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From Ludendorff to Lenin? World War I and the Origins of Soviet Economic Planning

FRIEDRICH ASSCHENFELDT & MAX TRECKER

Abstract

The planned economy was a defining element of the Bolshevik dictatorship. In contrast to scholars who have located its intellectual roots in the classic texts of nineteenth-century Marxism, this essay situates the origins of economic planning in World War I. The text analyses the link between war and planning in Russian and German thought. In doing so, we argue that the Bolsheviks' positive assessment of the techniques of wartime mobilisation, influenced by the work of German economist Rudolf Hilferding, was foundational to their vision of organising the economy through the state.

IN THE LATE 1960S, POLISH ECONOMIST OSKAR LANGE bemoaned that, due to their character as a '*sui generis* war economy', the centrally planned economies of the Eastern Bloc were unable to cater to the needs of society in peacetime (Lange 1970, p. 102). Lange's critique targeted the curious similarity of socialist economic policy with methods of wartime mobilisation, which harked back to 1917, when Lenin had called for retaining its 'mechanisms of accounting and control', which had prepared the way for socialism (Lenin 1917b). As Lange understood, the connection between wartime mobilisation and economic planning had left an indelible mark on the economy of the Soviet Union and its satellite states.

This essay subjects the relationship between war and economic planning to closer scrutiny by looking at the intellectual history of economic planning during and after World War I. We show how the war spawned optimism on the political left about the wide-ranging political and economic possibilities of governing the economy. Although

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Lenin's above quote is well known, even classic accounts of the intellectual origins of Soviet planning tend to draw too neat a line from the nineteenth century to Lenin and Stalin. Authors such as Carr (1954), Szamuely (1974) and Berend (2006) trace the planned economy primarily to the intellectual legacy of nineteenth-century socialism with its emphasis on scientific rationality as an antidote to the vagaries and inequalities of the market economy.¹ Inspired by recent scholarship in economic sociology on the role of collective imaginaries in the economy (Beckert 2016; Beckert & Bronk 2018), we emphasise the intellectual appeal of wartime methods in shaping the economic imagination of Soviet socialism. As we argue in this essay, the mobilisation of the economy during World War I amplified the potential for change. By integrating state and economy, the war appeared to have accelerated the transition to a 'more rational' social order, in which the 'anarchy' (*stikhiya*) of markets would be overcome.² Thus, the utopian vision of a centralised, state-run economy emerged from wartime as an intellectually and practically feasible alternative to capitalism.

The significance of war for the rise of planning becomes fully apparent when comparing Soviet Russia to other countries. Across the belligerent powers, the war saw the first widespread application of what Mark Harrison has described as 'supply-chain planning'—price controls and the centralised distribution of scarce resources—that would later be at the heart of the Soviet economic system (Harrison 2017). As contemporaries were keenly aware (Bukshpan 1929; Hayek 1938), the Soviet economy was but an extreme example of the expanded scope of state authority in economic affairs that the war had given rise to across Europe. To show how the war made economic planning an appealing prospect for the postwar order, we analyse the debate on planning on the Russian left in conjunction with debates on planning in wartime Germany. In Germany, economic planning was propagated by industrialists such as Walther Rathenau as well as by military figures such as General Erich Ludendorff, not merely as a necessary evil in wartime but as a way to reinvigorate German society after the war. These developments were widely followed in the Russian Empire, including by the economist Yurii Larin (born Mikhail Lur'e, 1882–1932), who became one of the most radical proponents of planning after the revolution.

As we show in the essay, the war offered intellectuals on the left, such as Lenin, an image of how a future socialist economy could be organised. Before they came to power, the Bolsheviks were mainly preoccupied with analysing the dynamics of capitalism from the margins and 'made only sporadic allusions to the pattern of a future socialist economy' (Szamuely 1974, p. 46). But over the course of World War I, intellectuals on the Russian left began to see traces of socialism in the measures adopted by the belligerent powers, especially the German war economy. A central—and hitherto overlooked—point of

¹Following a similar impulse, scholars of Bolshevik economic policy during the civil war have asked whether 'war communism' constituted a 'genuine' attempt at building a socialist economy or simply a reaction to circumstances (Roberts 1970; Szamuely 1974; Haumann 1975; Remington 1984; Malle 1985). However, to our mind, the challenge is not to define 'true' socialism but to understand how actors at the time conceived it and why they came to associate socialism with methods of wartime economic administration.

²On the multiple meanings of *stikhiya* see Lih (2006).

reference in these debates was the work of the German social democrat Rudolf Hilferding (1877–1941), whose analysis of cartelisation provided the framework through which thinkers on the Russian left interpreted the transformation of economic life during the war. Our argument about the origins of planning in World War I complements the work of scholars of early Soviet economic policy, whose analyses of planning begin with the policies adopted after the October Revolution (Smolinski 1969; Szamuely 1974; Malle 1985). In turn, they tend to overlook how the ideological commitment to planning was shaped by World War I.

In tracing the entangled histories over war and planning in Germany and Russia, the essay proposes a new interpretation of the role of the German war economy in the imagination of the Bolsheviks, a trope that is frequently remarked upon but rarely elaborated.³ Lenin presented the besieged German economy as active proof that centralisation was effective. However, Bolshevik economic planning was not simply an attempt to mimic the German model. Rather, we argue, it reveals elective affinities with another highly centralised and coercive model of economic governance and points to a set of statist and illiberal convictions shared by German military planners and economists in Bolshevik Russia.

In the first part of the essay, we give a short overview of the unprecedented changes to economic governance in Germany and Russia during the war, and how they were reflected in Lenin's and Bukharin's pre-revolutionary writings. Then, we discuss how the war economy came to be advocated as a model for socialist economic policies over the course of 1917, specifically addressing its relationship to the German war economy. Finally, we show how the wartime changes to economic governance in Russia were partially mirrored in German debates about the postwar economic order.

War economies in Germany and Russia

World War I marked a watershed in economic history. In all the belligerent countries, resources had to be reallocated to the war effort through unprecedented levels of bureaucratic involvement in economic life. On the financial side, funds had to be levied through war bonds and the sequestration of property and savings, often accompanied by inflationary monetary policies. The war also halted the relatively free flow of goods and capital during the era of 'gold standard globalisation' (Frieden 2006, p. 121). Trade and financial linkages between the warring power blocs were cut, mainly through Britain's economic blockade of the Central Powers, in turn necessitating a whole new bureaucracy to monitor international transactions (Lambert 2012). However, the most important wartime development in terms of explaining the rise of economic planning was 'supply-chain planning' (Harrison 2017), namely, intervention by governments to prioritise scarce inputs for the war effort through quotas and price controls. It was these innovations that fascinated Lenin and his fellow Bolsheviks when they had to decide how to organise the economy.

³For example, Smolinski (1969), Malia (1994, p. 111), Hildermeier (2017, p. 250), Sakwa (2010, p. 48) and Davies *et al.* (2018, pp. 327–28). The two exceptions to this characterisation of the literature are Sapir (1997) and Salomoni (2000), who do not discuss the German texts. These, as we show in this essay, loomed large in the minds of early Bolshevik elites.

While the methods of mobilising the economy for war showed great similarities amongst all belligerent powers, when the Bolsheviks came to power they looked to Germany, widely regarded in Russia as the paragon of organisational capacity (see below). German military strategy had originally relied on the consolidation of swift gains on the battlefield that would force a peace treaty on the entente powers before the British and Russian empires could mobilise their vast resources. This approach was in part born out of economic necessity: the military leaders of Imperial Germany sought to avoid a protracted war against a united front—excluding Germany’s ally, Austria-Hungary—of the other European empires (Brenner 2007, pp. 311, 314). Behind the scenes, however, plans for reorganising German industry for a long war started to take shape almost immediately after the outbreak of hostilities. When Walther Rathenau, son of Emil Rathenau, the famous industrialist and founder of Allgemeine Elektrizitäts-Gesellschaft (AEG), floated his ideas about the reorganisation of the German economy to military leaders in early August 1914, they did not need a lot of convincing (Brenner 2007, pp. 311–12). The younger Rathenau became the head of the newly founded War Raw Materials Department (*Kriegsrohstoffabteilung*) on 13 August 1914, at a time when the general public still believed that decisive victory on the Western front was imminent. At the heart of the German war economy was the allocation of scarce resources to the subsidiaries of the *Kriegsrohstoffabteilung*, the *Kriegsrohstoffgesellschaften*, which were non-profit trading companies. Rathenau staffed his new organisation with some of his father’s trusted AEG engineers and managers, such as Wichard von Moellendorff, as well as people from other companies and branches of the economy.

The *Kriegsrohstoffabteilung* and its subsidiaries controlled the supply chains of the most important resources—except for liquid fuels and foodstuffs—and allocated these resources to industries critical for the war effort. Even without food and liquid fuels, this encompassed more than 100 different resources. The goal was threefold: to ensure that all resources were employed for military ends; to encourage and enforce the introduction of the most modern production techniques; and to find domestic surrogates for essential resources (Rathenau 1916, pp. 14–6). Although the government representatives on the boards of the *Kriegsrohstoffgesellschaften* had veto power, their formal structure resembled that of a self-governing intra-industrial association, which explains why these companies were regarded as ‘meta-cartels’ by Lenin and Bukharin, as we will explain below (Rathenau 1916, pp. 28–31). An important consequence of the *Kriegsrohstoffgesellschaften* was that prices were no longer indicative of scarcity.

Although the state controlled the supply chains and could decisively influence industrial investment decisions, ownership structures remained unchanged: the state did not technically own either the factories or the resources needed as inputs to keep up production. Rathenau remained in his post until April 1915, when he returned to his father’s company, not long before Emil Rathenau’s death a few months later. The structure of the *Kriegsrohstoffabteilung*, which was taken over by Major Joseph Koeth, remained basically unaltered after Rathenau’s departure. The day the younger Rathenau left office, the agency he had created was already one of the largest organisations in the German civil bureaucracy (Brenner 2007, p. 324). The wartime German government did, however, acquire shares in some critical sectors, notably coal and ammunitions, though these companies were never fully nationalised. As Roger Chickering has argued, the

German war economy was marked by intensified collaboration between the state and certain sectors of the economy:

The state's cooperation with the private sector was a retort to those who had called for public ownership of war industries. In war, as in peace, the allocation of resources was ultimately to be guided by considerations of profit. Administrative fiat did not supplant market forces; rather, it mediated these forces, for capitalists themselves controlled the administrative apparatus. (Chickering 1998, p. 39)

Besides the corporatist organisation of the German war economy, the German military voiced ambitions for a more far-reaching settlement as the war dragged on. By August 1916, the so-called 'Hindenburg programme', elaborated by the staffs of Field Marshal Paul von Hindenburg and Ludendorff, proposed unprecedented steps for the militarisation of the economy, thus eroding the distinction between front and home front. For Ludendorff, waging a 'total war' necessitated the erasure of all borders between state and economy. All available resources—men and materiel—had to be mobilised for the war effort and procured by a centralised governmental bureaucracy without the element of self-organisation by private actors envisioned by Walther Rathenau when he founded the *Kriegsrohstoffabteilung* (Boldorf 2020, pp. 49–50). Macroeconomic reasoning was sidelined in the Hindenburg programme. The labour force was to be militarised and the market mechanism invalidated by a compulsory labour law and the allocation of workers by government decree (Tilly 2020, pp. 399, 412–13).

However, the implementation of the Hindenburg programme did not live up to its rhetoric. Ideas of militarising the labour force were rejected in favour of a compromise with labour unions that provided workers with loopholes to legally change workplace on their own initiative (Feldman 1966, ch. 6). Similarly, a proposal to centralise all food supply, floated by General Wilhelm Groener in 1916, was discarded (Feldman 1966, p. 110). What happened after the introduction of the Hindenburg programme foreshadowed the fate of Soviet Russia when the economy was militarised during the civil war. Maximising particular output targets without regard to macroeconomic stability led to a breakdown of the transport sector in the winter of 1916–1917. This affected the already strained supply of food to the population and its will and ability to support the war effort. Labour productivity declined (Boldorf 2020, pp. 60–1). While Ludendorff's military vision suffered a reality check on the home front, the one area of the German war machine where he had the power to implement it was beyond the borders of the Reich. It was in 'Ober-Ost', the Baltic territories conquered from the Russian Empire in 1915, where Ludendorff's goal of a military administration came to its fullest realisation (Liulevicius 2004, ch. 2). Here, there was no corporatism to speak of, and economic governance was wholly integrated into the apparatus of military domination. In hindsight, this combination of 'rational' economic organisation paired with military dictatorship appears as an early precursor to the Soviet command-administrative system, in which plans, as Stalin once put it, were 'not forecasts but instructions' (Ellman 1989, p. 30).⁴

⁴As Simon Ertz has pointed out, paradoxically, plans were at once forecasts and instructions (Ertz 2016).

In the early stages of the war, the Russian Empire presented a similar dynamic of economic mobilisation, although it overall mobilised far fewer resources for the war effort than Germany: 24% on average compared to 40% of GDP in the German case (Ritschl 2005, p. 34; Gatrell 2005b, p. 237). A total mobilisation of the economy for the war effort was only achieved in the second half of 1915 (Gatrell 2005a, p. 109). The Russian state also became directly involved in critical industries, notably in the ‘Vankov Operation’—Major General Semen Vankov’s efforts at coordinating the entire supply chain for artillery shells in a bid to increase output—and by bailing out the Putilov metallurgical works in St Petersburg, which had gone bankrupt in the autumn of 1915 (Haumann 1980, pp. 106, 124–27). Although the Russian Empire had produced an abundance of raw materials before the war, during the war a draft-induced labour shortage and the disruption of infrastructure caused acute problems with the supply of food and raw materials (Gatrell 2005b; Castañeda Dower & Markevich 2018). To prioritise supplies for the war effort, the government formed individual offices for the central allocation of grain, fuel and leather in 1916 (Haumann 1980, p. 29; Holquist 2002, ch. 1). Not unlike the *Kriegsrohstoffgesellschaften*, these offices monopolised supplies of critical inputs and fixed procurement prices. Such measures had the paradoxical effect of reducing the amount of grain available to the army and the towns, as elements of the peasantry reduced grain sales on the market when prices were capped (Moore 2013, ch. 3). The rise of a government bureaucracy in charge of the allocation and distribution of goods was the inevitable consequence. As Iakov Bukshpan, a member of the special commissions on food supply and fuel, later wrote: ‘during the war, the merchant was almost replaced by the bureaucrat [*kuptsya pochti zamenil chinovnik*]’ (Bukshpan 1929, p. 16). Bukshpan and other Russian administrators looked for guidance to Germany, an economy similarly isolated from world markets after both the Baltic Sea and the Dardanelles had become unavailable for the passage of Russian trade (Nol’de 1916, 1928).⁵ Similar to the situation in Germany, the industrialists of the Russian Empire collaborated with the bureaucracy in an effort to coordinate procurement contracts and secure critical inputs in the war industry committees (*voenno-promyshlennyye komitety*), whose activities nevertheless highlighted the growing fissures between state and industrialists as the war dragged on (Roosa 1972; Siegelbaum 1983).

Lenin’s reception of Hilferding and ‘state capitalism’

While the outlook of an increasingly statist economy appeared frightening to many liberals, the hitherto unheard of degree of government interference spawned hope within the political left.⁶ The leading Bolsheviks followed these developments from exile. In his wartime writings from Swiss exile, Lenin welcomed the dialectical effects of wartime mobilisation. The war, he predicted, would ultimately destroy the system from which it had arisen, as it led to the rise of the workers’ ‘revolutionary consciousness’ as a

⁵See also, *Materialy k voprosu o gosudarstvennom regulirovanii khlebnoi torgovli*, Upravlenie delami osobogo soveshchaniya po prodovol’stvennomu delu (Petrograd, Tipografiya Ministerstva finansov, 1916).

⁶For an example from the political left, see Groman (1917), who proposed the nationalisation of all grain trade in 1916. On liberal fears, see, Roosa (1972).

consequence of the deprivations of war (Lenin 1916a, 1916b).⁷ This was Lenin, the theorist of revolution. His analysis of the economic dynamic of war, offered in *Imperialism, the Highest Stage of Capitalism*, published in 1917, was less original: it consisted primarily in applying Hobson's theory of imperialism and Hilferding's interpretation of cartelisation to the conditions of a world at war, in which he saw the forces of imperialism and finance capitalism unfold in their extreme, exacerbating their inner contradictions, thus leading to the defeat of capitalism (Lenin 1916a; Krausz 2015, pp. 152–58). Lenin argued that the war was the culmination of the accumulation of power in the hands of a few national cartels. Through this 'Hilferdingian' reading of World War I, the war could later be construed as the first, essential step towards socialism.

Although we do not know when exactly Lenin started collecting notes for his *Imperialism, the Highest Stage of Capitalism*,⁸ it is highly likely that he was at least superficially familiar with the work of Rudolf Hilferding before 1914. Like his fellow Bolsheviks, he was heavily influenced by debates amongst German social democrats, especially by Karl Kautsky (Service 2017, pp. 139–40). Rudolf Hilferding and Karl Kautsky worked closely together and exchanged a continuous stream of letters from 1902 until Kautsky's death in 1938 (Smaldone 2023). Rudolf Hilferding's 1910 *Finance Capital* was tremendously influential in the socialist community. Karl Kautsky was amongst the first to write a lengthy review of it, claiming that Hilferding had helped save the Marxists from the intellectual drought from which they had suffered after the death of Friedrich Engels in 1895. Kautsky saw in Hilferding a theoretician who could continue and perfect Marx's work (Kautsky 1911).

At the core of Hilferding's thinking was the idea that many of the changes since the end of the classical free trade regime in the 1870s and the rise of protectionism were rooted in the increased financialisation of the world. Developed capitalism had become financial capitalism. The increasing reliance of large industrial enterprises on fixed capital and, thus, on credit gave greater power to banks, which were absorbed by 'finance capital' (that is, banks) to provide the necessary funds. This gave the banks significant leverage over industrial enterprises. However, according to Hilferding, the banks that controlled industry had no interest in free competition, so they tried to create monopolies and cartels in order to maximise profits (Hilferding 1947, pp. 249–50). Therefore, banks started to restructure industry in a planned manner.

For Hilferding, the cartelisation of industry orchestrated by financial capital made trade a dependent variable of financial capital (Hilferding 1947, pp. 283–84, 302–6). He argued that when free competition in a branch of industry is brought under the control of a cartel, the companies engaged in trading these products become agents of the cartel and must follow the rules set by the cartel concerning price and quantity. The process of cartelisation and, thus, the concentration of power in the hands of financial capital would, eventually, lead to the emergence of a general cartel (*Generalkartell*). This 'meta cartel' would plan all economic relations in a given society. The disappearance of the 'anarchy of production'

⁷This was an old trope, going back to Marx's (1871) own account of the Franco–Prussian war.

⁸Hilferding's ideas are mentioned repeatedly in Lenin's notes for *Imperialism, the Highest Stage of Capitalism*. However, his notebooks cannot be reliably dated. See in particular the notebooks 'gamma' and 'theta' (Lenin 1968).

would lead to the abolition of money, as production would be directed by the cartel without any need for ‘trading capital’ (Hilferding 1947, pp. 318–19). However, neither Hilferding nor his contemporaries went into any detail about what such planning actually meant, let alone who was to execute it.

The abolition of a system of free competition necessitated a different, more collaborative attitude from the bourgeoisie towards the state. Since controlled competition was more easily implemented within the boundaries of one political entity, cartels tended to develop along national lines, while seeking to expand their area of control beyond national borders to increase their profits. This mechanism, Hilferding argued, could explain the geopolitical tensions of the early twentieth century: several national cartels struggling for power and market share in a world with a finite amount of land employing the power of the state to expand their sphere of influence (Hilferding 1947, pp. 425–30, 457–58).

Amongst the Bolsheviks, the interpretation of the war as the apogee of cartelisation was first proposed by Nikolai Bukharin, who argued in his 1915 *Imperialism and World Economy* that the outbreak of war had led to the emergence of several ‘national Marxisms’ and the fight between different regions of the world economy (Bukharin 1989, pp. 22–5). Bukharin emphasised the importance of national, vertically integrated cartels controlled by financial capital, explicitly referring to Hilferding (Bukharin 1989, p. 51). He went one step further than Hilferding by arguing that the transformation of a national economy into one gigantic trust—a process that had started in Germany in the 1870s—constituted an important precondition for socialism (Bukharin 1989, p. 53). World War I was seen as a conflict amongst state-capitalistic cartels (*gosudarstvenno-kapitalisticheskie tresty*) controlled by the ruling classes, who sought to violently advance their interests on the world market (Bukharin 1989, p. 81).

Hilferding’s presence also loomed large in the reports on the German war economy written for a Russian audience by the Menshevik economist Yurii Larin in 1915–1916. Arguing that the German economy during the war had become a ‘state capitalist’ system, his interpretation of the process behind cartelisation was more specific than Bukharin’s. With the participation of banks in financing the investments for war, Larin wrote, the banks were forced to cut wasteful competition, in turn compelling industries to create monopolies. At the same time, by taking on war loans, the state attracted capital, with the effect that ‘the state itself became the financial centre’; furthermore, ‘not wanting to increase taxes, the state, like a bank, invests the entrusted means into industry, trying to bring into life industrial monopolies itself’ (Larin 1928, p. 55). The world historical role of the war, in this interpretation, was thus to tame the ‘chaotic’ (*stikhiinye*) processes of the market by way of cartelisation, giving birth to a more rational economic order.

The birth of Bolshevik economics

For Lenin, Bukharin and Larin, wartime cartelisation (‘state capitalism’) thus appeared to be but an intermediary step in the inevitable development of society towards socialism. In October 1917, when Larin became one of Lenin’s principal advisers on economic affairs, it was this vision of the war economy that informed the first steps towards economic planning and all-out nationalisation, of which Larin was one of the most vocal proponents (Malle 1985, pp. 18–20). Shortly after his accession to power in October 1917, Lenin

declared that Soviet rule would continue to employ the tools devised for governing the war economy, only in a more radical way and, obviously, in the interests of the working class. Soviet control would allow the Bolsheviks to retain the achievements of the war economy and use the state apparatus for revolutionary ends:

This apparatus must not, and should not, be smashed. It must be wrested from the control of the capitalists; the capitalists and the wires they pull must be cut off, lopped off, chopped away from this apparatus; it must be subordinated to the proletarian Soviets; it must be expanded, made more comprehensive, and nationwide. (Lenin 1917a)

Lenin had no reservations in emphasising that ‘the new means of control have been created not by us, but by capitalism in its military-imperialist stage’. In late October 1917 in his pamphlet ‘The Impending Catastrophe and How To Combat It’, Lenin explained that ‘state-monopoly capitalism’, which had risen during the war, was the ‘complete material preparation for socialism, the threshold of socialism, a rung on the ladder of history between which and the rung called socialism there are no intermediate rungs’ and that the war economy had seen the adaption of ‘a whole series of control measures, which consist almost invariably in uniting the population and in setting up or encouraging unions of various kinds, in which state representatives participate, which are under the supervision of the state’, though they were too limited in scope (Lenin 1917b). In his appraisal of the war economy, it is significant that Lenin singled out ‘the grain monopoly, bread rationing and labour conscription’: precisely those elements of the war economy where the allocative function of prices had been replaced by bureaucratic means (Lenin 1917a).

Aside from its theoretical implications, the appeal of the war economy may also have reflected the paucity of alternative concepts in the realm of economic governance. Spending their time in arduous theorising about the nature of capitalism, the Bolsheviks knew little about economic administration and were, in practical terms, completely unprepared for the economic transformation that they extolled (Haumann 1974, p. 8; Szamuely 1974, p. 46). Lenin, for one, was hardly convinced that the revolution would happen in his lifetime (Baberowski 2021, p. 14). To be sure, there were vague commitments to ‘the plan’, ‘socialisation’, ‘workers’ power’ and ‘soviet control’, but what would this mean in practice? Would there be outright nationalisation of industry, or only of banks? What was to be the attitude towards small producers? The history of Soviet economic policy until the First Five-Year Plan can be seen as a series of attempts to find an answer to these questions, to which the war economy would serve as a starting point.⁹ Finally, extolling the virtues of the war economy also served the practical purpose of getting the economic bureaucracy on board and enlisting its members, many of whom were Mensheviks, in the fight for the revolutionary state’s survival, a fight that the Bolsheviks won (Stanziani 1998, ch. 9).

As many later commentators remarked,¹⁰ Lenin seemed particularly impressed with the German war economy, which stood as a testimony to the power of central planning and the

⁹The debates are usefully summarised in Pollock (1929) and Ertz (2016).

¹⁰See, for instance, Smolinski (1969), Malia (1994, p. 111), Hildermeier (2017, p. 250), Sakwa (2010, p. 48), Davies *et al.* (2018, pp. 327–28).

expanded reach of the state. However, given that Lenin made very few recorded remarks on the German war economy, its influence on him should not be exaggerated. As we have seen above, the Tsarist war economy was also deemed ‘progressive’ by Lenin, if perhaps not to the same degree. The prominence of the German example doubtless also reflected the role of German as the language of the Socialist International, and the fact that German economic debates had resonated strongly in Russia since the nineteenth century (Sheptun 2005). Lenin’s positive impression of the German war economy was probably influenced by Larin, who had switched sides from the Mensheviks to the Bolsheviks in the summer of 1917 and was now one of his closest advisers on economic matters (Malle 1985, p. 237). In 1915, Larin had enthused on the pages of *Vestnik Evropy* that ‘today, Germany constitutes the most interesting social laboratory of humankind’ (Larin 1928, p. 57).

In an appeal to stop the collapse of the economy after the first wave of enterprise confiscation, Lenin exhorted the party in his 1918 pamphlet, “‘Left-wing’ Childishness’, to learn from the German example: ‘It is because Russia cannot advance from the economic situation now existing here without traversing the ground which is common to state capitalism and to socialism (national accounting and control)’. In other words, Russia’s ‘state capitalism’—in this specific context, referring primarily to the management of state enterprises—had to be improved according to the German example before a socialist order could arise. And, echoing Larin, he added the famous passage: ‘To make things even clearer, let us first of all take the most concrete example of state capitalism. Everybody knows what this example is. It is Germany. Here we have the last word in modern large-scale capitalist engineering and planned organisation’. Finally, he decreed that the Soviet state should ‘spare no effort in copying it and not shrink from adopting dictatorial methods’ to restore order in the economy (Lenin 1918).

In hindsight, the optimistic assessment of the German economy appears unjustified (Ritschl 2005). From the perspective of the Bolshevik government, which had just surrendered to Germany in the Treaty of Brest-Litovsk (3 March 1918), the German war economy must have offered a stark contrast to the inchoate Russian war economy. The German war machine, after all, had just defeated what was left of the Imperial Russian army. The Bolsheviks could hardly look to their predecessors as a source of legitimation for their economic ideas. Moreover, the economic blockade and international isolation faced by the Russian revolutionary state after the Treaty of Brest-Litovsk now resembled that of Germany since the very beginning of the war (Gaworek 1975). This similarity could hardly have been lost on Larin, who in his wartime reports on the German war economy had written at length on the high degree of autarky of the German war economy, which he had likened to Robinson Crusoe’s island (Larin 1928, p. 15).

Yet, the influence of German wartime policies on concrete Bolshevik policies is hard to trace (Haumann 1974, p. 67; Malle 1985, p. 297), especially since the German war economy did not share the Bolsheviks’ heavy emphasis on nationalisation and confiscation. The German example only seems to have inspired Larin’s creation of the system of branch administrations (*glavki*) (Larin 1928, p. 17). It is worth noting, however, that many of the leading cadres had intimate knowledge of the German economy. Gleb Krzhizhanovskii, the first head of the State Commission for the Electrification of Russia (*Gosudarstvennaya komissiya po elektrifikatsii Rossii*—GOELRO) and then the State Planning Commission (*Gosudarstvennyi planovyi komitet*—Gosplan), had been a manager

in Rathenau's AEG in the Russian Empire. Leonid Krasin, another Old Bolshevik, who later became the commissar of foreign trade, had worked for Siemens in Germany. Vasilii Leontiev (the father of the Nobel laureate Wassily Leontief), a member of the Supreme Council of the National Economy (VSNKh) held a doctorate from Munich University (Haumann 1974, p. 137). In light of this line-up, it is perhaps not surprising that the Soviet state's flagship project to prove the value of planning was the electrification of the country. Lenin's infatuation with electricity may also have been influenced by the 1919 edition of the German economist Carl Ballod's utopian 'State of the Future' (*Der Zukunftsstaat*), where electrification is described as one of the hallmarks of the coming age (Carr 1954, p. 373). At the same time, the lore of electrification and its connection to Germany went back to Tsarist Russia, when the German electrical engineering companies AEG and Siemens provided equipment and ran concessions (Coopersmith 1992, pp. 55–8).

Against this backdrop, it makes perfect sense that Rathenau, president of AEG during the war, became a source of enduring fascination in the Soviet Union. In the first years after the revolution, several publishing houses released editions of the works of Walter Rathenau. The most comprehensive collection was published in Russian by the publishing house of the Supreme Soviet of the National Economy after the 1922 Treaty of Rapallo between Germany and the RSFSR, which Rathenau had signed in his capacity as minister of foreign affairs (Rathenau 1923). Tellingly, the Red Army confiscated Rathenau's personal papers in 1945 and immediately sent them to Moscow where they remain up to today.

On a more profound level, the fixation with the German war economy points to a set of common values and affinities that was, paradoxically, shared by Russia's revolutionary regime and the German reactionary right. The Bolshevik's appetite for unfettered executive authority—to quote Lenin, 'authority, unlimited, outside the law, and based on force in the most direct sense of the word' (Kołakowski 2005, p. 498)—mirrored Ludendorff's bid to subsume all economic activity under military command for the ends of 'total war'. The German war economy thus appealed to the Bolsheviks as a model of a well-organised 'bourgeois dictatorship' (Larin 1928, p. 1), an example of the power of coercion. It was for this reason that, by the end of the 1920s, many prominent intellectuals on the German right, while rejecting Bolshevism, were fascinated by the economic organisation of the Soviet Union (Mick 1995; David-Fox 2012, pp. 249–62). It was not a coincidence that Nazi Germany prepared its economy for war by means of a 'four-year plan'.¹¹ Such selective admiration across the ideological divide had its roots in World War I.

But above all, the image of the German war economy reveals a fascination, first and foremost, with the techniques of organisation, which, for all its military connotations, promised to amplify the scope for social transformation by several magnitudes. Nobody made this connection more explicit than the economist Alexander Bogdanov (born Alexander Malinovskii, 1873–1928) in his theory of 'war communism' (*voennyi kommunizm*). In a series of speeches and articles written in 1917–1918, Bogdanov explained how the war had transformed society and economy. War communism,

¹¹We thank our reviewers for this suggestion.

according to Bogdanov, had its origins in the organisation of the army, that ‘one of a kind consumer commune’ (*svoeobraznaya potrebitel'skaya kommuna*), but soon engulfed other spheres of society. The rationing of food and raw materials was bound to spread to other sectors of the economy, as ‘the regulation of consumption demands and determines the regulation of output, and thus production’ (Pliutto 1990). Like Lenin, Bogdanov saw the Imperial government’s wartime interventions to manage scarcity as the nucleus of a more ‘rational’ social order. Unlike the Bolshevik economists Lev Kritsman and Evgeny Preobrazhenskii, who later popularised the term ‘war communism’ for the period of forced grain procurement and all-out nationalisation of industry (Nove 1992, pp. 46–7), Bogdanov maintained that ‘war communism’ by itself could not give rise to a genuinely socialist society, for its only purpose was the administration of scarcity, not the creation of abundance that would be the hallmark of socialism. Given the unpredictability of war, he argued further, planning would be all but impossible. To Bogdanov, the significance of the war lay elsewhere: the war had served as a ‘preparatory school for organisers’ of a new society (Bogdanov 1990).¹² Wartime organisation, simply understood as the expanding scope of government, thus came to be regarded by leading Bolsheviks as a stepping-stone towards a more ‘rational’ organisation of society in the postwar period, ending the *stikhiya* of capitalism and replacing it with ‘rational’ and ‘planned’ administration. As the economist Iakov Bukshpan, himself a member of the special commission on food supply during the war, put it in 1929: ‘What was going on during the war in the life of the national economy was in its nature the struggle of the chaotic, irrational and unordered process of free competition, with the rational, organising principles of state power’ (Bukshpan 1929, p. 14).

Towards a unitary economic plan

For all the talk about the introduction of a rational economic order in 1917, it was hardly pre-ordained that Soviet economic policy would end in all-out nationalisation. As of 1917, nationalisation was limited to heavy industry and the banks, coordinated (in theory) by the Supreme Council of the National Economy (*Vesenkha*) and structured by the branch administrations, each under their own plan. While the *glavki* were, according to Larin (1928, p. 6), inspired by the *Kriegsrohstoffgesellschaften*, the focus on heavy industry and banks betrayed the influence of Hilferding. In *Finance Capital*, Hilferding had argued that developed capitalism had led to the cartelisation of industry with the banks shaping the economic structure in a planned manner. Therefore, it would be imperative to simply take over the banks. This was the first step towards nationalisation, and—at least theoretically—represented an elegant way to take over the commanding heights of the economy.

However, the hope that the wartime organisation of the economy could simply be redirected towards new political ends by overseeing its leading figures did not materialise. Instead, the economy began to break apart. As the managerial elites left the factories

¹²Bogdanov’s claim that it would be impossible to keep the war economy in a socialist society was a critique of the Menshevik economist Vladimir Bazarov, who advocated the continuation of mobilisational measures of the war economy in a future socialist system.

following the onset of the civil war, Lenin exhorted the grassroots expropriation of industry and mandated the compulsory nationalisation of large factories in the summer of 1918, followed in 1920 by the nationalisation of all businesses with more than ten employees (Nove 1992, pp. 45–50). Alongside the ever-growing numbers of *glavki*, public works programmes were initiated in March 1918 for cotton production in Turkestan, coal in the Kuzbass and the electrification of industry in Petrograd. Electrification was to be the flagship project of Bolshevik economic policy, and, in February 1920, GOELRO was created to oversee the electrification plan (Carr 1954, pp. 365–74; Haumann 1974, ch. 6). All-out nationalisation raised the question of all-out planning. If all industry was now owned (at least on paper) by the state, then a ‘unitary’ (*edinyi*) plan would be the logical next step, rather than through public works or the sectoral administration of the *glavki* with their own production plans. The task of unifying and centralising the disparate administrative structures under the label of a ‘unitary economic plan’ (*edinyi khozyaistvennyi plan*) became the subject of heated debates amongst Bolshevik party leaders and economists after Trotsky had first put it on the table at the Ninth Party Congress in March 1920 (Ertz 2016).

In the ensuing debates, which lasted for roughly one year, there seemed to be near universal agreement regarding the necessity of a plan to coordinate and centralise the economy. Yet there was no consensus on how this would be achieved. Was distribution to be separated from production? What was the relationship to be between different sectors of the economy? At what level would decisions be taken? In the absence of market prices, to which indicators should planning refer? It is clear that the mechanisms of wartime distribution had reinvigorated faith in non-monetary exchange and served as a touchstone for the discussions over accounting in kind (Bogomazov 1974; Haumann 1974, p. 98; Szamuely 1974, pp. 31–8; Malle 1985, p. 318). However, Lenin considered such nuanced discussions over the methodology of planning a waste of time. For him, planning was equivalent to action, and he declared that Krzhizhanovskii’s electrification plan was the only real ‘plan for action’ (quoted in Ertz 2016, p. 189). On 22 February 1921, just a few weeks before Lenin launched the New Economic Policy (NEP) with the introduction of the tax-in-kind, Krzhizhanovskii was put in charge of Gosplan, attached to the Council of Labour and Defence (*Sovet truda i oborony*), and tasked with drafting production targets and harmonising the activities of the different industries. ‘NEP’, Lenin wrote to Krzhizhanovskii, ‘does not alter the unitary state economic plan and its goals, but merely changes the approach to its completion’ (quoted in Haumann 1974, p. 188).

The war economy in peacetime

The belief that the war economy could be geared towards other social and political aims was hardly exclusive to the political left, nor to Russia. In Germany, these debates were initiated by none other than Walther Rathenau and his right-hand man at AEG and the *Kriegsrohstoffabteilung*, Wichard von Moellendorff. In a booklet first published in 1916 and reprinted several times thereafter, Rathenau argued that the organisation he had created was an important step in the direction of state socialism as it had interrupted the free formation of prices and the free exchange of goods. He also claimed to have invented new forms of self-organisation in the economy (Rathenau 1916, p. 27).

According to Rathenau, under the new system, Germany, a fortress under siege, had become completely self-reliant and independent from a hostile outer world, ready to shape its future on its own. The *Kriegsrohstoffabteilung* would serve as an economic ‘general staff’ in peacetime (Rathenau 1916, pp. 43–6).

Rathenau doubled down on his vision in a lengthy and more theoretical book titled *Of Things to Come*, which was first published in 1917. The means and experience of the German war economy could be used to create a classless society, in which the ‘glass ceilings’—inherited wealth and education—between the masses and their freedom, self-determination and prosperity could be smashed (Rathenau 1917, pp. 61–3). In this new society, property, consumption and entitlement were no longer private issues but public ones (Rathenau 1917, p. 87). His aim, however, was not the creation of a materialist proletarian paradise but an ideal egalitarian, bourgeois society. As it happened, Rathenau’s lieutenant, von Moellendorff, who had published a similar pamphlet in 1916 with the title *Deutsche Gemeinwirtschaft* (*German Social Economy*), became state secretary under the first Social Democratic minister of the economy, Rudolf Wissell, in 1919 (von Moellendorff 1916).

One author on the left who participated in these debates was the statistician and economist Carl Ballod. *Der Zukunftsstaat* (*The State of the Future*), arguably his best-known work, was first published in 1898. It was revised by Ballod in 1919–1920 and republished with great success. Although he approvingly cited Walther Rathenau in the preface to the new edition, Ballod’s sympathies lay much further to the left. His vision of the state of the future echoed Kautsky (1892) who had written: ‘In the socialist society, which is after all just a single giant industrial enterprise, production and planning must be exactly and in a planned way organised, just as they are organised in a large modern industrial enterprise’. Taking Kautsky’s idea of the state as an industrial enterprise one step further, Ballod argued that if the government restructured the economy along the model of large industrial enterprises, productivity could be significantly increased. This would enable the state to pay every adult a basic income that would cover all their basic material and cultural needs. The state only needed to take command of the economy—as had been done in Germany during the war—to restructure the economy, suppress luxury consumption, and impose a work mandate for the adult population. Through a close examination of German economic statistics, Ballod maintained that a state-administered six-year mandatory work period for all adults would be sufficient for the state to pay a universal basic income (Ballod 1920). Although he tried to distance himself from the Russian Revolution, Ballod was widely read by the Bolsheviks and cited approvingly by Lenin, who shared Ballod’s fondness for electrification (Carr 1954, p. 273).

It is worth emphasising that most German theoreticians on the right and left sought, at most, partial nationalisation (Tribe 1995, ch. 6). They were hostile to or at least very critical of the Bolshevik experiment. Rathenau, for one, condemned ‘dogmatic socialism’. In his eyes, the only result of agitation by ‘allegedly’ socialist parties was the arousal of reactionary sentiments in society (Rathenau 1916, pp. 65–7). In the Soviet Union, too, the efforts of the German left at redirecting the war economy for peaceful ends were, by and large, dismissed. The German experience, the chairman of Gosplan wrote in a polemical 1925 article, had only shown ‘the danger of separating the theory of socialism from the active struggle for bringing to life a true socialist order’ (Krzhizhanovskii 1925, p. 14).

Amongst the few voices in favour of all-out nationalisation in Germany was that of Otto von Neurath, the Vienna Circle philosopher who, in 1919, had served briefly as economic adviser to the short-lived Munich Soviet Republic. In a speech to the new regime, he had laid out the design for all-encompassing socialisation of industry in order to create a ‘centralised administrative economy with a bias towards economy in kind’. While mainly addressing the relationship between economic centralisation and workers’ control, Neurath had also discussed the wartime origins of the new economic order. To achieve socialisation, he argued, society would use the managerial and accounting apparatus of the extant ‘large organisations’, the largest of which was the state. The state bureaucracy had, through wartime experience, become the most experienced and capable institution in terms of forging linkages with other organisations. The war had thus opened the possibility for ‘a total organization’ of society and, as the familiar argument went, paved the way to socialism. By subduing the profit motive in the economy, ‘the conduct of war subordinates a whole people to a purpose’ (Neurath 1973a, pp. 138–40). Like Lenin, Neurath believed that wartime mechanisms of economic governance could, and should, be employed for progressive ends. The similarities in their thinking are insufficiently explained by their adherence to the model of the state as a giant enterprise; both men were alert to the new possibilities of war, which had engendered new faith in the potential of centralised administration of goods, resources and labour (Müller 2011).¹³

Conclusion

In the aftermath of World War I, all belligerent powers had to make sense of the rising regulatory force of the state. While this development frightened many liberals, it inspired intellectuals on both the left and the right to continue the politicisation of economic life in pursuit of a more equitable order after the war. In its most extreme form, this entailed ‘total planning’: the dream of integrating all social forces in and through the state to achieve total control over economic life, so that the production and allocation of all goods would be determined by administrative fiat. This was the utopian ideal behind war communism and the ‘command-administrative system’ built under Stalin. But there were other, more moderate visions, of postwar economic planning which—much like wartime planning—were based on the increased collaboration between business and state. This ‘mixed economy’ was essentially what Rathenau had proposed, and—to some degree—it also found expression in Lenin’s NEP and the early phase of the October Revolution. In fact, many countries in the West adopted similar planning measures after the Great Depression (Ritschel 1997; Schivelbusch 2006). Thus, we may regard both the NEP and the Stalinist model of a centralised command economy as heirs to the wartime legacy.¹⁴

¹³Neurath (1973b) had been amongst the first to write about the need for ‘war economics’ (*Kriegswirtschaftslehre*) as a special branch of economic sciences before the outbreak of World War I, in 1911.

¹⁴Pace Sapir (1997), who claims that the NEP was the true form of war economy and that Stalinism was an aberration. The inconsistencies of this interpretation have already been pointed out by Szamuely (1974).

Ultimately, however, the mixed economy of the NEP did not survive in the Soviet Union. With its eschewal of all markets and entrepreneurship in the First Five-Year Plan—save the forced concession of the *kolkhoz* market—the Soviet Union under Stalin had adopted the most stringent version of the Bolsheviks’ arch-foe Kautsky’s vision for the economy as a ‘large industrial enterprise’.¹⁵ That such ‘total planning’ won the day was prefigured, to our mind, in Hilferding’s analysis of cartelisation. As he wrote in *Finance Capital*, the only limit to the process of vertical integration (cartelisation) was the nationalisation of all industry:

If we now pose the question as to the real limits of cartelisation, the answer must be that there are no absolute limits. On the contrary, there is a constant tendency for cartelization to be extended. ... The ultimate outcome of this process would be the formation of a general cartel. The whole of capitalist production would then be consciously regulated by a single body which would determine the volume of production in all branches of industry. Price determination would become a purely nominal matter ... The price would then cease to be the outcome of factual relationships into which people have entered and would become a mere accounting device by which things were allocated among people. (Hilferding 1981, p. 234)

The crux was that, as the Bolsheviks promoted wartime economic organisation as a progressive social force, the political economy of the Soviet system was perennially biased towards military needs. The curious coincidence that the state planning agency Gosplan was introduced at the same time as the NEP in 1921 hints at the institutional and intellectual continuities of planning during the NEP and the Stalinist era. As Oskar Lange (quoted in the beginning) insinuated, the period 1914–1921 had given rise to institutions that monopolised access to resources, privileged surveillance over autonomy, and exhibited a relentless drive for accumulation of capital goods and weapons. Military preparedness remained the overriding priority of the regime in the interwar years and the planning apparatus was instrumental, first and foremost, to achieving this goal (Kontorovich & Wein 2009). Even after the defeat of Germany and Japan in 1945, the military bias of the Soviet economy was impossible to shake off (Merl 2002; Feygin 2017, ch. 3). The Soviet Union, to its very end, remained a thoroughly militarised state, and its economy continued to be, in large measure, mobilised for war (Shlapentokh 2001, p. 26). The Soviet economy never grew beyond the age of total war in which it was born.

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¹⁵Surely not coincidentally, the organisation of war economies fascinated Soviet economists on the brink of the First Five-Year Plan (Larin 1928; Bukshpan 1929; Khmel’nitskaia 1929).

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