case for the KfW during the 2008–09 global financial crisis. Ülgen (2021) pursues a related but distinct line of study and reasoning, arguing that financial stability is a public good that cannot be effectively delivered through individual, market-based relations and as a consequence finance should be understood as a public utility. Finally, Massoc (2022) looks at the structural and infrastructural power of banks but approaches the role of public banks in Covid-19 responses from a framework of 'historically-rooted institutionalized modes of coordination between state and bank actors'.

relationships. It had already supported postwar reconstruction, German reunification, and *Energiewende*. The KfW had amassed hundreds of billions of Euros in resources, developed extensive networks across Germany, and expanded internationally through its development activities. Furthermore, the KfW was part of a longstanding and credible nation-wide public financial architecture. There is a cultural, social, and economic legacy to public banking in Germany that the KfW both contributes to and benefits from. The German government leveraged this financial architecture and the KfW's institutional legacy to deliver needed support as a matter of public policy and while privileging near universal access to its financial services. This historical legacy was vital to the KfW's ability to reach and impact those in need, and it had to be in place *already* to have any meaning at all when the pandemic hit.

Another way to think of the value of Germany's public financial infrastructure is that the KfW had built up the unique capacity to effectively *make time available* when it was needed (Marois 2021, pp. 253–256; cf. Konings 2018). Through its large financial balance sheet and because of its location within the public sphere, the KfW was able to absorb a significant level of financial risks (indeed, crisis) at the moment of pandemic outbreak in early 2020 and to displace those risks into the future. The KfW *made time available* for those firms, individuals, and organizations that needed it to help weather the storm. The KfW could do so not for profit but for public purpose.

There are thus good reasons to view the KfW as essential public infrastructure in society, especially as this public financial capacity cannot be erected at the moment of crisis when it is most needed. Without the KfW's established legacy, amassed financial capacity, networks, and institutional expertise, the government could neither have asked for nor been able to deploy this level of financial resources at the scale, pace, and terms appropriate to responding to the pandemic. The KfW was essential to the Government's pandemic responses.

There are caveats to the argument presented. I am not arguing that public development banks are the only banks capable to responding to global crises like Covid-19. Nor am I arguing that public development banks are inherently meant to respond to crises by virtue of being publicly owned. There is nothing neutral or natural to the what the KfW or any public development bank does. In fact not all public development banks responded to the Covid-19 crisis in the public interest (see McDonald, Marois, and Barrowclough 2020; cf. Barrowclough and Marois 2022). The claim here is more modest. What the KfW demonstrates is that society can craft over time a public development bank legacy that can be capable of responding in the public interest and in ways that help people, particularly when urgent help is needed to overcome crisis. The argument has given good reasons to understand this institutional capacity as essential public infrastructure when assessed according to the KfW's functions being *essential to* leading a healthy and productive life.

The paper has not sought to compare to public to private banks. The single case study analysis focuses on depth rather than breadth. Through detailed case study analyses scholars are best able to advance new theory and thinking about existing processes and institutions, which is an aim of this article. The paper evidenced that the KfW case made time available at a moment of crisis in ways uniquely possible through the public sphere, giving good reason to rethink public development banks as essential infrastructure. But the paper does not stretch into universal conclusions about the ultimate good or bad of public versus private banks. Finally, the paper draws no conclusions around replicability. There are lessons to be learned, but these lessons would need to be reconsidered within the time- and place-bound specificities of other states and societies.

Understandings of the KfW and public development banks elsewhere could benefit from further archival and in-depth study. There are many unanswered questions. How did the government engage in negotiations with the KfW? Were there competing demands on the KfW that were not acted upon? Which of the KfW's legacy relationships with the Government, within the public sphere, and with the private sector had a disproportionate impact, and why? Were the KfW's public-public collaborations with other domestic and multilateral banks fully leveraged? These research questions need exploring in Germany and globally.

6. Conclusion: Public Development Banks as Essential Climate Infrastructure?

> The banks and KfW have prepared intensively for today. Never before have we been able to put a full programme together this quickly. The federal government will assume close to full liability and the loan margins are extremely low. (Günther Bräunig, Chair of the KfW Board of Managing Directors, FMF 2020)

The KfW's historical legacy and continued home within the public sphere endowed the public bank with the financial capacity and institutional structures to make *time* available to help society through the pandemic. Without the KfW in place governing authorities would have had to barter with private banks to provide support services, putting private interests in advance of the public good. However, the KfW was itself able to function directly in response to public policy, the evidence of which substantiates the KfW as essential public infrastructure — never more so than at times of crisis.

Are the lessons of Covid-19 applicable to the global climate crisis? KfW staff seem to think so, arguing that 'the emerging recovery process needs to be perceived as an opportunity to rethink our economic and social systems and promote a greener model for prosperity over the long term' (Lau and Müller-Späth 2020). KfW staff continue to argue that the Covid-19 crisis needs be a moment of transformation for the KfW, such that 'green recovery' means confronting the economic and social impacts of Covid-19 while reducing greenhouse gases and mitigating climate change. Academic researchers agree, arguing that the public purposes that have guided public development bank responses to Covid-19 more broadly can meaningfully inform the future of green and just climate finance (Stadheim, Sengul, and Marois 2022). This pushes us to rethink how essential public development bank climate finance is to sustainable and just societies. How essential are public purpose public banks to households and communities leading a healthy, productive, and sustainable life regardless of the market value of climate finance? Can the scale, pace, and terms appropriate to achieving a green and just global transition be delivered in any better way than through public purpose public development banks? Is there anything more essential to global health and prosperity than mobilizing public banks to combat the impacts of climate change justly and equitably — and to do so as a matter of public policy not profit?

The research assessing how essential to and what the benefits of collective provisioning of climate finance through public development banks has not yet been done. There is good reason to do so through a lens of essential public infrastructure (*cf.* McDonald

2023). Public development banks are more and more positioned as necessary for global green transitions (Marois 2021; Marodon 2022; Riaño et al. 2022). However, relatively little work has systematically connected global *green* to global *just* transitions at anything but a discursive level. What is needed are theoretically and empirically grounded accounts of the concrete advantages and disadvantages of doing so through public purpose public development banks.

Yet this is where the functioning of public development banks is most hotly contested. Conventional, market-fixing, and de-risking advocates have a stranglehold on global narratives, based on deeply held convictions that the purpose of public finance should be to leverage private finance by public banks socializing private risks. To conventional economists, public banks should function in the private interest, if they are to function at all. Critics have rejected these conventional de-risking approaches as warmed over neoliberalism (that is, the class-based ideology that all social, economic, political, and ecological problems are best resolved by exposure to profit imperatives) through the lenses of the 'Wall Street consensus' and 'pro-market additionality' (Marshall 2012; Dafermos, Gabor, and Michell 2021; Marois 2021). Yet there remains remarkably little applied research to the actual advantages of public development banks as essential to sustainable, healthy, productive, and equitable living — that is, to socially *just* transitions. We might well get green transitions globally — as private finance eagerly wants to secure the most bankable projects at the most preferable conditions for profitability. But we are unlikely to get just transitions without having public purpose public banking infrastructure in place and governed in the public interest. The challenge, then, is not simply to secure more green public finance at any cost but to secure it in ways that public finance fosters long-term sustainability, universal health, distributed productivity, and social equity. Public development banks can help to overcome this challenge by providing the essential public purpose financial infrastructure that is urgently needed.

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